



भारत हेवी इलेक्ट्रिकल्स लिमिटेड
BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
पारेषण व्यापार समूह, नोएडा/Transmission
Business Group, Noida

निविदा आमंत्रण सूचना
NOTICE INVITING TENDER

Sir/Madam,

Bharat Heavy Electricals Limited (hereinafter referred to as BHEL) is a Central Public Sector Enterprise, having its Branch office at Transmission Business Group, BHEL, Plot no.: 25, Sector-16A, Noida, Distt. Gautambudh Nagar, UP-201301, invites offer in sealed cover under two part bid system (Part-I: Techno commercial Part & Part-II: Price Part) from the competent agencies for **“Supply of low Voltage Cable: 1.1 kV Aux Power and Control Cable for PHPA BHUTAN PUNATSANGCHHU-1 HEP (6X200 MW)- 400 kV & 220 kV POTHEADYARD BHUTAN”**

Please submit your competitive offer for the above subject work as per the tender terms & conditions.

SCHEDULE TO TENDER

1.	Tender Enquiry No.	90Q2300293
2.	Date of Issue of Tender:	21/02/2023
3.	Type of Tender:	Open Tender
4.	Tender Title:	“Supply of low Voltage Cable: 1.1 kV Aux Power and Control Cable for PHPA BHUTAN PUNATSANGCHHU-1 HEP (6X200 MW)- 400 kV & 220 kV POTHEADYARD BHUTAN”
5.	Tender issuing Authority	Transmission Business Group, BHEL, Plot no.: 25, Sector-16A, Noida, Distt. Gautambudh Nagar, UP-201301
6.	Last date/ time for receipt of tender:	03.03.2023 11:00 Hrs IST
7.	Date/ time of opening of (Part-I):	03.03.2023 16:00 Hrs IST
8.	Offer/Bid submission mode	Tender is invited through e-Procurement System only. The bidder shall submit their bid through e-Procurement platform at https://eprocurebhel.co.in .
9.	Tender will be opened at:	BHEL TBG— HQ Noida of above mentioned address at point no. 5.
10.	Date/Time of price bid opening:	Will be intimated separately to the Techno-commercially qualified bidders in due course of time.
Note:- For other instructions; bidder may please refer the Terms & Conditions and Special terms & conditions		

All corrigenda, addenda, amendments, Bid Submission extension, clarifications, etc. to the tender will be hosted on website <http://www.bhel.com> and <https://eprocurebhel.co.in> only. Bidders should regularly visit website till the due date of submission to keep themselves updated. Any clarification(s) regarding Notice Inviting Tender (NIT), if required, should be sought before the tender due date from the officials as mentioned in the tender Document.

Thanking you,

For & on behalf of
Bharat Heavy Electricals Ltd.

Transmission Business Group, BHEL, Plot no.: 25, Sector-16A, Noida, Distt. Gautambudh Nagar, UP-201301

पंजीकृत कार्यालय: बी.एच.ई.एल. सिरी फोर्ट, नई दिल्ली 110049 -
Regd. Office : BHEL HOUSE, Siri Fort, New Delhi - 110049

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In case any discrepancy between the requirements mentioned under addendum to General Terms and conditions (GTC), General Terms and conditions and Special Terms and conditions, Special Terms and conditions shall prevail.

1. **Clause No. 1.7 of GTC** – For any technical clarification, please contact:-
Shri Gorav Vig (Dy Manager-TBEM) / Shri Ranajit Dey (Manager TBEM) ,
BHEL, Transmission Business Group, Plot No 25, Sector-16A, Noida-201301, UP, India.
Phone: +91 (0) 0120-674-8457/ 0120-674-8494 , Fax: +91 (0) 0120 – 6748580,
Mobile :- 9958271114 / 7409057002
E-mail: gorav@bhel.in; ranajitd@bhel.in
2. **Clause No. 1.8 of GTC** - For any commercial clarification, please contact:-
Shri P K Mishra, Manager (TBMM)/ Shri Sunil Kumar, Sr DGM-TBMM
BHEL, Transmission Business Group, Plot No 25, Sector-16A, Noida-201301, UP, India.
Phone: +91 (0) 0120- 6748575/8471, Fax: +91 (0) 0120 – 6748580.
Mobile : 9453025414/09761724520
E-mail: piyush.kumar@bhel.in ; sunil.kumar@bhel.in
3. **Project Status** – Export. Supply portion shall be governed as per notification 41/2017 of IGST (Rate) dated 23.10.2017. (Attached herewith) GST rate: 0.1% (Against LUT, subject to export within 90 days)
4. **Clause No. 1 of Addendum to GTC** – **Offer Submission Time: 11 Hrs IST**
Offer Opening Time: 16 Hrs IST

The critical Dates of tendering activities shall be provided separately during tendering processes.
Address of tender Issuing Authority:-
BHARAT HEAVY ELECTRICALS LIMITED,
TRANSMISSION BUSINESS GROUP,
Plot No 25, Sector-16A, Noida-201301, UP, India.
5. **Clause No. 2 of Addendum to GTC (Sl. No. a, b)** – Point no. (a) & (b) is not applicable.
6. **Clause No. 3 of Addendum to GTC** –
Tender is invited through e-Procurement System only. The bidder shall submit their bid through e-Procurement platform at <https://eprocurebhel.co.in>. Vendors participating through e-procurement portal for this tender should have Class-III Digital Signature Certificate (DSC) for Signing & Encryption of bids issued by any of the valid Certifying Authorities (approved by Controller of Certifying Authorities) in India.

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Bidders may please be noted that no other mode of bid submission except through NIC Portal shall be accepted by BHEL. The bid submitted by other mode except NIC Portal as mentioned above; shall not be considered for evaluation and shall be rejected

The Notice Inviting Tender (NIT)/ the tender requirement of BHEL will not be henceforth published in newspapers. All the concerned are hereby notified that tender enquiries of BHEL will be published on BHEL tender website (www.bhel.com) and Government's Central Public Procurement Portal (<https://eprocurebhel.co.in>).

7. **Clause No. 6 of Addendum to GTC (PQR)** - As enclosed along with Technical Specification (ANNEXURE_TQR).
8. **Clause No. 8 of Addendum to GTC** – Delivery Plan – As per Activity Schedule [Annexure II]. The same shall be submitted in BHEL format along with commercial offer duly signed and stamped by authorized person. No deviation in this regards shall be acceptable.
9. **Clause No. 9 of Addendum to GTC** – Payment Terms: - As per clause 3.1 of GTC (Endorsed LR is not required in GST regime) and payment within 45 days from the date of receipt of complete invoice for Micro and Small suppliers, 60 days for medium Suppliers and within 90 days for other suppliers. TBG is registered with RXIL (TReDS) platform. MSME Bidders are requested to get registered with RXIL (TReDS) platform to avail the facility as per the GOI guidelines.
10. **Clause No. 13 of Addendum to GTC for Reverse Auction** - Applicable.
“BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among the techno commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered for RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.”

Abridged Version of “**Guidelines for Reverse Auction-2021**” may also be seen at BHEL website (www.bhel.com) on “Supplier Registration” Page.
11. **Clause No. 18 of Addendum to GTC for Integrity Pact** – Applicable As per Annexure-XI.
12. **Clause No. 21 of Addendum to GTC** - Offer of techno – commercially acceptable vendors shall be considered for conducting Reverse Auction subject to their approval from Customer.
13. **Clause No. – 17 of GTC - Tender Evaluation** – As per Clause no 17 of GTC in addition to as below (Comparative statement shall be prepared and evaluated on total cost basis at destination/site (as per terms of NIT) considering overall quantity indicated in NIT for all items)

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

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

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

14. **Clause No. 39 of GTC** – Quantity Variation:- BHEL shall have the right to variation in quantities of items within $\pm 10\%$ of the total Purchase Order / Contract value at the time of placement of PO or award of Contract on overall basis for all amendments together within two years from the date of original Purchase Order / Contract or completion of execution of the Purchase Order / Contract whichever is earlier but quantities of individual items may vary to any extent or may get deleted unless otherwise specified in the technical specifications. No compensation is payable due to variation in the quantities and the Supplier / Contractor shall be bound to accept the same the contracted prices / rates without any escalation. However, if the Purchase Order / Contract is on "Lumpsum" basis, no variation of Purchase Order / Contract value shall be admissible to the Supplier / Contractor within the scope of Purchase Order / Contract, as long as the inputs remain unchanged.

15. **Clause No. 05 of GTC – Guarantee Clause (Defect Liability Period):** As per Clause No. 05 of GTC; being reproduced herewith: -

The equipment / material supplied and services rendered (if applicable) shall be guaranteed to be free from all defects and faults in design & engineering, material, workmanship & manufacture and in full conformity with the Purchase Order / Contract, Technical Specifications & approved drawings / data sheets, if any, for 18 months from the date of last delivery or 12 months from the date of commissioning, whichever is earlier.

The defective equipment / material / component shall be replaced free of cost at site. Freight & Insurance during transit shall also be in the scope of the supplier / contractor. Any expenditure for dismantling and re-erection of the replaced equipment / material / component shall be to supplier's / contractor's account. All replacements during the guarantee period shall be delivered at site promptly and satisfactorily within a period not more than 45 days from the date of reporting the defect / rejection etc.

In the event of the supplier / contractor failing to replace the defective equipment / material / component within the time period mentioned above, BHEL may proceed to undertake the replacement of such defective equipment / material / component at the risk and cost of the supplier / contractor without prejudice to any other rights under the contract and recover

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the same from PBG / other dues of this Purchase Order / Contract or any other Purchase Order / Contract executed by the supplier / contractor.

In addition to the above guarantee period, Extended Guarantee / Warranty, if any, shall be as per NIT / Technical Specifications.

16. **Clause No. 07 of GTC – Performance Bank Guarantee –**

Refer Clause no. 10 of the “Addendum to General Terms and Conditions (GTC-2016)” being reproduced herewith:-

“Clause No. 7 of GTC, If no option is specified by the bidder, by default option – B for Bank Guarantee shall be considered.

BG for Main supply items and Spares shall be submitted separately along with first bill.

Note:

BG should be submitted on non-judicial stamp paper of appropriate value by the supplier along with first submission of bill to BHEL.”

In addition to this, following is also applicable and shall be part of the tender document:-

“Bidder agrees to submit performance security required for execution of the contract within the time period mentioned. In case of delay in submission of performance security, enhanced performance security which would include interest (SBI rate + 6%) for the delayed period, shall be submitted by the bidder. Further, if performance security is not submitted till such time the first bill becomes due, the amount of performance security due shall be recovered as per terms and conditions defined in NIT / Contract, from the bills along with due interest.

17. **Clause No. 2.1 of GTC -** Prices shall be on FIRM basis including packing and forwarding charges. Vendor to quote prices on FOR destination basis including GST. Export **worthy packing** shall be applicable as per specification. However, bidder to ensure proper packing to avoid any damage & packing of spares should be separated

18. **Liquidated Damage – As per clause no. – 11 of Addendum to GTC.**

19. **GeM Seller ID-** GeM seller ID is mandatory for the bidders and must be mentioned in their offer. In case at the time of submission of offer GeM seller ID is not available with bidder, then successful tenderer should ensure to have GeM Seller ID prior to award of contract. Department of Expenditure (DOE) OM no. 6/9/2020-PPD dated 24.08.2020 may be referred in this regard.

20. **Following confirmation to be provided by vendor:**

“We confirm that we have quoted as per specified price format provided along with this tender”.

Note: BHEL reserves the right to cancel this enquiry at any point of time. Bids of only customer approved vendors will be processed.

(Sign and seal of Bidder)

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Name:

Signature:

Stamp:

Additional Information and Terms and Conditions:-

Sl No.	Head	Information
1	Project Name	PUNATSANGCHHU-1 HEP (6X200 MW)- 400 kV & 220 kV POTHEADYARD BHUTAN
2	Ultimate Customer	PHPA-I
3	Location of Plant	Location: Access by: Road/Air Nearest Railway Station: Hasimara (India) on Siliguri -Alipurduar Broad Gauge line of NF Railway Nearest Airport: Paro (Bhutan) Nearest sea port: Access by road: Road
4	Scope for the unloading of the material / Custom clearance /transportation of the material and delivery of material at the site	<ul style="list-style-type: none">➤ Consignee/Delivery Address: BHEL C/o ,Engineer-In-Charge, Punatsangchhu-I Hydroelectric Project Authority (PHPA-I) Contract Package MEM-2/2012 Punatsangchhu-I Hydroelectric Project Authority, Bhutan➤ Custom clearance and Trans-shipment in Bhutan shall be in the scope of the Vendor.➤ Unloading at the delivery address will be in BHEL's scope.➤ List of documents required at Jaigaon Land Customs Station (LCS) for Custom clearance :<ul style="list-style-type: none">➤ BHEL-TBG Export Invoice.➤ Vendor LR.➤ Vendor e-way bill.➤ Vendor Packing List/Delivery challan.➤ Customer - MDCC➤ Letter of Undertaking (Form GST-RFD-11)➤ BHEL is having one temporary intermediate storage facility at Tharm No.283, Plot No. PGT-1217 located at Chamkuna (Torsa River Side), Phuentsholing in Indo-Bhutan Border➤ Contact details of PS-ER officials for facilitating : Mr

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		<p>Kanai Das Thakur+975-77-31-5689, Mr Prasanna Mondal, +975-77-30-4041 (Both numbers are available on WhatsApp)</p> <p>The charges for freight & insurance or any other charges/ costs involved in transportation of the materials and other associated cost till the said destination is to be borne by bidders themselves.</p>				
5	Consignee Address and The list of documents required from vendor end for the custom clearance	<p>Consignee Address :- BHEL C/o ,Engineer-In-Charge, Punatsangchhu-I Hydroelectric Project Authority (PHPA-I) Contract Package MEM-2/2012 Punatsangchhu-I Hydroelectric Project Authority, Bhutan</p> <p>Required List of Documents are as below:- Vendor needs to provide following documents immediately after dispatch.</p> <ol style="list-style-type: none">1. L.R/B.L2. Packing list.3. Vendor’s invoiceIn addition to above, BOQ in line with dispatchable unit is required immediately after placement of purchase order for getting approval of BBU with SAPDC and IBN.				
6	Mode of Dispatch	By Road/Air				
7	Bill to Address:	Transmission Business Group, BHEL, Plot no.-: 25, Sector-16A, Noida, Distt. Gautambudh Nagar, UP-201301 GSTN-09AAACB4146P2ZC				
8	MQP (Manufacturing Quality Plan):	Inspection shall be carried out as per approved Quality Plan. For the same, Supplier to submit the Quality Plan to BHEL for Customer approval.				
9	Inspection	Inspection shall be carried out jointly by as per approved Quality Plan. Inspection Agency:- Customer/BHEL				
10	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 etc. In case the same found not available, Purchaser has right to reject such document from evaluation.					
11	Bidder to submit the details as per format as per Annexure-A. <u>ANNEXURE-A</u>					
	<table><tr><th colspan="2">CONTACT DETAILS OF BIDDER</th></tr><tr><td>Works Address-</td><td></td></tr></table>		CONTACT DETAILS OF BIDDER		Works Address-	
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	Communication Address-	
	Details of contact person for clarification regarding bid:	
	Contact Person Name:	
	Designation:	
	Email Id.:	
	Mobile No.:	
	Landline No.:	
12	<p>Bidders may please be noted that the minimum local Content in line with PPP-MII order, order ref no.: A-1/2021-FSC-Part (5) dated 16.11.2021 issued by Govt of India, Ministry of Power for the item Cable is 60%. The bidder has to Declare this local content in Annexure-V.</p> <p>The Bidder's declaration in Annexure-V for Local content Less than 60% shall not be considered as Class-I supplier and their bid shall be rejected.</p> <p>(For details please refer Addendum to General Terms and Conditions (GTC-2016))</p>	
13	<p>Technical Specification no.: TB-356-510-011 E Rev 00 Dated 09.02.2023 is framed for Aux Power & control Cable in combine. Since, the NIT is for the Aux- Control and Power Cable, Hence, the clause(s) pertains to Control and Power Cables in Technical Specification are applicable for respective items. BHEL's decision in this regard is final.</p>	

(Sign and seal of Bidder)

Name:

Signature:

Stamp:

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

GENERAL TERMS AND CONDITIONS FOR TENDER ENQUIRY / CONTRACT

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

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1.	<p>INSTRUCTION TO BIDDERS :</p> <p>1.1 Sealed bids are invited for the items mentioned in the tender enquiry conforming to the NIT including Technical Specifications. Bids should be typed and free from overwriting and erasures. Corrections or additions / deletions, if any, must be clearly written and attested, otherwise offer may be rejected.</p> <p>1.2 Bidder must ensure that their bid is submitted / dropped in the tender box on or before 14-00 Hrs. IST on the due date of opening, unless otherwise specified in the NIT, at the address as follows :-</p> <p style="padding-left: 40px;">Tender Box, Materials Management, Transmission Business Group, Bharat Heavy Electricals Limited, 5th Floor, Tower-A, Advant Navis IT Business Park, Plot-7, Sector-142, Noida Expressway, Noida, Dist. G. B. Nagar, U. P. – 201305</p> <p>1.3 In case tender enquiry is floated through the e-procurement system, offer / bid has to be submitted through the e-procurement system ONLY as per instructions given in the e-procurement portal (https://bheleps.buyjunction.in).</p> <p>1.4 The bids shall be opened at 14-30 Hrs. IST on the due date of opening, in the presence of participating bidders who may like to be present, unless otherwise specified in the NIT. Bids received late are liable for rejection. Bidders sending bids by courier or post will have to ensure that it is timely delivered at the above address.</p> <p>1.5 Bids are to be submitted duly signed with seal in two parts :-</p> <p style="padding-left: 40px;">a) Techno-commercial Bid (Part-I) – To be submitted in 2 sets (original + copy). A copy of Price Bid (Part-II) clearly mentioning all the necessary information as per format without prices “Un-Priced Bid” is also to be enclosed in Part-I Bid.</p> <p style="padding-left: 40px;">b) Price Bid (Part-II) – To be submitted only in one set in a separate sealed envelope. This should not contain any Technical and / or Commercial Terms and Conditions. The rates should be quoted both in figures and words.</p> <p>1.6 The Part-I and Part-II Bids are to be sealed in separate envelopes and marked</p>

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	<p>as “Techno-commercial Bid (Part-I)” and “Price Bid (Part-II)” respectively. Both the envelopes are to be kept in another common envelope and marked as “BID”. Each envelope should be sealed and super scribed with tender enquiry no., item / package name, project name and due date of opening. Bidder’s name and address shall also be mentioned on each envelope.</p> <p>1.7 For any technical clarification, please contact official mentioned in the tender enquiry / NIT.</p> <p>1.8 For any commercial clarification please contact official issuing tender enquiry / NIT.</p> <p>1.9 Price bid (Part-II) should not contain any additional information / description other than given in “Un-Priced Bid” submitted with “Techno-commercial Bid (Part-I)” except prices, otherwise bid is liable for rejection.</p> <p>1.10 Price Bid submitted along with the bid shall remain valid up to validity of offer. Any discount / revised offer submitted by the bidder on its own shall be accepted provided it is received before the due date and time of offer submission (i.e. Part-I Bid). The discount shall be applied on pro-rata basis to all items including optional items, if any, unless specified otherwise by the bidder. Discount offered shall be valid for full duration of validity of the offer including extension of validity, if any. Unsolicited Supplementary / Revised Price Bid submitted after the due date and time of offer submission (i.e. Part-I Bid), during validity period of offer, unless asked by BHEL, shall not be considered. Withdrawal of quotation by the bidder, at any stage after its opening, may entail suitable action against such bidder by BHEL.</p> <p>1.11 The consultants / firm (and any of its affiliates) shall not be eligible to participate against tender enquiry for the related goods or works or services for the same project, if they were engaged by BHEL-TBG for the consultancy services.</p> <p>1.12 In case any Foreign OEM / Foreign Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer / supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer / supplier or the manufacturer / supplier could bid directly but not both. In case bids are received from the manufacturer / supplier and the agent, bid received from the agent shall be ignored.</p> <p>1.13 Non-conformities / errors / discrepancies in quoted prices in price bids shall be dealt as follows :-</p> <p>a) If, in the price structure quoted for the required goods / services / works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of BHEL there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.</p> <p>b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected.</p> <p>c) If there is a discrepancy between words and figures, the amount in</p>

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	<p>words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.</p> <p>d) If there is such discrepancy in an offer as mentioned in (a), (b) & (c) above, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the BHEL, the bid is liable to be ignored.</p> <p>1.14 In case the scope of the successful bidder / supplier against this tender enquiry includes Erection, Testing and Commissioning (ETC) of the equipment / material at site in addition to Supply, Purchase Order shall be placed for Supply Portion and Contract shall be separately awarded for ETC at Site Portion. General Terms and Conditions for Tender Enquiry / Contract mentioned herein shall be applicable for both Supply & ETC at Site. Additional Terms and Conditions for Tender Enquiry / Contract for Erection, Testing and Commissioning at Site "BHEL/TBG/GTC-ETC/2016 Rev. 01" shall be applicable for ETC at Site only which is to be read in conjunction with General Terms and Conditions for Tender Enquiry / Contract mentioned herein. However, any breach of either the Purchase Order or the Contract shall be deemed to be breach of the other.</p> <p>1.15 Taxes and Duties payable extra as per Clause No. 2.3 in NIT, if not specified/quoted clearly as extra shall be considered as included in Ex-works Price and therefore shall not be reimbursed. Taxes and duties not payable extra as per NIT shall be deemed to be included in Ex-works Price.</p> <p>1.16 If the rates for taxes and duties in respect of the quoted materials and / or services assumed by the Supplier are less than the tariff prevailing at the time of tendering, Supplier will be responsible for such under quotations. However if the rates assumed are higher than the correct rates prevailing at the time tendering, the difference will be to the credit of BHEL.</p> <p>Note : Representative / official deputed by the bidder to witness tender opening must produce authorization letter for the same.</p>
2.	<p>PRICES :</p> <p>2.1 Unless specifically indicated in the NIT, all prices shall be FIRM. No enhancement of rate for whatsoever reasons unless and until asked by BHEL shall be allowed.</p> <p>2.2 Unless specifically indicated in the NIT, the prices shall be on INR basis.</p> <p>2.3 Unless specifically indicated in the NIT, the prices are to be quoted on FOR (Site / Destination) basis excluding GST. The break-up of prices shall be as under :-</p> <p>a) Ex-works Price: Ex-works price including packing & forwarding charges.</p> <p>b) Freight: Freight for door delivery up to destination / site / store are to be quoted separately.</p> <p>c) Insurance: Insurance for door delivery up to destination / site / store are to be quoted separately.</p>

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	<p>d) Type Test Charges: If asked in the technical specification, it is to be quoted separately for each test.</p> <p>e) Charges for Supervision of Erection, Testing & Commissioning (ETC) at Site: To be quoted separately if specified in NIT/Price Schedule.</p> <p>f) Charges for Testing & Commissioning at Site: To be quoted separately if specified in NIT/Price Schedule.</p> <p>g) Charges for Erection, Testing & Commissioning at Site: To be quoted separately if specified in NIT/Price Schedule.</p> <p>h) Training Charges: To be quoted separately if specified in NIT/Price Schedule.</p> <p>2.4 GST rates along with HSN/SAC code as applicable on Sr No (a) to (h) above is to be mentioned separately in percentage in both un-priced bid and price bid.</p> <p>Note :</p> <p>i) Unless otherwise specified in the NIT, the purchase order shall be placed on Ex-works basis for Indian bidders.</p> <p>ii) Prices quoted by Indian bidders shall be in Indian Rupees only.</p> <p>iii) In case Supervision of Erection, Testing & Commissioning (ETC) at Site or Testing & Commissioning at Site or Erection, Testing & Commissioning at Site is also in scope of the bidder along with supply, bidder has to ensure that prices quoted for such services also are in line with special terms & conditions of the NIT, if any.</p> <p>iv) Unless otherwise specified in the NIT, Unloading at Site / Destination shall not be in the scope of the supplier.</p> <p>v) Prices in respect of Sr No (a) to Sr No (h) of Clause 2.3 above are to be quoted inclusive of all taxes & Duties, charges. Levies, royalty etc. if any, excluding GST.</p>
3.	<p>TERMS OF PAYMENT :</p> <p>3.1 For Supply only in scope of the supplier</p> <p>100% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows :</p> <ul style="list-style-type: none"> · LR / GR duly endorsed by BHEL Site Official. · Material Receipt Certificate issued by BHEL Site Official. · GST Compliant Tax Invoice · Packing List (Case-wise) · Copy of Transit Insurance Certificate from underwriters. · Material Inspection Clearance Certificate (MICC) issued by BHEL Quality Management · Guarantee Certificate · Copy of Performance Bank Guarantee (PBG) · Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management wherever specifically mentioned in the Purchase Order. <p>3.2 For Supply where Supervision of Erection, Testing & Commissioning (ETC) at Site is in scope of the supplier or Supply where Testing & Commissioning at Site is in scope of the supplier</p>

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	<p>a) 95% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows :</p> <ul style="list-style-type: none"> · LR / GR duly endorsed by BHEL Site Official. · Material Receipt Certificate issued by BHEL Site Official. · GST Compliant Tax Invoice · Packing List (Case-wise) · Copy of Transit Insurance Certificate from underwriters. · Material Inspection Clearance Certificate (MICC) issued by BHEL Quality Management · Guarantee Certificate · Copy of Performance Bank Guarantee (PBG) · Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management wherever specifically mentioned in the Purchase Order. <p>b) 5% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows :</p> <ul style="list-style-type: none"> · Certificate of successful completion of Supervision of Erection, Testing & Commissioning at Site if it is in the scope of the supplier or Certificate of successful completion of Testing & Commissioning at Site if it is in the scope of the supplier. · Certificate of completion of final documentation as per Purchase Order / Technical Specification issued by BHEL Engineering Management <p>3.3 For Supply where Erection, Testing & Commissioning (ETC) at Site is in scope of the supplier</p> <p>a) 90% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows :</p> <ul style="list-style-type: none"> · LR / GR duly endorsed by BHEL Site Official. · Material Receipt Certificate issued by BHEL Site Official. · GST Compliant Tax Invoice · Packing List (Case-wise) · Copy of Transit Insurance Certificate from underwriters. · Material Inspection Clearance Certificate (MICC) issued by BHEL Quality Management · Guarantee Certificate · Copy of Performance Bank Guarantee (PBG) · Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management wherever specifically mentioned in the Purchase Order <p>b) 10% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows :</p> <ul style="list-style-type: none"> · Certificate of successful completion of Erection, Testing & Commissioning at Site issued by BHEL Site Official / Construction Management · Certificate of completion of final documentation as per Purchase Order / Technical Specification issued by BHEL Engineering Management <p>3.4 For Type Test Charges</p> <p>100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with copy of Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management in 3 sets (original + 2 copies) on completion of delivery (at site, if F&I is in scope of</p>

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	<p>supplier) of main supplies (excluding spares) for which Type Tests are applicable. List of main supplies (excluding spares) for which Type Tests are applicable shall be certified by BHEL Engineering Management.</p> <p>3.5 For Charges for Supervision of Erection, Testing & Commissioning at Site</p> <p>100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with certificate of successful completion of Supervision of Erection, Testing & Commissioning at Site issued by BHEL Site Official / Construction Management in 3 sets (Original + 2 copies).</p> <p>3.6 For Charges for Testing & Commissioning at Site</p> <p>100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with certificate of successful completion of Testing & Commissioning at Site issued by BHEL Site Official / Construction Management in 3 sets (Original + 2 copies).</p> <p>3.7 For Training Charges</p> <p>100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with certificate of completion of training issued by BHEL Engineering Management in 3 sets (original + 2 copies).</p> <p>Note :</p> <ul style="list-style-type: none"> i) Supplier has to submit invoice(s) as per PO or approved billing break-up of prices (if applicable as per NIT). ii) In case of supplies for overseas project, Material Receipt Certificate issued by BHEL Authorized Representative shall also be acceptable. iii) In case of Transit Insurance under Open Insurance Policy, Intimation / Declaration of Transit Insurance as per terms of the relevant Open Insurance Policy along with copy of Open Insurance Policy from underwriters shall also be acceptable. iv) Supplier has to ensure commencement of transit insurance from the date not later than LR / GR date. v) Supplier has to submit Tax Invoice(s). Supplier should ensure that Tax Invoice should comply all statutory requirements under GST Law to enable BHEL to avail input credit vi) MSMED Act, 2006 and the rules made thereunder as amended from time to time shall be applicable for release of payment to suppliers qualified & registered as Micro & Small Enterprises based on documents mentioned in the NIT for MSME. vii) Supplier has to submit PBG (as per BHEL format) & Guarantee Certificate as per PO terms. viii) In case any shortages and / or damages in supplies, an amount calculated

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	<p>based on comments against Material Receipt Certificate issued by the BHEL Site Official shall be withheld from the supply payment against 3.1(a) or 3.2(a) above to be deemed fit by BHEL subject to a minimum of 10% of the total ex-works value of the invoice corresponding to the LR / GR against which any shortages and / or damages are reported. The withheld amount shall be released after the shortages and / or damages in supplies are supplied / replenished against Certification by BHEL Site Official.</p> <p>ix) Payment of GST component shall be made only if vendor has deposited the Tax and credit for the same is reflected in GSTN (GST Network). In case credit of the same is not reflected in GSTN , vendor may alternatively furnish BG of GST Amount for a period valid for not less than 1 month .In case of disallowance of credit /non reflection of credit in GSTN , amount will be recovered from supplier along with applicable Interest , penalty etc from any of his dues.</p> <p>x) If GST is payable by BHEL on reverse Charge Mechanism basis, vendor should ensure the submission of GST compliant Tax invoice immediately on dispatch/ performance of service. In case of non-compliance any additional charges towards interest, penalty etc, will be to vendors account.</p> <p>xi) TDS under GST Act, if applicable, shall be deducted unless Exemption Certificate If applicable, from the appropriate authority is furnished to BHEL along with Invoice.</p>
4.	<p>INTEREST LIABILITY :</p> <p>In case of any delay in payment due to any reason, BHEL shall not pay any interest on delayed payment. Also, no interest shall be payable by BHEL on the bank guarantee / deposit amount or balance payment or any other money which may become due owing to difference or misunderstanding or any dispute before any quasi judicial authority between BHEL and the Supplier / Contractor.</p>
5.	<p>GUARANTEE :</p> <p>The equipment / material supplied and services rendered (if applicable) shall be guaranteed to be free from all defects and faults in design & engineering, material, workmanship & manufacture and in full conformity with the Purchase Order / Contract, Technical Specifications & approved drawings / data sheets, if any, for 18 months from the date of last delivery or 12 months from the date of commissioning, whichever is earlier.</p> <p>Wherever Erection, Testing & Commissioning at Site are also in the scope of the Supplier, the guarantee period shall be 18 months from the date of last delivery or 12 months from the date of commissioning, whichever is later.</p> <p>The defective equipment / material / component shall be replaced free of cost at site. Freight & Insurance during transit shall also be in the scope of the supplier / contractor. Any expenditure for dismantling and re-erection of the replaced equipment / material / component shall be to supplier's / contractor's account. All replacements during the guarantee period shall be delivered at site promptly and satisfactorily within a period not more than 45 days from the date of reporting the defect / rejection etc.</p> <p>In the event of the supplier / contractor failing to replace the defective equipment / material / component within the time period mentioned above, BHEL may proceed to undertake the replacement of such defective equipment / material / component at the risk and cost of the supplier / contractor without prejudice to any other rights under the contract and recover the same from PBG / other dues of this Purchase</p>

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	<p>Order / Contract or any other Purchase Order / Contract executed by the supplier / contractor.</p> <p>Note :</p> <ul style="list-style-type: none"> i) In case of Illumination System, items viz. Lamps, Tubes, Ballast, Starters, Capacitors & Fuses will not be under Guarantee after commissioning. ii) In addition to the above guarantee period, Extended Guarantee / Warranty, if any, shall be as per NIT / Technical Specifications. iii) In case offer of agent of Foreign OEM / Foreign Principal is considered, as per Clause No. 1.12 above, Guarantee as mentioned above has to be provided by the Foreign OEM / Foreign Principal also.
6.	<p>LATENT DEFECT :</p> <p>Liability for latent defects shall be for defects inherently lying within material or arising out of design deficiency which does not manifest itself during guarantee period but later and shall be limited to five years from the expiry of the guarantee period.</p>
7.	<p>PERFORMANCE BANK GUARANTEE (PBG) :</p> <p>Supplier shall arrange to submit Performance BG / Deposit on a non-judicial stamp paper of appropriate value along with first invoice or within 60 days from placement of Purchase Order (PO) whichever is earlier, in line with one of the applicable options as follows :-</p> <p><u>Option "A"</u></p> <p>A single rolling PBG for Rs. 50 Lakhs initially valid for 18 months with claim period of 3 months extra over and above 18 months for all the Purchase Orders being executed for Transmission Business Group, BHEL. However, validity of the PBG shall be extended till 18 months from the date of last delivery with 3 months claim period extra over and above 18 months.</p> <p>Single Rolling PBG option shall not be applicable in case Ex-works value of the PO at the time of placement of PO exceeds Rs. One Crore.</p> <p><u>Option "B"</u></p> <p>PBG for 10% of the total Ex-works PO value, valid for 18 months from the date of last delivery with claim period of 3 months extra over and above 18 months. Ex-works PO value at the time of placement of PO shall be considered for calculation of the PBG amount.</p> <p><u>Option "C"</u></p> <p>In case the total Ex-works PO value at the time of placement of PO does not exceed Rs. Ten Lakhs, interest free Deposit of 10% of the total Ex-works PO value at the time of placement of PO in form of Demand Draft favouring "Bharat Heavy Electricals Limited" and payable at New Delhi / Delhi / Noida shall also be acceptable to BHEL in lieu of PBG, which shall be released after expiry of 21 months from the date of last delivery after deduction, if any, within 60 days from receipt of invoice in 3 sets (original + 2 copies) to be submitted by the supplier.</p> <p>Note :</p> <ul style="list-style-type: none"> i) The Bank Guarantee shall be from any bank as per Annexure for List of Banks (32 Nos.). The original PBG should be sent by issuing Bank directly to AGM (Finance), TBG, BHEL, Noida. ii) Extension of validity of the PBG in original, as per above clause, should be sent by issuing Bank directly to AGM (Finance), TBG, BHEL, Noida at least 45 days before expiry of validity of the PBG. iii) Unless otherwise specified in the NIT, deviation taken for non-submission of PBG / Deposit, as applicable, shall not be accepted.

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	<p>iv) Supplier has to confirm one of the applicable options for submission of PBG / Deposit before placement of PO.</p> <p>v) In case of non-submission PBG / Deposit, as applicable, BHEL reserve the right for Risk Purchase as per terms of the NIT and impose Suspension of Business Dealings with the Supplier / Contractor.</p> <p>vi) BHEL reserve the right to encash the Bank Guarantee and forfeit the amount in the event of any default, failure or neglect on part of the Supplier in fulfilment of performance of the Purchase Order.</p> <p>vii) Value of the Bank Guarantee (at the time of submission) shall remain unchanged for any subsequent variations in Purchase Order value up to $\pm 20\%$. Beyond this variation of $\pm 20\%$, the Supplier shall arrange to enhance or may reduce the value of the Bank Guarantee accordingly for the total variation promptly.</p> <p>viii) Vendor to ensure submission of Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, as the case may be, as referred in clause No 9 regarding Final Documentation. BG shall be released only after submission of the same to BHEL TBMM.</p>
8.	<p>SUBMISSION OF DRAWINGS / DOCUMENTS FOR APPROVAL :</p> <p>Supplier shall submit the master document list within 7 days from date of Purchase Order / Contract, unless otherwise specified in the NIT, with planned dates for submission which shall be in line with activity schedule as per Purchase Order / Contract and shall be finalized with BHEL Engineering Management. Date of first submission of drawings / documents shall be certified by BHEL Engineering Management after the receipt of applicable drawings / documents (e.g. project specific cover sheet, GTP, OGA drawings, schemes, type test reports etc.) by BHEL. During detailed engineering stage, necessary hard copies of the engineering drawings / documents shall also be submitted by the supplier as per the Purchase Order / Contract requirement. The supplier shall also submit the packing drawings as per technical specifications.</p> <p>In case item(s) offered require any interface details of other item (not in the scope of supplier & required for operating the equipment), the supplier has to submit interfaces schedule along with submission of engineering drawings / documents. It shall be responsibility of the supplier to get the details of the interfaced item from BHEL before manufacturing to avoid any mismatch at site.</p>
9.	<p>FINAL DOCUMENTATION :</p> <p>Final documentation as called in the Technical /contract specification is to be submitted within 3 months from the date of first delivery of respective equipment, item/material. After submission of Final Documentation, BHEL Engineering Management (TBEM) will issue a Certificate of Completion of Final Documentation. Wherever Final Documentation is not applicable, BHEL Engineering Management (TBEM) will issue confirmation regarding the same, Vendor to submit the Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, as the case may be, to BHEL TBMM. In case of Non Submission of Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, BG will be liable for encashment.</p>
10.	<p>INSPECTION :</p> <p>BHEL / customer / third party shall inspect equipment / material before despatch. Stage inspection during manufacturing may also be carried out. Material to be despatched only after getting Material Despatch Clearance Certificate (MDCC) / MICC issued by BHEL.</p> <p>Supplier shall send inspection call on prescribed format / web site only, with an advance notice of 15 days.</p> <p>Supplier to ensure submission of all routine / acceptance test reports, inspection</p>

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	<p>reports and all other documents related to inspection, immediately to BHEL.</p> <p>BHEL representative is authorised to carry out audits along with Third Party Inspection Agency at vendor's / supplier's works before clearing the items for despatch.</p>
11.	<p>DESPATCH DOCUMENTS :</p> <p>Despatch documents to be immediately sent to BHEL on despatch are as follows :-</p> <ul style="list-style-type: none"> • Copy of Invoice • Copy of LR / GR in case of Indian suppliers or BL / AWB in case of foreign suppliers • Copy of Packing List (Case-wise) • Copy of Transit Insurance Certificate from underwriters • Copy of Guarantee Certificate
12.	<p>DELIVERY PERIOD :</p> <p>Delivery / Completion requirement shall be mentioned in the NIT. Bidder to specify best delivery / completion period possible in weeks from the date of LOI / PO as per activity schedule for consideration by BHEL.</p> <p>Time required for type test, if applicable, is to be separately indicated.</p> <p>Note :</p> <p>LR / GR date or invoice date (whichever is later) for indigenous supplies and BL / AWB date for FOB / CIF (if applicable) contracts shall be considered as delivery date.</p>
13.	<p>LIQUIDATED DAMAGES FOR DELAYED DELIVERY:</p> <p>In case of delay in execution of Purchase Order beyond the contractual delivery time, an amount of 0.5% of the total Purchase Order value for supply (incl. taxes and duties, freight & insurance as applicable) per week of delay or part thereof subject to a maximum of 10% of the total Purchase Order value for supply (incl. taxes and duties, freight & insurance as applicable) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD.</p> <p>However, in case of staggered (lot-wise) contractual delivery schedule, an amount of 0.5% of the total Purchase Order value for supply (incl. taxes, duties, freight & insurance as applicable) of delayed lot per week of delay or part thereof subject to maximum of 10% of the total Purchase Order value. (Incl taxes, duties, Freight & Insurance as applicable) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD.</p> <p>Note :</p> <ol style="list-style-type: none"> i) In case of any amendment / revision in PO /WO, the LD shall be linked to the amended / revised Purchase Order / Contract value and delivery / completion time / schedule, if applicable. ii) LR / GR date or invoice date (whichever is later) for indigenous supplies and BL / AWB date for FOB / CIF (if applicable) for imported supplies shall be treated as the date of dispatch for levying LD as above. iii) However, for indigenous supply, if time period between date of receipt of material at site / destination by Site Official & the date of LR / GR or invoice (whichever is later) is more than 30 days, where distance from place of despatch as per LR / GR is upto 1000 Kms or if time period between date of receipt of material at site / destination by Site Official & the date of LR / GR or invoice (whichever is later) is more than 45 days, where distance from place of despatch as per LR / GR is more than 1000 Kms, such excess period shall also be considered for LD purpose. iv) If, as per supplier, delay is not attributable to the supplier, delay analysis with documentary evidence may be submitted by the supplier at the earliest but not

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	<p>later than six months from the end of the financial year in which the payment is withheld. Based on the above details / documents submitted by the supplier, BHEL shall take final decision and if considered appropriate by BHEL, withheld amount (full or part as the case may be) shall be released, otherwise, full or balance withheld amount shall be treated as deduction of Liquidated Damages (LD) towards delayed delivery.</p>
14.	<p>VALIDITY OF OFFER : The offer shall be valid for 120 days from the due date of opening of tender (i.e. techno-commercial bid unless otherwise specified in the NIT). Prices of Spares, wherever they optional items, shall be valid till two years from the date of placement of PO.</p>
15.	<p>ACCEPTANCE / REJECTION OF TENDER : BHEL reserve the right to reject in full or part, any or all tender without assigning any reason thereof. BHEL also reserve right to vary the quantities as mentioned in the NIT. Acceptance of offer is subject to vendor approval by customer before opening of price bid.</p> <p>BHEL shall not be bound by any power of attorney granted by tenderer or by changes in composition of the firm made subsequent to award of order / contract. BHEL may however recognize such power of attorney and changes after obtaining proper legal advice, cost of which will be chargeable to the seller / contractor concerned. If the tenderer deliberately gives wrong information, BHEL reserves the right to reject such an offer at any stage or cancel the order / contract, if awarded, and forfeit the security deposit and bank guarantee.</p>
16.	<p>DEVIATION : The bids having deviation(s) w.r.t. tender are liable for rejection. However, BHEL, at its discretion, may load the prices for evaluation of offer with prior intimation to bidder.</p>
17.	<p>TENDER EVALUATION : Comparative statement shall be prepared and evaluated on total cost basis at destination/site (as per terms of NIT) considering overall quantity indicated in NIT unless contrary to same is specifically mentioned in the tender enquiry / NIT. Total cost for this purpose shall include cost of scope of work as mentioned in NIT along with applicable taxes & duties, and other services etc. (if applicable). GST input credit available to BHEL shall be reduced from prices while determining L1 status.</p> <p>In case all bidders are foreign & Port of Import (destination port) is same for all the bidders, evaluation of offers shall be done on CIF (Port of Import) basis. Otherwise, evaluation of offers shall be done on the basis of delivered cost at site /destination to BHEL. Further, in case of foreign bidders, marine freight & insurance are to be quoted separately & the purchase order may be placed on FOB basis with an option for delivery on CIF / CFR basis, if required, later.</p> <p>In case of foreign bidders, Exchange Rate (TT selling rate of State Bank of India) as on date of tender opening (Part-I Bid in case of two part bid) shall be considered. If the relevant day happens to be a bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken for tender evaluation.</p>
18.	<p>LOADING CRITERIA : List of permissible deviations & loading criteria thereof are as follows :-</p> <p>a) Payment Terms Base rate of SBI (as applicable on the date of bid opening / techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidder(s) against terms of payment in the NIT.</p> <p>b) Liquidated Damages (LD) for Delayed Delivery</p>

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	<p>Loading on LD clause shall be to the extent to which it is not agreed to by the bidder (at offered value).</p> <p>c) In case of foreign bidders, if the quoted prices is on CIF basis only, it shall be loaded to arrive at total FOR (Site / Destination) price, as applicable, by factors as follows :-</p> <ul style="list-style-type: none"> i) Port handling / clearing charges: @ 1% of CIF value to arrive at Customs Assessable Value. ii) Custom Duty (including CVD & SAD) as per NIT prevailing on date of price bid opening. iii) Inland Freight & Transit Insurance: @ 5% of CIF value where distance between site / destination and Port of Discharge is upto 1000 Kms or @ 7% of CIF value where distance between site / destination and Port of Discharge is more than 1000 Kms. <p>Note : Additional deviations (if considered acceptable by BHEL) & the loading criteria shall be communicated to all the qualified bidders before price bid opening.</p>
19.	<p>ARBITRATION :</p> <p>In the event of any dispute emanating from and relating to this contract, the matter shall be referred to the sole arbitration of the person appointed by the competent authority of BHEL. Subject to aforesaid, the provisions of "The Arbitration and Conciliation Act, 1996" and the rules made thereunder as amended from time to time in India shall apply to the arbitration proceedings. The venue of arbitration shall be in New Delhi.</p> <p>Further there shall be no claim for any pre-reference or pendente-lite interest on the claims and any claim for such interest made shall be void.</p> <p>However, in case of contract with Public Sector Enterprise / Undertaking (PSE/PSU) or Govt. Dept., the extant guidelines of Govt. of India shall be followed.</p>
20.	<p>LEGAL SETTLEMENT :</p> <p>Indian Courts at New Delhi / Delhi shall have exclusive jurisdiction to decide the dispute, if any, arising out of or in respect of the contract(s) to which these conditions are applicable. Contract, including all matters connected with contract, shall be governed by the Indian Law, both substantive and procedural, for the time being in force including modification thereto.</p>
21.	<p>SUB-CONTRACTING :</p> <p>In case further subcontracting of BHEL Purchase Order / Contract or part thereof is envisaged by supplier, the same can be done after written permission is obtained from BHEL. However it shall not absolve the Supplier / Contractor of the responsibility of fulfilling BHEL Purchase Order / Contract requirements. In case of subcontracting of Purchase Order / Contract awarded by BHEL or part thereof without such permission, BHEL reserve the right to cancel the Purchase Order / Contract and source such material / component / equipment / system from any other agency at the risk and cost of the Supplier / Contractor.</p> <p>If Supplier / Contractor is an individual or proprietary concern and the individual or the proprietor dies or the partnership is dissolved or substantially affected, then unless BHEL is satisfied that legal representative of individual Supplier / Contractor or proprietor of proprietary concern and surviving partners of partnership firm are capable of carrying out and completing the Purchase Order / Contract, BHEL shall be entitled to cancel the Purchase Order / Contract as to its incomplete portion and without being in any way liable to payment of any compensation to legal representative of Supplier / Contractor and / or to surviving partners of Supplier's / Contractor's firm on account of cancellation of the Purchase Order / Contract.</p> <p>Decision of BHEL that legal representatives of deceased Supplier / Contractor or</p>

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	<p>surviving partners of the Supplier's / Contractor's firm cannot carry out and complete the Purchase Order / Contract shall be final and binding on the parties hereto.</p> <p>Terms and Conditions shall not get affected in case of de-merger / amalgamation / taking-over / re-constitution etc.</p>
22.	<p>RISK PURCHASE :</p> <p>In case the Supplier / Contractor fails to supply or fails to comply with terms & conditions of the Purchase Order / Contract or delivers equipment / material not of the contracted quality or fails to adhere to the contract specifications or fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery / completion period to justify that supplies shall be inordinately delayed beyond contractual delivery / completion period, BHEL reserve the right to cancel the Purchase Order / Contract either in whole or in part thereof without compensation to Supplier / Contractor and if BHEL so desires, may procure such equipment / material / items not delivered or others of similar description where equipment / material / items exactly complying with particulars are not readily procurable in the opinion of BHEL which is final and in such manner as deemed appropriate, at the risk and cost of the Supplier / Contractor and the Supplier / Contractor shall be liable to BHEL for any excess cost to BHEL. However, the Supplier / Contractor shall continue execution of the Purchase Order / Contract to the extent not cancelled under the provisions of this clause.</p> <p>Recovery amount on account of purchases made by BHEL at the risk and cost of Supplier / Contractor shall be the difference of total value of new Purchase Order (PO) value and total value of old Purchase Order for applicable items, where the total value of new PO is more than total value of old PO for applicable items, plus additional 15% of the total ex-works value of new PO as overheads.</p> <p>The Supplier / Contractor shall on no account be entitled to any gain on such risk & cost purchase. In case the purchase order (PO) value of the new PO is less than the PO value of the old PO, 15% of the total ex-works value of the new PO shall be recovered as overheads and the difference between the PO value of the old PO and the new PO shall not be considered for calculation of the recovery amount.</p>
23.	<p>ADJUSTMENT OF RECOVERY :</p> <p>Any amount payable by the Supplier / Contractor under any of the condition of this contract shall be liable to be adjusted against any amount payable to the Supplier / Contractor under any other Purchase Order / Contract awarded to him by any BHEL unit. This is without prejudice to any other action, as may be deemed fit, by BHEL.</p>
24.	<p>FORCE MAJEURE CONDITION :</p> <p>If by reason of war, civil commotion, act of god, Government restrictions, strike, lockout which are not in control of Supplier / Contractor the deliveries / services are delayed, Supplier / Contractor shall not be held responsible.</p> <p>If at any time during the continuance of the Purchase Order / Contract, the performance in whole or in part by either party of any obligations under the Purchase Order / Contract is prevented or delayed by reason of any war hostilities, acts of the public enemy, restrictions by Govt. of India, civil commotion, sabotage, fires, floods, explosion, epidemics, quarantine restrictions, strike, lock-outs or acts of God (hereinafter referred to as "event"), which are not in control of Supplier / Contractor or BHEL, then provided notice of the happening of such event is given by either party to the other within fifteen (15) days from the date of occurrence thereof, neither party shall by reason of such event be entitled to terminate the Purchase Order / Contract nor shall have any claim for damages against each other in respect of such non-performance and delay in performance. Performance under the Purchase Order / Contract shall be resumed immediately after such event has come to an end or</p>

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	<p>ceased to exist and decision of BHEL as to whether the deliveries have to be resumed or not shall be final, conclusive and binding on the parties hereto.</p> <p>In the event of the parties hereto not able to agree that a force majeure event has occurred, the parties shall submit the disputes for resolution pursuant to the provisions hereunder, provided that the burden of proof as to whether a force majeure event has occurred shall be upon the party claiming such an event.</p> <p>Notwithstanding above provisions, BHEL shall reserve the right to cancel the Purchase Order / Contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of delivery and other schedules.</p>
25.	<p>MANUFACTURING QUALITY PLAN (MQP) : Supplier to submit approved MQP in line with requirement of BHEL/customer.</p>
26.	<p>SUPPLIER PERFORMANCE MONITORING AND RATING SYSTEM : BHEL reserve the right for evaluation of Supplier Performance Rating as per Supplier Performance Monitoring and Rating System of BHEL for necessary action. Details are available at BHEL Website www.bhel.com for reference.</p>
27.	<p>DEALING WITH BANNED SUPPLIERS / CONTRACTORS IN BHEL : Offers of the bidders, who are on the banned list, as also the offers of the bidders who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website www.bhel.com for reference.</p>
28.	<p>ORDER OF PRECEDENCE : The order of precedence shall be as follows :-</p> <ol style="list-style-type: none"> Special Terms & Conditions (STC) for Tender Enquiry / Contract, if any General Terms & Conditions (GTC) for Tender Enquiry / Contract & Additional General Terms & Conditions (GTC) for Tender Enquiry / Contract for Erection Testing & Commissioning (ETC) at Site, if applicable <p>Provisions in (a) above shall prevail over (b). In case of conflict, between Technical Specifications and STC / GTC, bidder to seek necessary clarifications from BHEL concerned official as specified in NIT.</p>
29.	<p>PACKING : Packing shall be in conformity with specifications and shall be such as to ensure prevention of damages, corrosion, deterioration, shortages, pilferage and loss in transit or storage.</p> <p>In case of shipment by sea or air, the packing shall be sea-worthy or air-worthy respectively and of international standards.</p> <p>Different types of spares i.e. start-up / commissioning spares and initial spares (mandatory spares and recommended O&M spares) are to be packed separately.</p> <p>Packing List shall be submitted as per standard format along with advance set of documents for claiming payment which shall also indicate :-</p> <ol style="list-style-type: none"> Case / Packing size (as applicable). Gross weight and net weight of each package. Detailed contents of the package with quantity of each item separately. <p>Project, Item / Package Description, BHEL's PO No. with date & Case / Packing Mark should also be clearly mentioned on the Case / Packing and Packing List for identification. Also, Packing List must be duly signed & should include respective Invoice No. & LR No.</p> <p>Note :</p> <p>Foreign suppliers to furnish details to arrange inland transportation by BHEL, if applicable, as follows :-</p> <ol style="list-style-type: none"> No. of Packages Size with Weight (Gross & Net) of each Package No. of Containers with type & size required for inland transportation

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	iv) Type of Cargo (Break Bulk / LCL / FCL) v) Customs Tariff No.
30.	<p>COLOUR CODING :</p> <p>Aluminium stickers are required to be attached to large components but plastic sheet tags should be tied with small components, giving details like purchase order, description of the component, quantity etc.</p> <p>Tags should be of the colour as follows :-</p> <ul style="list-style-type: none"> a) Main equipment : Yellow or White tag b) Start-up / Commissioning spares : Blue tag c) Mandatory spares : Pink or Red tag d) Recommended / O&M spares : Green tag
31.	<p>MICRO, SMALL & MEDIUM ENTERPRISES (MSME) :</p> <p>MSMED Act 2006 as amended from time to time & extant regulations of Govt. of India for MSME will be applicable.</p> <p>Micro & Small Enterprises (MSE) can avail the intended benefits only if they submit along with the offer / bid, attested copies of either Acknowledgement of Entrepreneur Memorandum Part-II (EM-II certificate) having deemed validity (five years from the date of issue of acknowledgement in EM-II) or valid NSIC certificate or EM-II certificate along with attested copy of a CA certificate (As per BHEL format where deemed validity of EM-II certificate of five years have expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of opening (for Techno-commercial Bid : Part-I in case of two part bid). Non-submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or arrested (in original) by a Gazetted officer.</p> <p>Copy of Udyog Aadhaar Memorandum with Acknowledgement of Ministry of Micro, Small & Medium Enterprises should also be furnished.</p>
32.	<p>BUSINESS ETHICS / SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS / CONTRACTORS :</p> <p>If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution, indulges in malpractices cheating, bribery, fraud or other misconduct or formation of cartel so as to influence the bidding process or influences the price or fails to perform or is in default without any reasonable cause etc or performs any act considered objectionable as per extant guidelines, action may be taken against such bidders/supplier/contractor as per extant "Guidelines for Suspension of Business Dealings with Suppliers/Contractors". Abridged version of same is available at BHEL website (www.bhel.com) on "Supplier Registration" Page.</p>
33.	<p>REVERSE AUCTION :</p> <p>BHEL reserve the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder or price bid submitted by the bidder through e-procurement system. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.</p> <p>In case BHEL decides to go for Reverse Auction, only those bidders who have given their unconditional acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit "online sealed bid" in the Reverse Auction. Non-submission of "online sealed bid" by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.</p> <p>General Terms and Conditions of RA are available at Annexure. Business Rules for</p>

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	<p>RA shall be sent to the bidders before conducting RA.</p> <p>Abridged Version of "Common Guidelines for Conducting Reverse Auction" may also be seen at BHEL website (www.bhel.com) on "Supplier Registration" Page & "Tender Notifications" Page.</p>
34.	<p>INTEGRITY PACT :</p> <p>Bidders shall have to enter into Integrity Pact with BHEL, duly signed with seal in original, if specified in NIT / RFQ failing which bidder's offer shall be liable for rejection.</p>
35.	<p>TERMINATION OF CONTRACT :</p> <p>BHEL shall have the right to cancel the Purchase Order / Contract without any financial implication to BHEL if vendor approval by end user / customer is withdrawn or in case of Suspension of Business Dealings with the Suppliers / Contractors by BHEL.</p> <p>BHEL shall have the right to cancel Purchase Order / Contract, wholly or in part, in case they are obliged to do so on account of any decline, diminution, curtailment or stoppage of their business and in that event, the Supplier's / Contractor' compensation claim shall be settled mutually.</p> <p>In case of cancellation of Purchase Order / Contract for main supply, all other associated Purchase Orders / Contracts like those for Mandatory Spares / Recommended Spares / Erection, Testing & Commissioning (ETC) / Supervision of ETC, if any, would also get cancelled.</p>
36.	<p>SHELF LIFE :</p> <p>Supplier has to inform the list of the items / sub-items which have limited shelf life like consumables or those required for the first fill and shall indicate the corresponding shelf life period in the offer. Such items / sub-items shall be manufactured / despatched only after getting formal clearance from BHEL.</p>
37.	<p>LIMITATION OF LIABILITY :</p> <p>Notwithstanding any other provisions, except in cases of wilful misconduct and / or criminal negligence / acts,</p> <p>a) Neither the Supplier / Contractor nor BHEL shall be liable to the other, whether in Purchase Order / Contract, tort, or otherwise, for any consequential loss or damage, loss of use, loss of production or loss of profits or interest costs, provided however that this exclusion shall not apply to any obligation of the Supplier / Contractor to pay Liquidated Damages to the BHEL and</p> <p>b) Notwithstanding any other provisions incorporated elsewhere in the contract, the aggregate liability of the Contractor in respect of this contract, whether under the Contract, in tort or otherwise, shall not exceed total Contract Price, provided however that this limitation shall not apply to any obligation of the Vendor to indemnify BHEL with respect to Patent Infringement or Intellectual Property Rights.</p>
38.	<p>SHORTAGES / DAMAGES :</p> <p>a) Against Supply only or Supply where Supervision of Erection, Testing & Commissioning (ETC) at Site or Supply where Testing & Commissioning at Site is in scope of the supplier :</p> <p>Any shortages and / or damages in supplies shall be supplied / replenished free of cost by the supplier as early as possible but not later than 30 days from the date of intimation by BHEL to the supplier.</p> <p>b) Against Supply where Erection, Testing & Commissioning (ETC) at Site is in scope of the supplier :</p>

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

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	expenses and any other claim of whatsoever nature in respect of the death or injury of any person or loss of or damage to any property arising during the course and out of the execution of the Purchase Order / Contract.
44.	<p>TITLE OF GOODS :</p> <p>a) Ownership of the equipment / material procured in India, shall be transferred to BHEL upon loading on to the mode of transport to be used for transportation of the said equipment / material from the works to the site / destination and upon endorsement of the dispatch documents in favour of BHEL.</p> <p>b) Ownership of the equipment / material to be imported into the country where the site is located, if not procured in India, shall be transferred to BHEL upon loading on the mode of transport to be used for transportation of the equipment / material from the country of origin to that country / destination and upon endorsement of despatch document in favour of BHEL.</p> <p>c) Notwithstanding the transfer of ownership of the equipment / material, the responsibility for care and safe custody thereof together with the risk of loss or damage thereto for whatsoever reason shall remain with the Supplier.</p>
45.	<p>COMPLIANCE OF STATUTORY REQUIREMENTS :</p> <p>The vendor shall comply with all State and Central Laws / Acts, Statutory Rules, Regulations etc., as may be enacted by the Government during the tenure of the Purchase Order / Contract and having in force and applicable to the Purchase Order / Contract and nothing shall be done by the Supplier / Contractor in contravention of any Law / Act and / or Rules / Regulations, thereunder or any amendment thereof.</p> <p>The Supplier / Contractor shall pay all taxes, fees, licence charges / deposits, duties, tolls, royalty, commissions or other charges which may be levied on account of any of his operations connected with the Purchase Order / Contract. In case BHEL is constrained to make any of such payments, BHEL shall recover the same from the Supplier / Contractor either from moneys due to him or otherwise as deemed fit.</p>
46.	<p>ACCEPTANCE OF ORDER :</p> <p>Supplier should acknowledge and accept the Letter of Award / Purchase Order issued by BHEL within 7 days of the issue of Letter of Award / Purchase Order.</p> <p>In case of any discrepancy / typographical error in issue of Purchase Order / Contract, the agreed terms & conditions, scope of work, rates / prices for placement of PO / award of contract shall be applicable and BHEL reserves the right to issue amendment(s) to PO / Contract for correction of discrepancies / typographical errors in the PO / Contract at a later date.</p>
47.	<p>FRAUD PREVENTION POLICY :</p> <p>The Bidder along with its associate / collaborators / sub-contractors / sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.</p>

Signature of Bidder (Authorized Signatory) with Date & Seal

Addendum to General Terms and Conditions (GTC-2016)

1	Offer Submission/ Opening Time	Offer Submission Time: 11:00 Hrs IST Offer Opening Time: 16:00 Hrs IST
2	Instruction to Bidder(s):- Refer Special Terms & Conditions	<p>(a) For Supply where Supervision of Erection, Testing & Commissioning (ETC) at Site is in the scope of the supplier or Supply where Testing & Commissioning (T&C) at Site is in scope of the supplier, minimum 10% of total ex-works value shall be quoted under supervision of ETC/T&C. In case bidder quotes less than 10%, then 10% of Total PO value excluding GST and F&I shall be allocated to the supervision of ETC/T&C scope. Service charges shall be back calculated to keep 10% of total cost to BHEL (without GST). This price adjustment shall be done from supply Ex works prices only on prorata basis for all supply line items.</p> <p>(b) For Supply where Erection, Testing & Commissioning (ETC) at Site is in the scope of the supplier, minimum 20% of total ex-works value shall be quoted under ETC. In case bidder quotes less than 20%, then 20% of Total PO value excluding GST and F&I shall be allocated to the ETC scope. Service charges shall be back calculated to keep 20% of total cost to BHEL (without GST). This price adjustment shall be done from supply Ex works prices only on prorata basis for all supply line items.</p> <p>(c) Bidder's offer will be technically acceptable subject to final acceptance of vendor by ultimate customer as approved supplier. Price Bid will be opened only for those bidders in respect of which vendor approval is received from respective customer, if required. Necessary credentials/documents to be submitted to customer for approval, if required.</p>
3	Offer Submission Mode (Refer Special Terms & Conditions)	Clause No. 1.3 of GTC – Tender is invited through e-Procurement System only. The bidder shall submit their bid through e-Procurement platform at https://eprocurebhel.co.in . Vendors participating through e-procurement portal for this tender should have Class-III Digital Signature Certificate (DSC) for Signing & Encryption of bids issued by any of the valid Certifying Authorities (approved by Controller of Certifying Authorities) in India.
4	Validity of Purchase Order	Purchase order shall be valid for two years from date of Purchase Order.
5	Work Address	<p>Bidder to mention their works address below from where material will be supplied</p> <p>Works Address----- ----- -----</p>
6	Pre- Qualification Requirement(PQR)	As per PQR of Tender. The bidder must ensure that they are meeting the PQR (Technical) and should submit all the requisite credentials as per PQR.
7	Deviation	<p><u>Technical Deviation:</u> No Technical Deviation is envisaged.</p> <p><u>Commercial Deviation:</u> No Commercial Deviation envisaged except defined in GTC.</p>
8	Delivery Plan	As per Activity Schedule-Annexure-II
9	Terms of Payment Refer Special Terms & Conditions	As per clause 3.1 to 3.7 of GTC (as applicable) and payment within 45 days from the date of receipt of complete invoice for Micro and Small suppliers, 60 days for medium Suppliers and within 90 days for other suppliers. Supplier to submit bills alongwith billing checklist as per Annexure-III
10	Performance Bank Guarantee (PBG)	<p>Clause No. 7 of GTC, If no option is specified by the bidder, by default option – B for Bank Guarantee shall be considered.</p> <p>BG for Main supply items and Spares shall be submitted separately alongwith first bill.</p> <p>Note: BG should be submitted on non-judicial stamp paper of appropriate value by the supplier alongwith first submission of bill to BHEL.</p>

Addendum to General Terms and Conditions (GTC-2016)

11	Liquidated Damage	<p>Clause no. 13 of GTC - In case of delay in execution of Purchase Order beyond the contractual delivery time, an amount of 0.5% of delayed lot value (Ex Works and F&I charges) for supply per week of delay or part thereof subject to a maximum of 10% of delayed lot value (Ex Works and F&I charges) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD.</p> <p>LD will be calculated for lotwise and Manufacturing Clearance (MFC) date will be the last date of inputs for that particular lot</p> <p>Lot-1: items for which MFC is issued from 1-15 days of calendar month Lot-2: items for which MFC is issued from 16-30/31 days of calendar month Lot-3: items for which MFC is issued from 1-15 days of next calendar month, Lot-4: items for which MFC is issued from 16-30/31 days of next calendar month and so on...</p>
12	Arbitration	As per Annexure-IV
13	Reverse Auction	<p>"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking."</p> <p>Abridged Version of "Guidelines for Reverse Auction-2021" may also be seen at BHEL website (www.bhel.com) on "Supplier Registration" Page.</p>
14	Splitting of Contract	Splitting of Contract not applicable for this tender.
15	Make In India (PPP-MII)	<p>For this procurement, the local content to categorize a supplier as class-I local supplier / class-II local supplier / Non-Local supplier and purchase preference to class-I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020, issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT but before opening of part-II bids against this NIT.</p> <p>"Bidder to specify the percentage of local content as per the format of self-declaration for local content" as per Annexure-V."</p> <p>"This tender is not a global tender and only class-I suppliers as defined under the DPIIT order no. P-45021/2/2017-PP (BE-II) dated 04.06.2020 and subsequent to the PPP-MII order, order ref no.: A-1/2021-FSC-Part (5) dated 16.11.2021 issued by Govt of India, Ministry of Power are eligible to bid in this tender. Bids received from Class-II & Non-Local supplier shall be rejected."</p>
16	Compliance to GOI Order for restrictions under Rule 144 (xi) of General Financial Rules (GFRs), 2017	Refer Clause at Annexure-VI and Certification at Annexure-VII / Annexure-VIII (whichever is applicable) regarding restrictions under Rule 144 (xi) of General Financial Rules (GFRs), 2017. Bidder to comply the clause and submit the certification. Non-compliance/ Non-submission of certification will lead to rejection of Offer.
17	MOP Circular	<p>Bidder to comply the MOP circular dated 02-07-2020 (Annexure-IX) and its subsequent amendment, if any, in prescribed format (Annexure-X). Non-compliance/ Non-submission will lead to rejection of Offer [Not Applicable for cases where local content is 100%].</p> <p>Vendor to quote as per specified price format of NIT, otherwise their offer shall be liable to be rejected.</p> <p>Following confirmation to be provided by vendor: "We confirm that we have quoted as per specified price format provided along with this tender".</p>
18	Integrity Pact	As per Annexure-XI.- Applicable for this Enquiry
19	Risk and Cost	As per Annexure-XII.

Addendum to General Terms and Conditions (GTC-2016)

20	Prevention for cartel formation	<p>The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.</p> <p>In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.</p>
21	Documents Required for Customer approval	<p>Bidders to submit below documents alongwith their offer but not limited to:</p> <ul style="list-style-type: none"> (a) PAN, GST, Certificate of Incorporation (b) Factory Registration Certificate (c) Overall organization Chart with Manpower Details (Design/Manufacturing/Quality etc.) (d) List of Plant and Machinery (e) List of Testing and Measuring equipment (f) Third party approval, if any (viz. ISO, BIS) (g) Pollution clearance wherever applicable (h) Energy conservation & Efficiency Report(Applicable to industries having contact load more than 100KVA) (i) Manufacturing Quality Plan (MQP) (j) List of past supplies references along with copy of major PO (k) Performance certificate from end user (l) Photographs of factory, plant and machinery & testing facilities (m) Three consequential year balance sheet. (n) Vendor registration and company Profile etc.
22	BHEL Supplier Registration Portal	<p>The link for Online Supplier registration Portal is https://supplier.bhel.in/</p> <p>The link for Online Supplier Registration Portal may also be seen at BHEL website (www.bhel.com) on "Supplier Registration" Page.</p>

The Notice Inviting Tender (NIT)/ the tender requirement of BHEL will not be henceforth published in newspapers. All the concerned are hereby notified that tender enquiries of BHEL will be published on BHEL tender website (www.bhel.com) and Government's Central Public Procurement Portal (<https://eprocurebhel.co.in>).

(Sign and seal of Bidder)

TECHNICAL PRE QUALIFICATION REQUIREMENT

Name of Project : - 400/220 kV Punatsangchhu-I HEP Pothead yard
 Name of Customer : - PHPA-I
 Name of Consultant : - WAPCOS Limited, Central Electricity Authority
 Name of Item : - 1.1 kV Aux Power & Control Cables

TECHNICAL PRE-QUALIFICATION REQUIREMENT**For LT Control Cables:**

Bidder should have manufactured and supplied prior to the date of Techno-Commercial bid Opening:

- At least 100 km of PVC insulated, PVC sheathed, stranded copper conductor 1.1 kV grade cables in one single contract
- At least one (1) km of Flame-retardant low smoke PVC/Cu cables.

For LT Power Cables

Bidder should have manufactured and supplied prior to the date of Techno-Commercial bid Opening:

- At least 25 km of PVC insulated, PVC sheathed, aluminium conductor, power cables of 1.1 kV or higher grade in one single contract.
- At least one (1) km of flame retardant low smoke PVC/Al cables.

SUPPORTING DOCUMENTS TO BE ATTACHED

Sr	Required Criteria	Supporting Documents to be submitted by bidder along with technical bid
1	Manufacturing	Approved Drawings / GTP / Approved Quality Plan and Factory Inspection Test Report e.t.c
2	Supply	PO & Dispatch clearance / LR / Material Receipt certificate at site / installation or commissioning certificate e.t.c

Notes (General points):

- Consideration of offer shall be subject to customer's approval of bidder's, if applicable.
- 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.
- Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.
- After satisfactory fulfilment of all the above criteria / requirement, offer shall be considered for further evaluation as per NIT and all the other terms of the tender.

PREPARED BY

REVIEWED BY

APPROVED BY

ACTIVITY SCHEDULE [ANNEXURE II]

IMMEDIATE after approval of drawing and documents and issuance of MFC by BHEL however Break up of delivery period taken (Delay analysis for cases of delivery extension if required, shall be governed as per below schedule).

SL. NO.	ACTIVITY	ACTIVITY TIME IN WEEKS
1.	Submission of documents necessary for getting manufacturing clearance like Drawings, data sheet, MQP etc. (In scope of vendor)	02
2.	Review and Approval of documents and issue of manufacturing clearance (In scope of BHEL)	02
3.	Manufacturing Time & offer of Inspection to BHEL (In scope of vendor)	06
4.	Inspection (In scope of BHEL)	01
5.	Issue of MICC (In scope of BHEL)	01
6.	Dispatch (In scope of vendor)	01

Note – 1) Supplier to ensure every revised submission incorporating comments (Complete in all respect) within 1 week from the date of comments by BHEL.

2) Supplier to furnish the advance information (at least 02 weeks) for inspection of the material after ensuring the readiness

Signature & Seal of
Supplier
Date:

Check List for Supply bills (ANNEXURE III)

Name Of the Project							
Package Description							
Invoice No. & Date							
PO No. & date							
Sr. No	Documents Required	Copies	Check Points	Page no.	Vendor Remarks (Y/N/NA)	Verification by MM (Y/N/NA)	Verification by Fin (Y/N/NA)
1	Original for Buyer Invoice - GST compliant invoice	1 Original+2 Copy	1. Please ensure GST complaint invoice in original 2. Consignee address : BHEL C/o followed by site address 3. Item description and unit of quantity are matched with PO 4. Buyer address and GSTN No as required (TBG Noida or Nodal 5. PO No and date, LR No and date, Vehicle No and Project name are 6. Invoiced quantity are not more than th PO quantity and MICC 7. Ex works unit rate , Taxes and F&I rates are same as per PO 8. Signed and stamped by vendor				
2	Receipted LR (signed & stamped)/ confirmation from site regarding receipt of packages/ Boxes	1Original+2 Copy	1. Consignee address : BHEL C/o followed by Site address 2. In case of material purchased from sub vendor , Consignee address Vendor's name C/o BHEL C/o Site address 3. Vendor's Invoice no and Vehicle No are mentioned 4. No of boxes/No of packages are same as per Packing list 5. In case of and adverse remark on LR (Like shortages/damages/broken etc) , clarification from site/TBMM/TBCM is needed 6. LR is readable 7. In case of photo copy, LR is verified by TBMM 8. LR date is after the date of MICC/(MDCC if issued) or same date				
3	Packing List - showing number of packages, and gross weight/net Weight (if applicable)	1Original+2 Copy	1. PO No and date, LR No and date, Invoice No and date, Site Name and address, Consignor and consignee address are mentioned 2. Item description and quantity are matched with Invoice and PO 3. Signed and stamped by vendor 4. No of packages/ Item descriptions are matched with MRC and LR				
4	MICC from BHEL	1Original+2C opy	1. BHEL MICC has been issued prior to the date of dispatch or on same date 2. In case where MICC date is after the date of dispatch then MDCC date is same or prior to the date of dispatch 3. Project Name, PO,Po Date, Vendor's name and address is correct 4. Item description, Quantity and unit of quantity are same as per PO 5. All hold point in MICC , if any, have been resolved before submission of bill 6. Signed and stamped by BHEL Executive 7. MICC and MDCC quantity are not less than Invoice quantity and cover all invoiced items.				
5	Guarantee Certificate	1 Original+2 Copy	1. Project Name, PO No., Invoice No , LR No and date are mentioned 2. Guarantee Certificate is strictly matched with PO T&C 3. Signed and stamped by vendor				
6	Bank Guarantee	1 Copy	1. Ensure submission of BG directly from Bank before supply of material so that BG confirmation may be arranged before processing 2. Bill can be processed only after receipt of BG confirmation directly from bank 3. It should be in the name of BHEL , TBG Noida with registered office address Siri Fort, New Delhi 4. It should be in prescribed format. 5. BG value and validity plus claim period should be minimum as specified in PO / RC. Please check before supply , If BG extension is required please arrange the same 6. Vendor's name address should be same as per PO 7. Po No / RC No and date should be correct				
7	Insurance Certificate	1 Original+2 Copy	1. Invoice No and date, Vendor's Name,Place from Consignor to Consignee are mentioned 2. It has not been issued later than the LR date 3. Insured value is not less than the Invoice value 4. Signed and stamped by Insurance Company 5. In case of Open Insurance Policy, declaration has been submitted to Insurance Company as per declaration clause of Open policy and 6. In case of any discrepancy , consent of TBCM is required for processing the bill and amount will be deducted for invalid Insurance				
8	PVC (If applicable) Invoice is submitted along with the Despatch Invoice	1Original+2C opy	PVC (If applicable) Invoice is submitted along with the Despatch Invoice 1. PVC invoice is attched along with supply Invoice 2. Calculation sheet and applicable PVC indices are also enclosed 3. If delay in delivery, then PVC indicies are as per PO conditions.				
9	Material receipt Certificate		1. LR No and date, Invoice No and date, Vehicle No and date , Site Name an address are mentioned 2. Date of receipt of material 3. Item description and quantity are same as per Invoice / Packing List 4. It is signed and stamped by Site executive 5. In case of any shortages / damages / adverse remark , clarification is needed				
10	Other Documents		To be seen as per specific requirement of PO.				

(A) CONCILIATION (MODEL CONCILIATION CLAUSE FOR CONDUCTING CONCILIATION PROCEEDINGS UNDER THE BHEL CONCILIATION SCHEME, 2018)

The Parties agree that if at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract or the Memorandum of Understanding (whichever is inapplicable), which the Parties are unable to settle mutually), arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in **Annexure-A to this GCC (Enclosed)**.

The Annexure-A together with its appendices will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in these GCC.”

(B) ARBITRATION (WITH SOLE ARBITRATOR)

- 1.1. Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the Sole Arbitrator and such Arbitrator appointed by Head of the BHEL Unit/Region/Division issuing the Contract.
- 1.2. The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties.
- 1.3. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) and amended in 2015 and further amendment passed in 2019 or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall

be New Delhi. The language of arbitration shall be English and the documents shall be submitted in English.

- 1.4. The cost of arbitration shall initially be borne equally by the Parties subject to the final apportionment of the cost of the arbitration in the award of the Arbitrator.
- 1.5. Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

1.6. **SETTLEMENT OF COMMERCIAL DISPUTES BETWEEN CPSES INTER SE AND CPSE(S) AND GOVERNMENT DEPARTMENT(S)/ ORGANISATION(S) – ADMINISTRATIVE MECHANISM FOR RESOLUTION OF CPSES DISPUTES (AMRCD) – REGARDING**

Vide Dept. of Public Enterprises OM No. F. No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22.05.2018 it has been conveyed that *"To make the mechanism more effective and binding on the disputing parties, a new mechanism namely Administrative Mechanism for resolution of CPSEs Disputes (AMRCD) having two level (tier) structure has been evolved in consultation with various stakeholders to replace the existing PMA mechanism which stands wound up from the date of issue of this OM."* Accordingly, the existing Permanent Machinery of Arbitration (PMA) stands wound up with effect from 22.05.2018 and cases relating to disputes or differences relating to the interpretation and application of the provisions of commercial contract(s) between CPSEs / Port Trust / Central or State Government Department / Organisations (excluding disputes concerning Railways, Income Tax, Customs and Excise Departments) shall be taken up by either party for its resolution through Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD).

(C) JURISDICTION AND GOVERNING LAWS

The Courts at New Delhi shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract. This Contract shall be construed as per and be governed by the Laws of India.

**ANNEXURE TO MODEL CONCILIATION CLAUSE FOR CONDUCT OF
CONCILIATION UNDER THE BHEL CONCILIATION SCHEME, 2018**

BRIEF PROCEDURE FOR CONDUCT OF CONCILIATION PROCEEDINGS

1. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided herein:
2. The party desirous of resorting to Conciliation shall send an invitation/notice in writing to the other party to conciliate specifying all points of Disputes with details of the amount claimed. The party concerned shall not raise any new issue thereafter. Parties shall also not claim any interest on claims/counter-claims from the date of notice invoking Conciliation till the conclusion of the Conciliation proceedings.
3. The party receiving the invitation/notice for Conciliation shall within 30 days of receipt of the notice of Conciliation intimate its consent for Conciliation along with its counter-claims, if any.
4. The Conciliation in a matter involving claim or counter-claim (whichever is higher) up to Rs 5 crores shall be carried out by sole Conciliator nominated by BHEL while in a matter involving claim or counter-claim (whichever is higher) of more than Rs 5 crores Conciliation shall be carried out by 3 Conciliators nominated by BHEL.
5. The Parties shall be represented by only their duly authorized in-house executives/officers and neither Party shall be represented by a Lawyer.
6. The first meeting of the IEC shall be convened by the IEC by sending appropriate communication/notice to both the parties as soon as possible but not later than 30 days from the date of his/their appointment. The hearings in the Conciliation proceeding shall ordinarily be concluded within two (2) months and, in exceptional cases where parties have expressed willingness to settle the matter or there exists possibility of settlement in the matter, the proceedings may be extended by the IEC by a maximum of further 2 months with the consent of the Parties subject to cogent reasons being recorded in writing.
7. The IEC shall thereafter formulate recommendations for settlement of the Disputes supported by reasons at the earliest but in any case within

15 days from the date of conclusion of the last hearing. The recommendations so formulated along with the reasons shall be furnished by the IEC to both the Parties at the earliest but in any case within 1 month from the date of conclusion of the last hearing.

8. Response/modifications/suggestions of the Parties on the recommendations of the IEC are to be submitted to the IEC within time limit stipulated by the IEC but not more than 15 days from the date of receipt of the recommendations from the IEC.
9. In the event, upon consideration, further review of the recommendations is considered necessary, whether by BHEL or by the other Party, then, the matter can be remitted back to the IEC with request to reconsider the same in light of the issues projected by either/both the Parties and to submit its recommendations thereon within the following 15 days from the date of remitting of the case by either of the Parties.
10. Upon the recommendations by the Parties, with or without modifications, as considered necessary, the IEC shall be called upon to draw up the Draft Settlement Agreement in terms of the recommendations.
11. When a consensus can be arrived at between the parties only in regard to any one or some of the issues referred for Conciliation the draft Settlement Agreement shall be accordingly formulated in regard to the said Issue(s), and the said Settlement Agreement, if signed, by the parties, shall be valid only for the said issues. As regards the balance issues not settled, the parties may seek to resolve them further as per terms and conditions provided in the contract.
12. In case no settlement can be reached between the parties, the IEC shall by a written declaration, pronounce that the Conciliation between the parties has failed and is accordingly terminated.
13. Unless the Conciliation proceedings are terminated in terms of para 22 (b), (c) & (d) herein below, the IEC shall forward his/its recommendations as to possible terms of settlement within one (1) month from the date of last hearing. The date of first hearing of Conciliation shall be the starting date for calculating the period of 2 months.

14. In case of 3 members IEC, 2 members of IEC present will constitute a valid quorum for IEC and meeting can take place to proceed in the matter after seeking consent from the member who is not available. If necessary, videoconferencing may be arranged for facilitating participation of the members. However, the IEC recommendations will be signed by all members. Where there is more than one (1) Conciliator, as a general rule they shall act jointly. In the event of differences between the Members of IEC, the decision/recommendations of the majority of the Members of IEC shall prevail and be construed as the recommendation of the IEC.
15. The Draft Settlement Agreement prepared by the IEC in terms of the consensus arrived at during the Conciliation proceedings between the Parties shall be given by the IEC to both the parties for putting up for approval of their respective Competent Authority.
16. Before submitting the draft settlement agreement to BHEL's Competent Authority viz. the Board Level Committee on Alternative Dispute Resolution (BLCADR) for approval, concurrence of the other party's Competent Authority to the draft settlement agreement shall be obtained by the other party and informed to BHEL within 15 days of receipt of the final draft settlement agreement by it. Upon approval by the Competent Authority, the Settlement Agreement would thereafter be signed by the authorized representatives of both the Parties and authenticated by the members of the IEC.
17. In case the Draft Settlement Agreement is rejected by the Competent Authority of BHEL or the other Party, the Conciliation proceedings would stand terminated.
18. A Settlement Agreement shall contain a statement to the effect that each of the person(s) signing thereto (i) is fully authorized by the respective Party(ies) he/she represents, (ii) has fully understood the contents of the same and (iii) is signing on the same out of complete freewill and consent, without any pressure, undue influence.
19. The Settlement Agreement shall thereafter have the same legal status and effect as an arbitration award on agreed terms on the substance of the dispute rendered by an arbitral tribunal passed under section 30 of the Arbitration and Conciliation Act, 1996.
20. Acceptance of the Draft Settlement Agreement/recommendations of the Conciliator and/or signing of the Settlement Agreement by BHEL shall

however, be subject to withdrawal/closure of any arbitral and/or judicial proceedings initiated by the concerned Party in regard to such settled issues.

21. Unless otherwise provided for in the agreement, contract or the Memorandum of Understanding, as the case may be, in the event of likelihood of prolonged absence of the Conciliator or any member of IEC, for any reason/incapacity, the Competent Authority/Head of Unit/Division/Region/Business Group of BHEL may substitute the Conciliator or such member at any stage of the proceedings. Upon appointment of the substitute Conciliator(s), such reconstituted IEC may, with the consent of the Parties, proceed with further Conciliation into the matter either de-novo or from the stage already reached by the previous IEC before the substitution.
22. The proceedings of Conciliation under this Scheme may be terminated as follows:
- On the date of signing of the Settlement agreement by the Parties; or,
 - By a written declaration of the IEC, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of the declaration; or,
 - By a written declaration of the Parties addressed to the IEC to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
 - By a written declaration of a Party to the other Party and the IEC, if appointed, to the effect that the Conciliation proceedings are terminated, on the date of the declaration.
 - On rejection of the Draft Settlement Agreement by the Competent Authority of BHEL or the other Party.
23. The Conciliator(s) shall be entitled to following fees and facilities:

Sl No	Particulars	Amount
1	Sitting fees	Each Member shall be paid a Lump Sum fee of Rs 75,000/- for the whole case payable in terms of paragraph No. 27 herein below.
2	Towards drafting of settlement agreement	In cases involving claim and/or counter-claim of up to Rs 5crores. Rs 50,000/- (Sole Conciliator)

Sl No	Particulars	Amount
		<p>In cases involving claim and/or counter-claim of exceeding Rs 5 crores but less than Rs 10 crores. Rs 75,000 (per Conciliator)</p> <p>In cases involving claim and/or counter-claim of more than Rs 10 crores. Rs 1,00,000/- (per Conciliator)</p> <p>Note: The aforesaid fees for the drafting of the Settlement Agreement shall be paid on Signing of the Settlement Agreement after approval of the Competent Authority or Rejection of the proposed Settlement Agreement by the Competent Authority of BHEL.</p>
3	Secretarial expenses	<p>Rs 10,000/- (one time) for the whole case for Conciliation by a Sole Member IEC.</p> <p>Where Conciliation is by multi member Conciliators –Rs 30,000/- (one time)- to be paid to the IEC</p>
4	<p>Travel and transportation and stay at outstation</p> <p>i) Retired Senior Officials of other Public Sector Undertakings (pay scale wise equivalent to or more than E-8 level of BHEL)</p>	As per entitlement of the equivalent officer (pay scale wise) in BHEL.
	Others	As per the extant entitlement of whole time Functional Directors in BHEL.

Sl No	Particulars	Amount
		Ordinarily, the IEC Member(s) would be entitled to travel by air Economy Class.
5	Venue for meeting	Unless otherwise agreed in the agreement, contract or the Memorandum of Understanding, as the case may be, the venue/seat of proceedings shall be the location of the concerned Unit / Division / Region / Business Group of BHEL. Without prejudice to the seat/venue of the Conciliation being at the location of concerned BHEL Unit / Division / Region / Business Group, the IEC after consulting the Parties may decide to hold the proceedings at any other place/venue to facilitate the proceedings. Unless, Parties agree to conduct Conciliation at BHEL premises, the venue is to be arranged by either Party alternately.

24. The parties will bear their own costs including cost of presenting their cases/evidence/witness(es)/expert(s) on their behalf. The parties agree to rely upon documentary evidence in support of their claims and not to bring any oral evidence in IEC proceedings.
25. If any witness(es) or expert(s) is/are, with the consent of the parties, called upon to appear at the instance of the IEC in connection with the matter, then, the costs towards such witness(es)/expert(s) shall be determined by the IEC with the consent of the Parties and the cost so determined shall be borne equally by the Parties.
26. The other expenditures/costs in connection with the Conciliation proceedings as well as the IEC's fees and expenses shall be shared by the Parties equally.
27. Out of the lump sum fees of Rs 75,000/- for Sitting Fees, 50% shall be payable after the first meeting of the IEC and the remaining 50% of the Sitting Fees shall be payable only after termination of the conciliation proceedings in terms of para 22 hereinabove.

28. The travelling, transportation and stay at outstation shall be arranged by concerned Unit as per entitlements as per Serial No. 3 of the Table at para 23 above, and in case such arrangements are not made by the BHEL Unit, the same shall be reimbursed to the IEC on actuals limited to their entitlement as per Serial No. 4 of the Table at Para 23 above against supporting documents. The IEC Member(s) shall submit necessary invoice for claiming the fees/reimbursements.
29. The Parties shall keep confidential all matters relating to the conciliation proceedings. Confidentiality shall extend also to the settlement agreement, except where its disclosure is necessary for purposes of its implementation and enforcement or as required by or under a law or as per directions of a Court/Governmental authority/regulatory body, as the case may be.
30. The Parties shall not rely upon or introduce as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the Disputes that is the subject of the Conciliation proceedings:
- a. Views expressed or suggestions made by the other party in respect of a possible settlement of the Disputes;
 - b. admissions made by the other party in the course of the Conciliator proceedings;
 - c. proposals made by the Conciliator;
 - d. The fact that the other Party had indicated his willingness to accept a proposal for settlement made by the Conciliator.
31. The Parties shall not present the Conciliator(s) as witness in any Alternative Dispute Resolution or Judicial proceedings in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
32. None of the Conciliators shall act as an arbitrator or as a representative or counsel of a Party in any arbitral or judicial proceeding in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
33. The Parties shall not initiate, during the Conciliation proceedings, any arbitral or judicial proceedings in respect of a Disputes that is the subject matter of the Conciliation proceedings except that a Party may initiate arbitral or judicial proceedings where, in his opinion, such proceedings are necessary for preserving his rights including for preventing expiry of period of limitation. Unless terminated as per the provisions of this Scheme, the Conciliation proceedings shall continue

notwithstanding the commencement of the arbitral or judicial proceedings and the arbitral or judicial proceedings shall be primarily for the purpose of preserving rights including preventing expiry of period of limitation.

34. The official language of Conciliation proceedings under this Scheme shall be English unless the Parties agree to some other language.

Format 2 to BHEL Conciliation Scheme, 2018

**FORMAT FOR SEEKING CONSENT FOR REFERRING THE DISPUTES TO
CONCILIATION THROUGH IEC**

To,

M/s. (Stakeholder's name)

Sub: Resolution of the Disputes through conciliation by Independent Expert Committee (IEC).

Ref: Contract No/MoU/Agreement/LOI/LOA& date _____.

Sir,

With reference to above referred Contract/MoU/Agreement/LOI/LOA, you have raised certain Disputes/claims. Vide your letter dated_____ you have requested BHEL to refer the Disputes/claims to IEC for Conciliation.

We are enclosing herewith Format (3) for giving consent and the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. You are requested to give your unconditional consent to the said terms and conditions of the Scheme by returning the same duly sealed and signed on each page. On receipt of your consent, matter will be put to the Competent Authority for consideration and decision.

Please note that BHEL has also certain claims against you (if applicable). BHEL reserves its right to agree or not to agree conciliation of the said disputes through BHEL and this letter is being issued without prejudice to BHEL's rights and contentions available under the contract and law.

Yours faithfully,

Representative of BHEL

Format 3 to BHEL Conciliation Scheme, 2018
FORMAT FOR GIVING CONSENT BY
CONTRACTOR/VENDOR/CUSTOMER/COLLABORATOR/CONSORTIUM PARTNERS FOR REFERRING THE DISPUTES TO CONCILIATION THROUGH IEC

To,

BHEL

.....

Sub: Resolution of Disputes through Conciliation by Independent Expert Committee (IEC).

Ref: Contract/MoU/Agreement/LOI/LOA No & date ____

With reference to above referred contract, our following bills/invoices/claims submitted to BHEL are still unpaid giving rise to Disputes:

SL. no.	Claim Description	Bill submitted to BHEL (no. and date)	Amount of the bill/claim	Amount received from BHEL	Outstanding Amount

Accordingly we request you to kindly refer the Disputes in respect of above claims to IEC for Conciliation.

We hereby agree and give our unconditional consent to the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. We have signed the same on each page and enclosed it for your consideration.

Yours faithfully,

(Signature with stamp)

Authorized Representative of Contractor

Name, with designation

Date

Format 5 to BHEL Conciliation Scheme, 2018
STATEMENT OF CLAIMS/COUNTER CLAIMS TO BE SUBMITTED TO
THE IEC BY BOTH THE PARTIES

1. Chronology of the Disputes
2. Brief of the Contract/MoU/Agreement/LOI/LOA
3. Brief history of the Disputes:
4. Issues:
5. Details of Claim(s)/Counter Claim(s):

Sl. No.	Description of claim(s)/Counter Claim	Amount (in INR)Or currency applicable in the contract	Relevant contract clause

6. Basis/Ground of claim(s)/counter claim(s) (along with relevant clause of contract)

Note– *The Statement of Claims/Counter Claims may ideally be restricted to maximum limit of 20 pages. Relevant documents may be compiled and submitted along with the statement of Claims/Counter Claims. The statement of Claims/Counter Claims is to be submitted to all IEC members and to the other party by post as well as by email.*

Annexure-V

Item/Package Name :	Supply of low Voltage Cable: 1.1 kV Aux Power and Control Cable
Enquiry No.:	90Q2300293 dated 23.02.2023
Project:	PUNATSANGCHHU-1 HEP (6X200 MW)- 400 kV & 220 kV POTHEADYARD BHUTAN
Percentage of Local Content	(Bidder to enter the applicable % of local content)

Format of Self certification regarding Local Content in line with PPP-MII order, order ref no.:- A-1/2021-FSC-Part (5) dated 16.11.2021 issued by Govt of India, Ministry of Power)

Date: / /

I _____ S/o, D/o, W/o, _____ Resident of _____ hereby solemnly affirm and declare as under:

That I will agree to abide by the terms and conditions of the Public Procurement (Preference to Make in India) Order, 2017 (*hereinafter PPP-MII order*) of Government of India issued vide Notification No: P-45021/2/2017-BE-II dated 15/06/2017, its revision dated 04/06/2020 and any subsequent modifications/ Amendments, if any.

That the information furnished hereinafter is correct to the best of my knowledge and belief and I undertake to produce relevant records before the procuring entity/ **BHEL** or any other Government authority for the purpose of assessing the local content of goods/ services/ works supplied by me for **(Enter the name of the Equipment/Item for Project).**

That the local content for all inputs which constitute the said goods/ services/ works has been verified by me and I am responsible for the correctness of the claims made therein.

That the goods/ services/ works supplied by me for **(Enter the name of the Equipment/Item for Project)** **contains**% **(mention the Local content in %age)** Local Content.

That the value addition for the purpose of meeting the 'Minimum Local Content' has been made by me at **(Enter the details of the location(s) at which value addition is made).**

That in the event of the local content of the goods/ services/ works mentioned herein is found to be incorrect and not meeting the prescribed supplier class categorization criteria as per said order, based on the assessment of procuring agency (ies)/ **BHEL**/ Government Authorities for the purpose of assessing the local content, action shall be taken against me in line with the PPP-MII order and provisions of the Integrity pact/ Bidding Documents.

Annexure-V

Item/Package Name :	Supply of low Voltage Cable: 1.1 kV Aux Power and Control Cable
Enquiry No.:	90Q2300293 dated 23.02.2023
Project:	PUNATSANGCHHU-1 HEP (6X200 MW)- 400 kV & 220 kV POTHEADYARD BHUTAN
Percentage of Local Content	(Bidder to enter the applicable % of local content)

I agree to maintain the following information in the Company's record for a period of 8 years and shall make this available for verification to any statutory authority.

- i Name and details of the Local Supplier
(Registered Office, Manufacturing unit location, nature of legal entity)
- ii. Date on which this certificate is issued
- iii. Goods/services/works for which the certificate is produced
- iv. Procuring entity to whom the certificate is furnished
- v. Percentage of local content claimed and whether it meets the Minimum Local Content prescribed
- vi. Name and contact details of the unit of the Local Supplier (s)
- vii. Sale Price of the product
- viii Ex-Factory Price of the product
- ix. Freight, insurance and handling
- x. Total Bill of Material
- xi List and total cost value of input used to manufacture the Goods/to provide services/in construction of works
- xii. List and total cost of input which are domestically sourced. Value addition certificates from suppliers, if the input is not in-house to be attached
- xiii. List and cost of inputs which are imported, directly or indirectly

For and on behalf of..... (Name of firm/entity)

Authorized signatory (To be duly authorized by the Board of Directors)

<Insert Name, Designation and Contact No.>

Clause regarding regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017 as per Government of India order OM No.6/18/2019-PPD dated 23.07.2020

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not failing in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means:
 - a. An entity Incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity Incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entitles incorporated, established or registered in such a country; or
 - d. An entity whose *beneficial owner* is situated in such a country, or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.
Explanation-
 - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;
 - b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder's agreements or voting agreements;
 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of Individuals;
 4. Where no natural person is Identified under (1) or (2) or (3) above the beneficial owner is the relevant natural person who holds the position of senior managing official;
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another or to represent another in dealings with third person.

Clause regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017 as per Government of India order OM No.6/18/2019-PPD dated 23.07.2020

VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

** The above clause is not applicable to the bidders from those countries (even if sharing a land border with India) to which the GoI has extended lines of credit or in which the GoI is engaged in development projects.*

* List of countries to which lines of credit have been extended or in which development projects are undertaken are available on the Ministry of External affairs website (<https://www.mea.gov.in/>)

Compliance to be submitted in INR 100/- non judicial stamp paper

Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017

Sl No.	Description	Bidder's confirmation
<i>1</i>	<i>We, M/s_____ have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; We hereby certify that we are not from such a country.</i>	<i>Agreed</i>

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead for commercial rejection of their bids by BHEL)

Bidder's authorized signatory with stamp & seal

Compliance to be submitted in INR 100/- non judicial stamp paper

Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017

SI No.	Description	Bidder's confirmation
1	<p><i>We, M/s_____have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. We are from such a country which shares a land border with India & have been registered with the Competent Authority as specified in above said order. We hereby certify that we fulfil all requirements in this regard and are eligible to be considered.</i></p> <p><i>Evidence of valid registration by the Competent Authority is attached.</i></p>	Agreed

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead for commercial rejection of their bids by BHEL)

Bidder's authorized signatory with stamp & seal

No.25-111612018-PG
Government of India
Ministry of Power
Shram Shakti Bhawan, Rafi Marg, New Delhi • — 110001
Tele Fax: 011-23730264

Dated 02/07/2020

ORDER

Power Supply System is a sensitive and critical infrastructure that supports not only our national defence, vital emergency services including health, disaster response, critical national infrastructure including classified data & communication services, defence installations and manufacturing establishments, logistics services but also the entire economy and the day-to-day life of the citizens of the country. Any danger or threat to Power Supply System can have catastrophic effects and has the potential to cripple the entire country. Therefore, the Power Sector is a strategic and critical sector.

The vulnerabilities in the Power Supply System & Network mainly arise out of the possibilities of cyber attacks through malware / Trojans etc. embedded in imported equipment. Hence, to protect the security, integrity and reliability of the strategically important and critical Power Supply System & Network in the country, the following directions are hereby issued:-

1. All equipment, components, and parts imported for use in the Power Supply System and Network shall be tested in the country to check for any kind of embedded malware/trojans/cyber threat and for adherence to Indian Standards.
2. All such testings shall be done in certified laboratories that will be designated by the Ministry of Power (MOP).
3. Any import of equipment/components/parts from "prior reference" countries as specified or by persons owned by, controlled by, or subject to the jurisdiction or the directions of these "prior reference" countries will require prior permission of the Government of India
4. Where the equipment/components/parts are imported from "prior reference" countries, with special permission, the protocol for testing in certified and designated laboratories shall be approved by the Ministry of Power (MOP).

This order shall apply to any item imported for end use or to be used as a component, or as a part in manufacturing, assembling of any equipment or to be used in power supply system or any activity directly or indirectly related to power supply system.

This issues with the approval of Hon'ble Minister of State for Power and New & Renewable Energy (Independent Charge).



(Goutam Ghosh)

Director Tel: 011-23716674 To:

1. All Ministries/Departments of Government of India (As per list)
2. Secretary (Coordination), Cabinet Secretariat
3. Vice Chairman, NITI Aayog

सेवा भवन, आर. के. पुरम-I, नई दिल्ली-110066 टेली: 011-26732257 ईमेल: ce-rndcea@nic.in वेबसाइट: www.cea.nic.in

Sewa Bhawan, R.K Puram-I, New Delhi-110066 Tele: 011-26732257 Email: ce-rndcea@nic.in Website: www.cea.nic.in

Vendor Compliance format in bidder letter head

In view of by order No. 25-111612018-PG, Dated 02.07.2020 of Ministry of Power, GOI

Enquiry No/ PO No & Date : 90Q2300293 dt 21.02.2023
Project : PUNATSANGCHHU-1 HEP (6X200 MW)- 400 kV & 220 kV
POTHEADYARD BHUTAN
Name of items/Package : Supply of low Voltage Cable: 1.1 kV Aux Power and
Control Cable

This is to certify that all equipment, components, and parts imported for use in the Power Supply System and Network are in strict compliance to directions issued by Ministry of Power, Govt. of India vide order No. 25-111612018-PG dated 02.07.2020. The imported component(s), part or assembly item(s) does not carry any malware/Trojan etc.

Note: Non-compliance of MoP Order and its subsequent amendment(s), (if any), by vendor shall lead to rejection of their offer or cancellation of contract, which is awarded by BHEL.

Bidder's authorized signatory
with stamp & seal



A Maharatna company

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)

पारेषण व्यापार समूह, नोएडा/Transmission Business Group, Noida

Annexure-XI

1. Integrity Pact (IP):

Bidder shall have to enter into Integrity Pact with BHEL, Duly signed with seal in original, if specified in NIT/RFQ failing which bidder's offer shall be liable for rejection.

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

Sl no.	IEM	Phone & E- mail
1	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in
2	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in

(b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (part-I in case of Two/ Three Part Bid). Only **those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding**. In other words, entering into this Pact would be a preliminary qualification,

(c) Please refer Section-8 of the IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through e-mail only.

Note:-

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

Details of contact person (s):-

1) Name:- Sunil Kumar Department :- TBG, Material Management Address:- BHEL/ TBG, Noida Phone:- 01206748471 E mail:- Sunil.kumar@bhel.in	2) Name:- Piyush Kumar Mishra Department :- TBG, Material Management Address:- BHEL/ TBG, Noida Phone:- 01206748575 E mail:- piyush.kumar@bhel.in
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Annexure-1

INTEGRITY PACT**Between**

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

and

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

Preamble

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

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

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

Section 1- Commitments of the Principal

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

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

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

- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 Foreign Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and shall await their decision in the matter.

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

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

Section 4 - Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder (s) from the tender process before award / order acceptance according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal is entitled to terminate the Contract according to Section 3, or terminates the Contract in application of Section 3 above, the Bidder(s)/ Contractor (s) transgression through a violation of Section 2 above shall be construed breach of contract and the Principal shall be entitled to demand and recover from the Contractor an amount equal to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher, as damages, in addition to and without prejudice to its right to demand and recover compensation for any other loss or damages specified elsewhere in the contract.

Section 5 - Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 (three) years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason or action can be taken as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

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

- 6.1 The Principal will enter into Integrity Pacts with identical conditions as this Integrity Pact with all Bidders and Contractors.
- 6.2 In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor(s) and ensure that all Sub-contractors also sign the Integrity Pact.
- 6.3 The Principal will disqualify from the tender process all Bidders who do not sign this Integrity Pact or violate its provisions.

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

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

Section 8 -Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.
- 8.2 The IEMs are not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The IEMs shall be provided access to all documents/ records pertaining to the Contract, for which a complaint or issue is raised before them as and when warranted. However, the documents/records/information having National Security implications and those documents which have been classified as Secret/Top Secret are not to be disclosed.
- 8.4 The Principal will provide to the IEMs sufficient information about all meetings among the parties related to the Contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the IEMs the option to participate in such meetings.

- 8.5 The advisory role of IEMs is envisaged as that of a friend, philosopher and guide. The advice of IEMs would not be legally binding and it is restricted to resolving issues raised by a Bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some Bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of Contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to the CMD, BHEL at the earliest. They may also send their report directly to the CVO, in case of suspicion of serious irregularities requiring legal/ administrative action. Only in case of very serious issue having a specific, verifiable Vigilance angle, the matter should be reported directly to the Commission. IEMs will tender their advice on the complaints within 30 days.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the IEMs and its terms and conditions.
- 8.9 IEMs should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the Principal should be looked into by the CVO of the Principal.
- 8.10 If the IEMs have reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code / Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the IEMs may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 After award of work, the IEMs shall look into any issue relating to execution of Contract, if specifically raised before them. As an illustrative example, if a Contractor who has been awarded the Contract, during the execution of Contract, raises issue of delayed payment etc. before the IEMs, the same shall be examined by the panel of IEMs. Issues like warranty/ guarantee etc. shall be outside the purview of IEMs.
- 8.12 However, the IEMs may suggest systemic improvements to the management of the Principal, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.
- 8.13 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

- 9.1 This Integrity Pact shall be operative from the date this Integrity Pact is signed by both the parties till the final completion of contract for successful Bidder, and for all other Bidders 6 months after the Contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.
- 9.2 If any claim is made/ lodged during currency of this Integrity Pact, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

- 10.1 This Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.
- 10.2 Changes and supplements as well as termination notices need to be made in writing.
- 10.3 If the Bidder(s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.
- 10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders / contractors who have entered into this Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.
- 10.6 In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of the Contract. The fees/expenses on dispute resolution through mediation shall be shared by both the parties. Further, the mediation proceedings shall be confidential in nature and the parties shall keep confidential all matters relating to the mediation proceedings including any settlement agreement arrived at between the parties as outcome of mediation. Any views expressed, suggestions, admissions or proposals etc. made by either party in the course of mediation shall not be relied upon or introduced as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the dispute that is the subject of mediation proceedings. Neither of the parties shall present IEMs as witness in any Alternative Dispute Resolution or judicial proceedings in respect of the dispute that was subject of mediation.

P.K. Mishra P.K. MISHRA
MANAGER (TBMM)

For & On behalf of the Principal
(Office Seal)

Place Noida
Date 02.02.2023

Witness: *Ankit Gupta*
(Name & Address) Ankit Gupta
BHEL TBG

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

Witness: _____
(Name & Address) _____

RISK PURCHASE

1.1. In case the Supplier / Contractor fails to supply or fails to comply with terms & conditions of the Purchase Order / Contract or delivers equipment / material not of the contracted quality or fails to adhere to the contract specifications or fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery / completion period to justify that supplies shall be inordinately delayed beyond contractual delivery / completion period, BHEL reserve the right to cancel the Purchase Order / Contract either in whole or in part thereof without compensation to Supplier / Contractor and if BHEL so desires, may procure such equipment / material / items not delivered or others of similar description where equipment / material / items exactly complying with particulars are not readily procurable in the opinion of BHEL which is final and in such manner as deemed appropriate, at the risk and cost of the Supplier / Contractor and the Supplier / Contractor shall be liable to BHEL for any excess cost to BHEL. However, the Supplier / Contractor shall continue execution of the Purchase Order / Contract to the extent not cancelled under the provisions of this clause.

1.2. Risk & Cost Clause, in line with Conditions of Contract may be invoked in any of the following cases:

- i) Contractor/ supplier's poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor/ supplier including unexecuted portion of work/ supply does not appear to be executable within balance available period considering its performance of execution.
- ii) Withdrawal from or abandonment of the work by contractor/supplier before completion as per contract.
- iii) Non completion of work/ Non-supply by the Contractor/ supplier within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the contractor/ supplier.
- iv) Termination of Contract on account of any other reason(s) attributable to Contractor/ Supplier.
- v) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vi) Non-compliance to any contractual condition or any other default attributable to Contractor/ Supplier.

1.3. Risk and Cost amount against Balance Work:

In case Risk & Cost is invoked, the amount of Risk & Cost against balance work shall be calculated as under:

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

Where,

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

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

H = Overhead Factor to be taken as 5 (five)

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

***(Balance scope of work/ supply)**

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 / Supply 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: Incase portion of work is being withdrawn, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work/supply' for calculating Risk & Cost amount.

1.4. LD against delay in executed work/supply in case of Termination of Contract

LD against delay in executed Work /Supply shall be calculated in line with LD clause of the contract for the delay attributable to contractor/ supplier. For this purpose, contract value shall be taken as Executed Value of work/supply for the purpose of limiting maximum LD value.

Method for calculation of “LD against delay in executed Work/ supply” 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/ supplier= T1
- ii) Let the value of executed work/ supply till the time of termination of contract= X
- iii) Let the Total Executable Value of work/ supply for which inputs/fronts were made available to contractor/ supplier and were planned for execution till termination of contract = Y
- iv) Delay in executed work/ supply attributable to contractor/supplier i.e. $T2 = (1 - \frac{X}{Y}) \times T1$
- v) LD shall be calculated in line with LD clause of the Contract for the delay attributable to contractor/ supplier taking “X” as Contract Value and “T2” as delay attributable to contractor/ supplier.

Note: In case portion of service/ supply is withdrawn, no LD shall be applicable for portion of service/ supply withdrawn.

1.5. Recovery from Supplier

Recoveries from contractor/ supplier on whom risk & cost has been invoked shall be as per Clause No. 23 of GTC.

[TO BE PUBLISHED IN THE GAZETTE OF INDIA, EXTRAORDINARY, PART II, SECTION 3, SUB-SECTION (i)]

Government of India
Ministry of Finance
Department of Revenue

Notification No. 41/2017--Integrated Tax (Rate)

New Delhi, the 23rd October, 2017

G.S.R.....(E).- In exercise of the powers conferred by sub-section (1) of section 6 of the Integrated Goods and Services Tax Act, 2017 (13 of 2017), (hereafter in this notification referred to as "the said Act"), the Central Government, on being satisfied that it is necessary in the public interest so to do, on the recommendations of the Council, hereby exempts the inter-State supply of taxable goods (hereafter in this notification referred to as "the said goods") by a registered supplier to a registered recipient for export, from so much of the integrated tax leviable thereon under section 5 of the Integrated Good and Services Tax Act, 2017 (13 of 2017), as is in excess of the amount calculated at the rate of 0.1 per cent., subject to fulfilment of the following conditions, namely: -

- (i) the registered supplier shall supply the goods to the registered recipient on a tax invoice;
- (ii) the registered recipient shall export the said goods within a period of ninety days from the date of issue of a tax invoice by the registered supplier;
- (iii) the registered recipient shall indicate the Goods and Services Tax Identification Number of the registered supplier and the tax invoice number issued by the registered supplier in respect of the said goods in the shipping bill or bill of export, as the case may be;
- (iv) the registered recipient shall be registered with an Export Promotion Council or a Commodity Board recognised by the Department of Commerce;
- (v) the registered recipient shall place an order on registered supplier for procuring goods at concessional rate and a copy of the same shall also be provided to the jurisdictional tax officer of the registered supplier;
- (vi) the registered recipient shall move the said goods from place of registered supplier –

- (a) directly to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported; or
 - (b) directly to a registered warehouse from where the said goods shall be move to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported;
- (vii) if the registered recipient intends to aggregate supplies from multiple registered suppliers and then export, the goods from each registered supplier shall move to a registered warehouse and after aggregation, the registered recipient shall move goods to the Port, Inland Container Depot, Airport or Land Customs Station from where they shall be exported;
- (viii) in case of situation referred to in condition (vii), the registered recipient shall endorse receipt of goods on the tax invoice and also obtain acknowledgement of receipt of goods in the registered warehouse from the warehouse operator and the endorsed tax invoice and the acknowledgment of the warehouse operator shall be provided to the registered supplier as well as to the jurisdictional tax officer of such supplier; and
- (ix) when goods have been exported, the registered recipient shall provide copy of shipping bill or bill of export containing details of Goods and Services Tax Identification Number (GSTIN) and tax invoice of the registered supplier along with proof of export general manifest or export report having been filed to the registered supplier as well as jurisdictional tax officer of such supplier.
2. The registered supplier shall not be eligible for the above mentioned exemption if the registered recipient fails to export the said goods within a period of ninety days from the date of issue of tax invoice.

[F. No. 354/117/2017-TRU (Pt. III)]

(Ruchi Bisht)
Under Secretary to the Government of India

Unpriced bid format

Bidders to mark "Quoted" in this unprice BOQ Format.

The price to be quoted in the "Price Bid Format" only which is attached separately with the Enquiry.

Tender Inviting Authority: BHEL/ TBG

Name of Item:- Supply of Supply of low Voltage Cable: 1.1 kV Aux Power and Control Cable as per the tender document

Enquiry/NIT No: 90Q2300293 dated 21.02.2023

Name of the Bidder/ Bidding Firm / Company :						
<u>PRICE SCHEDULE</u>						
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name, Quoted and applicable GST % only)						
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted (yes/No)	GST (in Percentage)
1	SUPPLY- LOW VOLTAGE CABLE : HR-PVC INSULATED, COPPER (PLAIN) CONDUCTOR, PVC TYPE FRLS OUTER SHEATH, 5 CORE X 6SQMM ARMOURED CONTROL CABLE	item1	34.50	KM		
2	SUPPLY- LOW VOLTAGE CABLE : HR-PVC INSULATED, COPPER (PLAIN) CONDUCTOR, PVC TYPE FRLS OUTER SHEATH, 19 CORE X 2.5SQMM ARMOURED CONTROL CABLE	item2	10.00	KM		
3	SUPPLY- LOW VOLTAGE CABLE : HR-PVC INSULATED, ALUMINIUM CONDUCTOR, PVC TYPE FRLS OUTER SHEATH, 3.5 CORE X 35SQMM ARMOURED AUX POWER CABLE	item3	2.50	KM		



BHARAT HEAVY ELECTRICALS LIMITED

TRANSMISSION BUSINESS ENGINEERING MANAGEMENT

DOCUMENT No.	TB-356-510-011E	Rev 00	Prepared	Checked	Approved
TYPE OF DOC.	TECHNICAL SPECIFICATION	NAME	GV	RD	VK
TITLE 1.1 kV Aux Power & Control Cables		SIGN	<i>[Signature]</i>		
		DATE	7/2/23 05/02/23 9-2-23		
		GROUP	TBEM	W.O. No	81002 83005
CUSTOMER	PHPA-I				
CONSULTANT	WAPCOS LIMITED, CENTRAL ELECTRICITY AUTHORITY				
PROJECT	PUNATSANGCHHU-I HEP (6X200 MW) – 400kV & 220kV POTHEADYARD				

<u>CONTENTS</u>		
Sec. No.	Description	No. of Sheets
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Annex-TPQR	Technical Pre-Qualifying Requirements	01
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3.	Project Details & General Technical Requirements	21
4.	Checklist (To be furnished at Tender Stage)	04

Rev No.	Date	Altered	Checked	Approved	REVISION DETAILS			
Distribution			To	TBTS	O/C	TBMM	TBQM	TBCM
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**Project: 400/220 kV Punatsangchhu-I HEP
Potheadyard
Customer: PHPA-I
Consultant: WAPCOS Limited, Central Electricity
Authority
Technical Specification: 1.1 kV Aux Power & Control Cables**

Bharat Heavy Electricals Limited

Document No. TB-356-510-011E

SECTION 1

SCOPE, SPECIFIC TECHNICAL REQUIREMENTS AND QUANTITIES

1.0 SCOPE

This Specification covers the requirements of design, manufacture, testing at manufacturer's Works, packing, supply, delivery at site of 1.1 kV Aux Power & Control Cables as listed under this specification. This section covers the specific technical requirements of 1.1 kV Aux Power & Control Cables. This constitutes minimum technical parameters for the above item as specified by the customer (PHPA-I, PHPA-II). The offered equipment shall also comply with the General Specification for the project as detailed under section-3 of this specification.

In case of any conflict between the technical details mentioned in this section and the remaining sections of this document, then Section-1 shall prevail and is to be considered as binding requirement.

The specification comprise of following sections:

- Section-1: Scope, Specific Technical Requirements and Quantities.
- Section-2: Equipment Specification.
- Section-3: Project Details and General Technical Requirements.
- Section-4: Checklist.

Note: The term 'Owner' appearing in this specification shall refer to PHPA, the term 'Purchaser' shall refer to BHEL and the term 'Contractor' shall refer to the successful Bidder.

1.1 THE EQUIPMENT IS REQUIRED FOR THE FOLLOWING PROJECT

Name of customer: Punatsangchhu-I Hydroelectric Project Authority, Bhutan

Name of consultant: WAPCOS Limited, Central Electricity Authority

Name of Project: Punatsangchhu-I HEP (6X200 MW) - 400kV & 220kV Potheadyard

Refer Section - 3 for Project Details and General Specifications.

1.2 SPECIFIC TECHNICAL REQUIREMENTS

- (a) Strip armouring method (a) mentioned in Table 5, Page-6 of IS: 1554 (Part 1) - 1988 shall not be accepted for any of the cables.
- (b) Strip armouring method (a) mentioned in Table 6, Page-6 of IS: 7098 (Part 1) - 1988 shall not be accepted for any of the cables.

Project: 400/220 kV Punatsangchhu-I HEP
Pothedyard
Customer: PHPA-I
Consultant: WAPCOS Limited, Central Electricity
Authority
Technical Specification: 1.1 kV Aux Power & Control Cables

Bharat Heavy Electricals Limited

Document No. TB-356-510-011E

1.3 QUANTITIES

Sl. No.	Type of Control Cables	Quantity (kM)
1.1	5C x 6 SQ. MM. HR-PVC/Cu/ Armoured/ FRLS Control Cable	34.5
1.2	19C X 2.5 SQ. MM. HR-PVC/Cu/ Armoured/ FRLS Control Cable	10
Type of Aux Power Cables		
1.3	3.5C X 35 SQ. MM. HR-PVC/Al/ Armoured/ FRLS Aux Power Cable	2.5

Note:-

- 1) The cable type, size and length requirement shall be as per table above. ***Quantity variation on the total ordered quantity shall be +/- 10% at contract stage.***
- 2) The standard drum length for control cables shall not be less than 1600m and for power cables shall not be less than 1000m. The length per drum shall be subjected to a maximum tolerance of +/- 5% of the standard drum length. ***Some of the cable type might not be ordered at all at contract stage.***
- 3) The Employer shall have the option of rejecting cable drums with shorter lengths. For each size, the variance of total quantity, adding all the supplied drum lengths, from the ordered quantity, shall not exceed +/- 2%.

1.4 TESTS

Cables shall conform to type tests including additional type tests as per technical specification and shall be subject to routine & acceptance tests in accordance with requirements stipulated under respective sections.

The reports for all type tests and additional type tests as per technical specification shall be furnished by the bidder along with equipment / material drawings.

The bidder will conduct the routine tests on each drum length. All the acceptance tests shall be conducted as per specification and relevant standards/ approved MQP. These tests will be witnessed by owner/purchaser/purchaser's representatives.

The prices for conducting all tests are deemed to be included in respective cable prices.

1.5 QUALITY PLAN

The manufacturer shall carry out contract works in accordance with sound quality management principles which shall include items such as controls which are necessary to ensure full compliance to all requirements of the specification & applicable international standards. These quality management requirement shall apply to all activities during design, procurement, manufacturing, inspection, testing, packaging, shipping, inland transportation, storage, site erection & commissioning. Manufacturer shall submit detailed Quality Plan for BHEL / customer's approval.

1.6 TECHNICAL PRE QUALIFYING REQUIREMENTS

1.6.1 For LT Control Cables:

Bidder should have manufactured and supplied prior to the date of Techno-Commercial bid Opening:

- a. At least 100 km of PVC insulated, PVC sheathed, stranded copper conductor 1.1 kV grade cables in one single contract
- b. At least one (1) km of Flame retardant low smoke PVC/Cu cables.

1.6.2 For LT Power Cables

Bidder should have manufactured and supplied prior to the date of Techno-Commercial bid Opening:

- a. At least 25 km of PVC insulated, PVC sheathed, aluminium conductor power cables of 1.1 kV or higher grade in one single contract.
- b. At least one (1) km of flame retardant low smoke PVC/Al cables.

1.7 DOCUMENTS REQUIRED WITH OFFER

- a) "No Technical Deviation" Certificate
- b) Un-priced schedule
- c) Filled up Checklist as per Section-5

1.8 DRAWINGS / DOCUMENTS REQUIRED FOR ENGINEERING MANUFACTURING CLEARANCE

The minimum drawings/ documents, as follows shall be required for providing engineering manufacturing clearance of the equipment (LT Cables) and furthermore, it shall be used for delay analysis, if any, on account of the bidder. The schedule for submission and resubmission shall be in line with details provided in section-3.

1	LT Cable Datasheet & Cross-sectional Drawings
2	Quality Assurance Plan & Inspection Test Schedule

1.9 PACKING AND DISPATCH

The equipment shall be properly packed for selected mode of transportation i.e. sea, rail and road in such a manner that it is protected against the climatic conditions and for any damage during transportation, transit and storage. The equipment shall be wrapped in polyethylene sheets before being placed in wooden crates/cases/drums to prevent damage to the finish. Crates/cases/drums shall have skid bottoms for handling. Special notations such as 'Fragile', 'This side up', 'Weight', 'Owner's particulars' 'PO nos.' etc., shall be clearly marked on the package together with other details as per purchase order.

The equipment may be stored outdoors for long periods before installation. The packing should also be suitable for outdoor storage areas with heavy rains/ high ambient temperature unless otherwise agreed and hence, packing shall be suitable for long duration storage (minimum 1 year).

TECHNICAL PRE QUALIFICATION REQUIREMENT

Name of Project : - 400/220 kV Punatsangchhu-I HEP Pothead yard
 Name of Customer : - PHPA-I
 Name of Consultant : - WAPCOS Limited, Central Electricity Authority
 Name of Item : - 1.1 kV Aux Power & Control Cables

TECHNICAL PRE-QUALIFICATION REQUIREMENT**For LT Control Cables:**

Bidder should have manufactured and supplied prior to the date of Techno-Commercial bid Opening:

- At least 100 km of PVC insulated, PVC sheathed, stranded copper conductor 1.1 kV grade cables in one single contract
- At least one (1) km of Flame-retardant low smoke PVC/Cu cables.

For LT Power Cables

Bidder should have manufactured and supplied prior to the date of Techno-Commercial bid Opening:

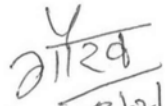
- At least 25 km of PVC insulated, PVC sheathed, aluminium conductor, power cables of 1.1 kV or higher grade in one single contract.
- At least one (1) km of flame retardant low smoke PVC/Al cables.


SUPPORTING DOCUMENTS TO BE ATTACHED


Sr	Required Criteria	Supporting Documents to be submitted by bidder along with technical bid
1	Manufacturing	Approved Drawings / GTP / Approved Quality Plan and Factory Inspection Test Report e.t.c
2	Supply	PO & Dispatch clearance / LR / Material Receipt certificate at site / installation or commissioning certificate e.t.c

Notes (General points):

- Consideration of offer shall be subject to customer's approval of bidder's, if applicable.
- 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.
- Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.
- After satisfactory fulfilment of all the above criteria / requirement, offer shall be considered for further evaluation as per NIT and all the other terms of the tender.


 PREPARED BY 08/02/23


 REVIEWED BY 08/02/23


 APPROVED BY 09.02.23

SECTION-2

A. EQUIPMENT SPECIFICATION FOR 1.1KV AUX POWER AND CONTROL CABLES

2.0 SCOPE

This technical specification covers the requirement of design, manufacture, testing, packing and dispatch of 1.1 kV grade Auxiliary power and control cables (FRLS type). No deviation from the requirements specified in various clauses of this specification shall be allowed.

2.1 APPLICABLE STANDARDS

The auxiliary power and control cables shall conform to following latest Indian and International standards and their amendments.

IS 1554 (Part I)	PVC insulated (heavy duty) electric cables - For working voltage up to and including 1100V
IS 7098 (Part I)	XLPE insulated PVC sheathed cables - For working voltage up to and including 1100V
IS 5831	PVC insulation and sheath of electric cables.
IS 8130	Conductors for insulated electric cables and flexible cords.
IS 3975	Low Carbon Galvanized Steel Wires, Formed Wires and Tapes for Armouring of Cables - Specification
IS 10810	Method of tests for cables.
IEEE-383	Standard for type test of class IE electric cables, field splices, and connections for nuclear power generating stations.
ASTM-D2843	Standard test method for density of smoke from burning or decomposition of plastics.
ASTM-D2863	Standard test method for measuring minimum oxygen concentration to support candle - like combustion of plastics (oxygen index).
IEC: 60754 (Part-1 & 2)	Test on gases evolved during combustion of electric cables -
IEC: 60332 (Part I to 3)	Tests on electric and optical fibre cables under fire conditions
IS 3961 (Part II)	Recommended current rating for cables - PVC insulated and PVC sheathed heavy-duty cables.
IS 10418	Drums for electric cables.
SS 4241475	Swedish chimney test

2.2 CONSTRUCTIONAL FEATURES

- i) Cables shall be suitable for laying in racks, ducts, trenches, conduits and underground-buried installation with uncontrolled back fill and chances of flooding by water. They shall be designed to withstand all mechanical, electrical and thermal stresses under steady state and transient operating conditions.
- ii) The Aluminium/Copper wires used for manufacturing the cables shall be true circular in shape before stranding and shall be uniformly good quality, free from defects.
- iii) A distinct extruded inner sheath shall be provided in all armoured cable. The fillers and inner sheath shall be of non-hygroscopic, fire retardant material, softer than insulation & suitable for the operating temperature of the cable & compatible with the insulating material. The outer sheath shall be suitable for the operating temp. of the cable. ~~For single core cable, inner sheath may not be provided.~~
- iv) Progressive sequential marking of the length of cable in meters at every one-meter shall be provided on the outer sheath of all cables.
- v) All power & control cables shall have an extruded outer sheath of HR-PVC having following flame retardant & low smoke evolution properties.
Oxygen index - Minimum 29 (to ASTM D 2863).
Acid gas emission - Maximum 20% by weight (to IEC 754 – I).
Smoke density rating – Maximum 60% (to ASTM D 2843).
- vi) All cables shall be suitable for high ambient high humid tropical Indian climatic conditions.
- vii) The normal current rating of all HR-PVC insulated cables shall be as per IS 3961.
- viii) All cables shall conform to type test and shall be subjected to routine and acceptance tests listed in the specification.
- ix) Allowable tolerance on the overall diameter of the cables shall be $\pm 2\text{mm}$.
- x) The minimum bending radius for the cables shall be equal to $12 \times D$, where D is the overall diameter of the cable for multicore cables and $15 \times D$ for single core cable.
- xi) Suitable chemicals shall be added to the outer sheath of all cables to protect from rodent, vermin and termite attack.
- xii) Repaired cables shall not be acceptable.
- xiii) Cores shall be identified as per IS 1554 (Part-I)/ IS 7098 Part-I for the cables upto five (5) cores and for cables with more than five (5) cores the identification of cores shall be done by printing legible Hindu Arabic numerals on all cores as per Clause 10.3 of IS 1554 (Part-1).
- xiv) Manufacturer's name, type of cable, number of cores, year of manufacture and sequential marking of length in metres at every one metre shall be permanently marked on the outer sheath throughout the entire length of cable.

2.3 CURRENT RATING FOR CONTROL and AUX. POWER CABLES

- 2.3.1 Normal current rating shall not be less than that covered by IS 3961. Vendor shall submit data in respect of all cables in the prescribed format.
- 2.3.2 HR-PVC insulated cables shall be suitable for continuous conductor temperature of ~~70~~ 85 °C and short circuit withstand temperature of 160 °C. Tables giving de-rating factors for various conditions of cable installation including the following, for all types of cables shall be furnished -
- Variation in ambient air temperature.
 - Variation in ground temperature.
 - Depth of laying.
 - Cables laid in the ground
 - Cables laid in trench
 - Cables laid in ducts
 - Soil resistivity.
 - Grouping of cables.

Overall derating factor for cable shall be 0.8 or less.

- 2.3.3 The value of short circuit withstand current ratings of all cables shall be indicated for a short circuit for 1 second duration and should also specify the maximum temperature during short circuit.
- 2.3.4 The following factors shall also be accounted for, while specifying the maximum short circuit withstand of the cables.
- 2.3.4.1 Deformation of the insulation, due to thermo-mechanical forces produced by the short circuit conditions, can reduce the effective thickness of insulation.
- 2.3.4.2 Conductor and core screens can be adversely affected with loss of screening effect. Likewise the thermal properties of the outer sheath material can be the limitation.
- 2.3.4.3 It is essential that the accessories, which are used in the cable system with mechanical and/or soldered connections, are suitable for the temperature adopted for the cables.
- 2.3.5 Formula for calculating short circuit current for different duration or curve showing short time current v/s time for different sizes of cables shall be furnished by vendor.

2.4 CABLE DRUMS

- 2.4.1 Cables shall be supplied in non-returnable wooden cable drum or steel drum of heavy construction. It shall be made of good quality wood, pressure impregnated against fungal and insect attack. Wood preservative shall be applied to the entire drum. The ends of the each length of cable shall be sealed before dispatch.
- 2.4.2 All Control and Power Cables shall be supplied in drum length of 1600/ 800 m respectively, unless otherwise specified. ~~For power cable with conductor cross sectional area 300sqmm and~~

Technical Specification: 1.1 kV Aux Power & Control Cables

above may be supplied in 500m drums. Each drum shall contain one continuous length of cable.

Owner shall have the option of rejecting cable drums with shorter lengths. The cable length per drum is allowed a tolerance of $\pm 5\%$. The tolerance allowed on total quantity of each size is $\pm 2\%$. Where the ordered quantity is not multiple of 1600 / 1000 m and the incremental quantity is very small, the same may be included in one of the drums. Otherwise, an additional length for the incremental quantity will be supplied.

- 2.4.3 A layer of water proof paper shall be applied to the surface of the drums and over the outer most cable layer.
- 2.4.4 A clear space of at least 40mm shall be left between the cables and the logging.
- 2.4.5 Each drum shall carry manufacturer's name, purchaser's name, address and contract number, item number and type, size and length of the cable, net and gross weight stenciled on both sides of drum. A tag containing the same information shall be attached to the leading end of the cable. An arrow and suitable accompanying wordings shall be marked on one end of the reel indicating the direction in which it should be rolled.
- 2.4.6 Packing shall be sturdy and adequate to protect the cables, from any injury due to mishandling or other conditions encountered during transportation, handling and storage. Both cable ends shall be sealed with PVC/Rubber caps so as to eliminate ingress of water during transportation and erection.

2.5 TESTS

All types and sizes of cables shall be subjected to following routine and acceptance tests and type tests.

2.5.1 Type and Acceptance test

The following test shall be performed on one length from each manufacturing series of same type and size of cable, covering at least 10% of all cable drums / test reports shall be submitted as per Section-4. The type and acceptance tests shall be witnessed by purchaser / purchaser's representatives.

- a) Annealing test (for Copper conductor), Tensile & Wrapping Tests (for Aluminium for conductor) as per IS 8130.
- b) Conductor resistance test as per IS 8130.
- c) Test for armouring wires/ formed wire (% Elongation, Tensile, Torsion/ winding, Resistance, Wt of Zinc coating, Dimension and uniformity of coating) as per IS 1554 (Part-I), IS 7098 (Part-I), IS 3975.
- d) Check dimensions of insulation, sheath and conductor as per IS 1554(Part-I), IS 7098(Part-I)
- e) Physical tests for insulation and sheath as per IS 1554 (Part-I), IS 7098 (Part-I), IS 5831 as applicable.
- f) Insulation resistance test as per IS 1554 (Part-I), IS 7098 (Part-I), IS 5831 as applicable.
- g) High voltage test at room temperature as per IS 1554 (Part I), IS 7098 (Part-I) as applicable.

Project: 400/220 kV Punatsangchhu-II HEP
Potheadyard
Customer: PHPA-I
Consultant: WAPCOS Limited, Central Electricity
Authority

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- h) High voltage test (water immersion test) as per clause 16.3 of IS 1554 (Part I).
- i) Flammability test as per clause 2.5 IEEE-383 / IEC 60332 part 3.
- j) Smoke density rating test as per ASTM-D2843.
- k) Oxygen index and Temperature index test as per ASTM-D2863.
- l) Acid gas generation test as per IEC: 60754
- m) Flammability test as per IS 1554 Part-I/ IS 7098 Part-1.
- n) Swedish chimney test F3 category as per SS 4241475

~~Following special type tests shall be performed on one sample from each lot of the offered cables:~~

- ~~a) Hydraulic Stability Test~~
- ~~b) Ultraviolet Test as per DIN 53387~~

The above list is indicative only. All type and acceptance tests as per relevant IS and as per customer approved MQP shall be carried out on the offered cables. The prices for conducting all tests are deemed to be included in respective cable prices.

2.5.2 Routine tests

The following routine tests shall be conducted on full length of the cable. These shall be witnessed by purchaser / purchaser's representatives.

- a) High voltage test as per clause 16.2 of IS 1554 (Part I).
- b) Conductor resistance test as per clause 6.3 of IS 8130.



SECTION - 3

PROJECT DETAILS AND GENERAL SPECIFICATIONS

GENERAL TECHNICAL REQUIREMENTS

1.0 PROJECT LOCATIONS

6X200 MW PUNATSANGCHHU-I HEP :- The Project is located on Punatsangchhu River in Wangdue Phodrang Dzongkhag in Western Bhutan. Access to the project site is from right bank through Wangdue-Tsirang highway. All the project components are located on the left bank of river Punatsangchhu, between 6.5 km and 16 km downstream of Wangdue Bridge. The dam site is about 80 km from Thimphu and is connected by highway.

Paro (Bhutan) is the nearest airport (about 110 km). The nearest railway station is Hasimara (India) on Siliguri - Alipurduar Broad Gauge line of NF Railway. The project area could be approached from Bagdogra airport near Siliguri via Phuentsholing - Semtokha (near Thimphu) - Dochula (about 425 km). The project area can also be approached from Gelephu.

6X170 MW PUNATSANGCHHU-II HEP :- The Project is located on Punatsangchhu River in Wangdue Phodrang Dzongkhag in Western Bhutan. Access to the project site is from right bank through Wangdue-Tsirang highway. All the project components (except diversion tunnel) are located on the right bank of river Punatsangchhu, between 22 km and 38 km downstream of Wangdue Bridge. The dam site is about 94 km from Thimphu and is connected by highway.

Paro (Bhutan) is the nearest airport (about 125 km). The nearest railway station is Hasimara (India) on Siliguri - Alipurduar Broad Gauge line of NF Railway. The project area could be approached from Bagdogra airport near Siliguri via Phuentsholing - Semtokha (near Thimphu) - Dochula (about 440 km). The project area can also be approached from Gelephu.

2.0 PROJECT DETAILS

Project Title	:	6x200MW Punatsangchhu – I Hydroelectric Project, Bhutan	6x170MW Punatsangchhu – II Hydroelectric Project, Bhutan
Customer	:	M/s Punatsangchhu – I Hydroelectric Project Authority (PHPA-I), Bhutan	M/s Punatsangchhu – II Hydroelectric Project Authority (PHPA-II), Bhutan
Consultant	:	M/s Wapcos, Gurgaon Central Electrical Authority, New Delhi	M/s Wapcos, Gurgaon Central Electrical Authority, New Delhi
Postal Address	:	Superintending Engineer	Superintending Engineer



Project: 6X200 MW PUNATSANGCHHU-I HEP & 6X170 MW PUNATSANGCHHU-II HEP, BHUTAN
Customer: PHPA-I & II BHUTAN

Technical Specification

Section-3: Project Details & General Specifications

Rev. No. 00

	(Generation) Punatsangchhu-I Hydroelectric Project Authority, Lobesa, Bhutan Tel: (+975)-02-376131 Fax: (+975)- 02-376135	(Generation) Punatsangchhu-II Hydroelectric Project Authority, Lobesa, Bhutan Tel: (+975)-02-376131 Fax: (+975)-02-376135
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2.1 SITE CONDITIONS (FOR DESIGN PURPOSES)

2.1.1 SITE CONDITIONS

		<u>PHPA-1</u>	<u>PHPA-2</u>
a).	Average rainfall per year	: 665.11 mm	665.11 mm
b).	No. Of months of tropical monsoon	: 5 (May to Sept)	5 (May to Sept)
c).	Altitude (Pothead Yard over ground)	: EL 887	EL 648

2.1.2 DESIGN AMBIENT

		<u>PHPA-1</u>	<u>PHPA-2</u>
a).	Minimum Temperature	: 4.0°C	4.0°C
b).	Maximum Temperature	: 35°C	40°C
c).	Design Ambient Temperature	: 40 °C	40 °C

2.1.3 RELATIVE HUMIDITY

a).	Maximum	::	100%
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2.1.4 WIND PRESSURE (AS PER IS:875-1987)

a).	Design wind speed	:	47 m/sec.
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2.1.5 SEISMIC FACTORS

The Power House site is located in seismic zone-IV, as such, various equipment shall be designed for installation and operation in earthquake prone area. The seismic loads occur due to the horizontal and vertical accelerations which may be assumed to act non-concurrently. The coefficients for horizontal acceleration as 0.4g and vertical acceleration as 0.2g shall be used for design purposes. The seismic loads shall be equal to the static loads corresponding to the weights of the parts / accessories multiplied by the coefficient of the acceleration.



The base frame / supports and fixing devices of various equipment shall be strong enough to withstand the forces in normal operation and in abnormal conditions with forces superimposed due to occurrence of earthquake and short circuit simultaneously. The civil foundation drawings and the embedment which are to be grouted in concrete shall be supplied by the bidder. The copies of type test reports for similar type of foundation equipments, if tested earlier, should be furnished alongwith the bid. If the equipment covered in this package have not been type tested earlier, design calculations of simulated parameters should be furnished during design stage.

To prevent the movement of various equipment and its parts during earthquake, suitable devices shall be provided for fixing of various equipment with the foundations. The bidder shall include necessary bolts and fittings for embedding in the concrete foundation in their scope of supply.

2.1.6 COMMUNICATION & TRANSPORT LIMITATIONS

The transport limitation by road from Phuentsholing to the project site would be the governing factor in respect of the permissible package size and weight.

The existing roads, wherever required, will be improved and upgraded to allow the transport of the packages of the following size and weight. However, the bidder shall make his assessment regarding road condition while dispatching such packages.

- i) Size in meters (LXBXH) = 14mx5mx4m (without height of the trailer)
- ii) Weight (tonnes) = 100 tonnes (including weight of trailer with multiple wheels preferably hydraulic maneuvering wheels).

The bidders shall design their equipment such that the transport packages are within the above limitations.

Lighter packages with reduced width and height but with lengths up to 18 m can be transported, which shall, however, be subject to prior confirmation from the purchaser.

2.1.7 AUXILIARY POWER SUPPLY

		415V AC System	220V AC System	220 V DC System (Un grounded)
1.	Nominal Voltage	415 V	220 V	220 V
2.	No. of phases	3ph, 4 wire	1ph, 2 wire	2 wire
3.	Frequency (Hz)	50 \pm 3 %	50 \pm 3 %	NA
4.	Voltage variation	\pm 10 %	\pm 10 %	\pm 10 %



2.1.8 SYSTEM PARAMETERS

S. No.	Description	400 kV System	220 kV System
a)	Lightning Impulse Withstand Voltage (kVp)	1425	1050
b)	Switching Impulse Withstand Voltage (kVp)	1050	-
c)	P.F. Withstand Voltage (kVrms)	630	460
d)	Highest System Voltage (kV)	420	245
e)	Creepage Distance (mm)	10500	6125
f)	Short Circuit Capability (kA for 1sec)	50	40

2.1.9 MINIMUM CLEARENCE

S. No.	Description	400 kV System	220 kV System
a)	The minimum vertical clearance from any energized metal part to the top of the plinth	8.0 m	5.0 m
b)	The minimum vertical distance from the bottom of the lowest part of bushing or supporting insulators to the top of plinth	2.55 m	2.44 m
c)	The minimum clearance between the live parts and earth	3.4 m	2.1 m
d)	The minimum clearance between phases	4.1 m	2.1 m
e)	The minimum sectional clearance	6.5 m	As per IS

3 INSTRUCTION TO BIDDERS

The bidders shall submit the technical requirements, data and information as per the technical data sheets, provided in Section-4.

The bidders shall furnish catalogues, engineering data, technical information, design documents, drawings etc fully in conformity with the technical specification. It is recognised that the Manufacturer may have standardised on the use of certain components, materials, processes or procedures different than those specified herein

4 STANDARDS

The works covered by the specification shall be designed, engineered, manufactured, built, tested and commissioned in accordance with the Acts, Rules, Laws and Regulations of India.

The equipment to be furnished under this specification shall conform to latest issue (with all amendments) of specified standards.

In addition to meeting the specific requirement called for in Sections 1 and 2 of the Technical Specification, the equipment shall also conform to the general requirement of the applicable



standards, which shall form an integral part of the specification. The Bidder shall note that standards mentioned in the specification are not mutually exclusive or complete in themselves, but intended to complement each other. When the specific requirements stipulated in the specifications exceed or differ from those required by the applicable standards, the stipulation of the specification shall take precedence.

Other internationally accepted standards, which ensure equivalent or better performance than that specified in the standards referred, shall also be accepted. The bidder shall submit copies of such standards.

In case governing standard for the equipment is different from IS or IEC, the salient points of difference shall be clearly brought out in the offer along with English language version of standard or relevant extract of the same. The equipment conforming to standards other than IS/IEC shall be subject to Purchaser's / owner's approval. The bidder shall clearly indicate in his bid the specific standards in accordance with which the works will be carried out.

5 MATERIALS

5.1 General Requirements for materials

All materials of the equipment / structures shall be of first class commercial quality, considering strength, ductility, durability, best engineering practice and the normal or severe operating service to which the equipment will be subjected, free from any defects and imperfections, of recent manufacture and unused and where indicated of the classifications and grades designated therein. Materials not specifically described herein but used for manufacturing of the equipment, shall be the most suitable for the purpose and shall comply with the latest specifications of Bureau of Indian Standards, or the American Society for Testing of Materials (ASTM), or approved equivalent standards. If the bidder desires for any reason to deviate from or use materials not covered by these specifications, he shall state the exact nature of the deviation or exception and shall submit for the approval of Purchaser complete specifications of the materials he proposes to use alongwith the reason of such deviation. All materials, supplies and articles not manufactured by the bidder shall be the products of recognized, reputed manufacturers and product shall have the marking of standards to which it conforms.

The materials liable to be attacked by termites or other insects shall not be used. All workmanship shall be of the highest quality to ensure smooth functioning of equipment / material offered. The design, dimensions and materials of all parts, shall be so chosen that the electro-mechanical and thermal stresses to which they may be subjected shall not render them liable to distortion or damage under the most severe conditions encountered in actual service.

5.2 Corrosion Resistant Materials

5.2.1 Bronze hinge pins shall be provided for all doors.

5.2.2 The surface of mild steel fabricated items and other metal surfaces shall be thoroughly cleaned by grit blasting and coated with corrosion resisting paint to prevent rusting. The Bolts or Nuts, which are subject to frequent removal and the bolts to be projected



above the concrete with nuts subjected to removal, shall either be of stainless steel or hot dip galvanized / electro galvanized.

5.3 Magnetic & Non-magnetic materials

- 5.3.1 Conductor material of Isolated & segregated phase bus ducts and Tubular conductors shall be of high conductivity aluminum alloy confirming to relevant standard.
- 5.3.2 Fixing and supporting materials of cables, bushings, bus bar enclosures etc. must be of non-magnetic material such as aluminium or nonmagnetic metallic alloy.
- 5.3.3 All sliding surfaces subject to continuous contact with grease over extended periods without movement shall be bronze or bronze faced.
- 5.3.4 Substitutions for specified materials shall be made only with the written consent of purchaser. The Bidder shall be responsible for the suitability of materials to be used in the construction of the equipment covered in various Sections of this documents.
- 5.3.5 To the extent feasible and without adversely affecting the strength and durability, materials for field welds, if required, shall be used such that these do not require preheating or stress-relieving.

6 DESIGN STRESSES

6.1 General Criteria

- 6.1.1 Liberal factors of safety shall be used throughout the design, and especially in the design of all parts subject to alternating stresses or to shock loading or to most severe operational loadings, including those due to electrical short circuit faults. The Supplier shall furnish complete information, including computations regarding the maximum unit stresses used in the design for record and reference of purchaser during design stage.
- 6.1.2 The life of equipment supplied shall be not less than thirty five (35) years.

7 WORKMANSHIP

7.1 General Requirements

- 7.1.1 Workmanship shall be of the highest grade and in accordance with the best modern practices for the manufacture of high-grade machinery, notwithstanding any omissions from these specifications or associated drawings. All work shall be performed by workmen skilled in their respective trades.
- 7.1.2 Machining of renewable parts shall be accurate and to specify dimensions according to the drawing so that replacements made may be readily installed. The Supplier shall keep and maintain in storage for at least 10 years or more, at his own expense, sufficient templates, gauges, patterns, or other records used in the manufacture to enable him to make repair and furnish replacement parts for future needs. Notwithstanding this, if the Manufacturer/Bidder, in future, intends to wind up his business, he shall give the information to this effect to the Purchaser, sufficiently in advance, so as to enable him to consider buying life time spares before the closure of



the business.

8 STRUCTURAL MATERIALS

8.1 Bolts, Nuts, Studs and Screwed Connections

All threads shall be clean and accurately cut before assembling. Screwed parts shall be lightly lubricated or coated with jointing compound as may be applicable before connection. All screwed connections shall be made adequately and no such force shall be used which may permanently deform the material. Metric threads shall be provided.

8.2 Fastening Elements for Equipment

- (i) Fastening elements for the equipment viz. the bolts, studs, nuts, screws, washers shall be of material which is most suitable for the operating conditions and the frequency of removal for dismantling of the respective components, parts. These items shall conform to relevant national or international standards.
- (ii) The fastening elements shall be of following materials depending upon the condition of operation:
 - a) Subjected to regular Corrosion resistant steel as removal for dismantling per applicable grades for maintenance or frequent adjustment.
 - b) Subjected to less frequent High tensile steel/other dismantling suitable materials per laid down practice.
- (iii) The fasteners (nuts and bolts) for the parts subjected to pressure shall be machined on the shank, under the head and nut.
- (iv) Wherever necessary, the fastening elements shall have locking devices and anti-vibration devices. The washers shall be of the taper type.
- (v) Where there is a risk of corrosion, bolts and studs shall be finished flush with surface of the nuts.
- (v) With the exception of high strength friction grip bolts, the bolts shall be designed so that with nuts fully tightened, the stress intensity at the bottom of the thread shall not exceed one half (1/2) of the yield point of the bolt material under all conditions.
- (vii) In case, nuts and bolts are of manufacturer's own standards, which are different from the usual national or international standards, the supplier shall supply taps & dies for the threads and special spanners for the nuts & bolts.
- (vi) The supplier shall state the standards to which the fastening elements offered conform.

8.3 Galvanizing

- (i) All drilling, punching, tapping, cutting, and bending of various parts shall be completed and all burrs removed prior to galvanizing.
- (ii) Galvanizing shall be applied by the hot dipped process and shall consist of the smooth, clean zinc coating free from defects and of uniform thickness. The quantity



of Zinc applied shall not be less than 610g/m² of the surface area. Original blast-furnace raw-zinc (minimum purity 98%) shall be used. Sheardizing or other alternative process shall not be used without the approval of the Purchaser and / or Consultant.

- (iii) Material / parts on which galvanizing has been damaged shall be redipped unless, in the opinion of the purchaser, the damage is local and can be repaired by applying a coat of galvanizing repair paint.

8.4 Non-metallic Coatings

- (i) Coatings in this category include sprayed or sheet linings, as applied to tanks, vessels and pipes carrying aggressive fluids and wrappings as applied to buried or immersed pipe work. The materials employed may be rubber PVC sheet, glass reinforced resin or plastic.
- (ii) Surface preparation and application of the coating shall be in strict accordance with the approved instructions of the coating supplier.
- (iii) The surface of the parts to be embedded in the concrete shall be cleaned from mill scale, dirt, oil, grease and other residues and shall be covered with a substantial coating of Portland cement wash or other proprietary coating before dispatch.

8.5 Material of Rating Plates, Name Plates and Labels

- (i) Rating and diagram plates shall give the information as required in latest edition of IEC/IS standard.
- (ii) A rating plate of non-corrodible material sheets shall be attached to each major and auxiliary item of goods / apparatus and cable end terminals. This plate shall be permanently engraved with the designed full load ratings, serial number, type, date of manufacture and other identifications deemed necessary. Where necessary, diagram shall also be supplied.
- (iii) All markers/labels shall be made of **halogen & silicon free polyamide material with inflammability class V2 as per UL 94**, ensuring scratch proof printing with the use of environment friendly solvent free ink & latest Bluemark UV technology so as to comply the Wipe Resistance according to DIN EN 61010-1/VDE 0411-1.

8.6 Machine Work

- 8.7.1 Unless otherwise shown on the approved shop drawings, all allowances, tolerances, and gauges for metal fits shall conform to applicable ISS or to ANSI Standard B4.1 for the class as shown or otherwise required. Sufficient machining allowance shall be left while placing pads to ensure true surface of solid material. Finished contact or bearing surfaces shall be true and exact to ensure full contact.
- 8.7.2 All machined parts shall be accurately machined and like parts shall be interchangeable. Drilled holes for bolts shall be accurately located and drilled to templates when necessary or specified. The holes for fit-up bolts or dowels shall be carefully reamed and the bolt or dowel shall enter with a light driving fit. Bolt and



screw threads shall conform to applicable ISS or to ISO standard.

8.8. Surface Finish

8.8.1 Surfaces to be machine-finished shall be indicated on the shop drawings by symbols which conform to applicable ISS or to ANSI B46.1 or to equivalent standard. Values of roughness height are specified in microns as "average deviation from the mean surface". Values of roughness, width and waviness height are not specified but shall be consistent with the general type of finish as specified by the roughness height. Compliance with the specified surface will be compared to roughness comparison specimens.

8.9 Type of Finish and Roughness Value

- (i) Surfaces which are to be machined to dimensions where the tolerance is 0.5mm or greater shall have a maximum roughness value of 12 microns.
- (ii) Stationary mating surfaces, where reasonably accurate positioning of the members or a moderately tight joint is desired, shall have a maximum roughness value of 6 microns.
- (iii) Surfaces in sliding or rotating contact, where motion is slow and loads are light, shall have a maximum roughness value of 3 microns.
- (iv) Surfaces in sliding or rotating contact, when loads and speeds are moderate, shall have a maximum roughness value of 1.6 microns.
- (v) Surfaces in sliding or rotating contact, where loads are heavy and/or the motion is rapid, shall have a maximum roughness value of 0.8 microns.

8.10 Unfinished Surfaces

So far as practicable, all work shall be laid out to secure proper matching of adjoining unfinished surfaces. Where there is a large discrepancy between adjoining unfinished surfaces, they shall be chipped and ground or machined to secure reasonable alignment. Unfinished surfaces shall be true to the lines & dimensions shown on the drawings and shall be chipped or ground free from projections or rough spots. Depressions or holes not affecting the strength or usefulness of the parts may be filled in a manner approved by purchaser.

10 PAINTING AND PROTECTIVE COATINGS

10.1 General Requirements

- (a) All surfaces shall be thoroughly cleaned of rust, mill scale, oil, grease and dirt prior to shipment and before painting. Paint shall only be applied to dry and clean surfaces.
- (b) Except for surfaces that will be embedded in concrete and as otherwise specified, all un-machined or unturned internal or external surfaces shall be given not less than one coat of red lead primer. Any exterior surfaces



requiring welding during manufacture shall be ground smooth after welding before application of the primer coat. The primer coat shall be applied quickly after the welding and grinding is over.

- (c) Except as otherwise provided the Bidder's standard painting system for miscellaneous auxiliary equipment such as motors, motor starters, gauges, pumps, etc. will be satisfactory. All equipment shall have a neat & attractive appearance.
- (d) Flaws in exterior surfaces shall be ground smooth before applying the prime coat. This shall in no way reduce the unit strength.
- (e) The minimum total dry film thickness shall be 1.5 mils (38 microns) for prime finishes 2 mils (50 microns) for lacquer finishes and 3 mils (75 microns) for enamel finishes.
- (f) All needs of final touch up paint for application at site shall be included in the scope of supply.

10.2 Specific Requirements

Except as otherwise specified, the interior and exterior steel surfaces of cabinets/cubicles shall be thoroughly cleaned after fabrication by sandblasting, pickling and rinsing or other means and then shall receive a rust inhibitive phosphatizing or equivalent treatment prior to painting in accordance with applicable IS standard or article 20-6.6.1 of ANSI standard C37.20. Exterior surfaces shall then be primed, filled wherever necessary and given not less than two coats of quick air drying lacquer or synthetic enamel. Cubicles and terminal boxes for electrical devices shall be finish painted with semi-gloss finish in accordance with applicable IS standard or ANSI Standard Indoor Light Gray No. 61 or as approved by Purchaser. Interior surfaces shall receive not less than one coat of corrosion resisting paint in accordance with the manufacturer's standard practice. Inside of cubicle shall be painted in approved colour by suitable quality paint.

10.3 Conforming Standards for Paints

The bidder shall submit the specifications and the names of manufacturers of all paints which will be incorporated into the work for approval of the purchaser. Paint shall dry with a surface such that touchup paint will adhere. Colour scheme will be approved by the purchaser.

11 CASTING

11.1 General Requirements

Castings shall be free from injurious defects and foundry irregularities such as projections, ridges, hollows and chip marks so that they will not require surface smoothing operations in the field prior to painting. The location of existing defects shall be determined and they shall be completely removed to



sound metal. The structure of the castings shall be homogenous and free from excessive non-metallic inclusions. An excessive segregation of impurities or alloys at critical points in a casting shall not be permissible and such casting shall be rejected. All castings involving welded fabrication shall be stress-relieved.

11.2 Dimensions of Castings

The thickness and other dimensions of the castings shall conform substantially to the dimensions on the drawings and shall not be reduced by shop or foundry practices to the extent that the resulting stresses in the metal will exceed the stresses allowed under this Document. Castings shall not be warped or otherwise distorted nor shall their dimensions be oversized to such an extent as to interfere with proper fit with other parts.

11.3 Surface Finish

All parts shall be free from burrs, sharp edges and imperfections after cutting, machining and welding. All visible parts shall receive special attention in order to ensure pleasing appearance of the complete equipment.

12 ELECTRICAL EQUIPMENT – GENERAL REQUIREMENTS

12.1 Electric Motors

12.1.1 All motors shall comply with relevant National or International Standards.

12.1.2 Supplier shall be fully responsible for ensuring that the motor duty cycle, rating, performance, tests and mechanical arrangements are all entirely relevant, suitable for compliance with the above standards for the application at the station in the extreme environmental and conditions specified.

12.1.3 The preferred type of A.C. motor is squirrel cage, totally enclosed, fan-cooled, except for single-phase motor with rating less than 0.5 kW. The standard types of motors would be subject to approval of purchaser. Motors above 1.0 kW shall be 3-phase type.

12.1.4 The stator insulation system shall be class-F or a higher class but in each case, temperature rises shall be limited to Class-F wherever practicable on full continuous rated load.

12.1.5 All A.C. motors shall be capable of direct on-line starting and of continuous operation at rated output under abnormal frequency conditions. These shall also be capable of operation for a period of not less than 5 minutes, with a voltage of 25 percent below nominal voltage at nominal frequency, without injurious overheating. The starting current at full voltage shall not exceed six times the full load current. Each motor shall be tested at Manufacturer's works to confirm compliance with this requirement.

12.1.6 Ball or roller bearings shall be used. Vertical shaft motors shall have approved thrust bearings. Lubrication fittings shall be provided for the bearings.



- 12.1.7 The terminal box shall be weatherproof and firmly fixed to the motor frame. The terminal studs shall be adequately sized for the current duty required and shall be identified. All terminal boxes shall have approved cable adapter plates, sealing chambers or conduit entries.
- 12.1.8 The arrangement of the terminal box shall be such as to facilitate installation of cables and allow interchanging of any two phase leads without disturbing the sealing compound, if this is used at cable terminations.
- 12.1.9 Wherever practicable, the motor end cover shall be removable from the driving end and shall have a removable plug to allow the speed to be checked by means of a portable tachometer.
- 12.1.10 All motors having a mass of 50 kg or more shall be fitted with lifting lugs.

12.2 Starters and Contactors

- 12.2.1 Motors starters and contactors shall be equipped with short circuit protection and local disconnected devices. All starters shall be preferably from one manufacturer. The control circuit voltage shall be obtained from a 415/240 V Isolating transformer with primary circuit breaker and secondary fuses. The secondary winding of this transformer shall be grounded. The operating coils of the contactor shall be connected between the grounded side of the transformer and the control contacts.
- 12.2.2 Starters and contactors shall comply with applicable IS standard or IEC 60947-4-1 or NEMA IC 1 and shall be suitable for direct on-line starting, uninterrupted electrical duty and capable of 30 operations per hour. They shall be installed in ventilated enclosures for indoor installation, unless otherwise approved by the purchaser. The enclosures shall be complete with the locks, cable sealing boxes, conduit entries, cable gland plates, bus bars, internal wiring, terminal boards and other necessary items as required by the duty of the starter or contactors.
- 12.2.3 Starters & contactors shall be of minimum size compatible with motor size and capable of satisfactory operation, without damage, for a period of 5 minutes at a voltage 25 percent below nominal voltage, at nominal frequency.
- 12.2.4 Thermal type over load and phase failure relays shall be supplied with starters for motors of 7.5 kW or higher rating. For motors of less than 7.5 kW rating, suitable rated 3-phase thermal overloads will be acceptable. Ammeters to monitor current in one phase shall be provided for motors above 7.5 kW.
- 12.2.5 Each starter shall have sufficient number of auxiliary contacts required for interlocking and indication purposes plus two spare convertible contacts.

12.3 Moulded Case Circuit Breakers (MCCBs) and Miniature Circuit Breakers (MCBs)

12.3.1 MCCBs

All moulded case circuit breakers shall be 2-pole or 3-pole, as required, having



thermal time delay and instantaneous trips with provision for "On-Trip-Off" controls as well as suitable indications for these positions in the operating mechanism. The circuit breakers used in the motor starters or contactors shall have the operating mechanisms interlocked with the starter or contactor cover so that the cover cannot be opened unless the circuit breaker is open. The breakers shall comply with the applicable specification IEC 60947-2 or equivalent standards.

12.3.2 MCBs

All miniature circuit breakers shall be 2-pole or 3-pole, as required, having thermal time delay and instantaneous trips with provision for "On-Trip-Off" controls as well as suitable indications for these positions in the operating mechanism. MCBs shall be used in the supply control circuits, or on the secondary side of CTs & VTs. The breakers shall comply with the applicable specification IEC 60947-2 or equivalent standards.

12.4 Control Relays

Relays used as auxiliary control devices in conjunction with magnetic contactors shall be of the type designed for GIS application with provision for convertible contacts. All contacts shall have a minimum thermal current rating of 10 A over a range of 6 to 600 V AC.

12.5 Pilot Devices

12.5.1 Pilot devices such as selector switches, push-button switches & thermostats shall be of heavy duty type and where mounted outdoors, shall be housed in weatherproof enclosures specially designed for the extreme conditions of environment.

12.5.2 All electrical contacts for control, alarm and shutdown shall have a thermal current rating of not less than 10A at 220 V DC.

12.6 Instruments / Meters

12.6.1 The instruments mounted on panels shall be of the semi flush type, back connected, matching type, shape and of approved finish to present neat and fitting arrangement consistent with the functional requirements.

12.6.2 Mechanical quantity measuring instruments which are directly mounted on equipment shall have circular dials and shall be properly supported and guarded against accidental injury/breakage. These shall be placed in convenient location.

12.6.3 The instruments shall accurately measure and indicate the quantity under all conditions of operation with minimum instrument errors. The changes in the ambient temperature within the range prevailing at site shall not affect the accuracy.

12.6.4 The reading scales on the dials shall be in metric units only and range shall be such that the normal operating values of the quantities are indicated in the middle 3rd of the scale.

12.6.5 The instruments which make contacts shall have contacts suitable for 250 V AC or



- 220 V DC circuits.
- 12.6.6 All the instruments shall conform to relevant National or International applicable standards. They shall be subjected to type and routine tests prior to despatch. The instruments shall be shock, vibration and moisture proof. The electrical instruments shall withstand dielectric test of 2000 V to ground (RMS) for one (1) minute as per the relevant standards.
- 12.6.7 The coils of electrical instruments shall be designed for continuous operation at 110% of the full load current at the rated voltage of the instrument. The coil rating of the measuring instruments shall be co-ordinated with those of the associated instrument transformers (i.e. CTs, PTs, etc.) by the supplier. The VA burden of the instruments shall be as low as possible. The meters shall be of the first grade as far as accuracy class is concerned.
- 12.7 **Terminal Blocks**
- 12.7.1 All internal wiring to be connected to the external equipment shall terminate on blocks, preferably vertically mounted on the side of cabinet, junction box.
- 12.7.2 The terminal blocks to be provided shall be fully enclosed with removable covers. The Terminal Blocks shall be 650V / 1100V grade and shall have continuous rating to carry the maximum expected current. These shall be of moulded design made up of unbreakable polyamide 6.6, V0 grade, touch proof. All metal parts including screws should be non-ferrous in nature. The terminal blocks shall have screw locking design to prevent loosening of conductor /screw and withstand vibration level of 5g .All terminal blocks shall be clearly marked with identification numbers or letters to facilitate connection to external wiring.
- 12.7.3 The Terminal Blocks for the current transformers and voltage transformers secondary leads shall be provided with sliding disconnect switch. All the testing & measuring operations shall be possible without removing the connections. All the metal parts for current transformer and voltage transformer terminal block shall be non-ferrous with fire fire retardant, unbreakable polyamide 6.6 of V0 class housing .All accessories as well shall be of similar material features. Also current transformer secondary leads shall be provided with short circuiting and earthing facilities.
- 12.7.4 At least **20% spare terminal** shall be provided and these spare terminals shall be uniformly distributed on all terminal blocks. The terminal blocks shall be of extensible design. The terminal blocks shall have locking arrangement to prevent its escape from the mounting rails.
- 12.7.5 The boxes shall be provided with **20% spare terminals** unless otherwise specified.
- Unless otherwise specified, terminal blocks shall be suitable for connecting the cables of following sizes on each side:

- | | | |
|----|-----------------------|---|
| a) | All circuit except CT | Min. two (2) Nos. 2.5sq.mm.
Copper flexible. |
|----|-----------------------|---|



- b) All CT circuits Min. of 4 nos. of 4.0mm² copper Flexible
- 12.7.6 There shall be a minimum clearance of **250 mm** between the first row of terminal block and the cable gland plate or side of the box. Also the clearance between two rows of terminal blocks shall be minimum of **150 mm**.
- 12.7.7 The arrangements shall be in such a manner so that it is possible to safely connect or disconnect terminals on live circuits and replace fuse links when the cabinet is live. Cabinet wiring should be suitable for 50 deg. C as the space heaters will keep the temperature 10 deg. C higher than the ambient.
- 12.7.8 Arrangement of the terminal block assemblies and the wiring channel within the enclosure shall be such that a row of terminal is run parallel and in close proximity along each side of the wiring duct to provide for convenient attachment of internal panel wiring. The side of the terminal block opposite to the wiring duct shall be reserved for the external cable connection. All adjacent terminal blocks shall also share this field wiring corridor. A steel strip shall be connected between adjacent terminal block rows at 450 mm intervals for support of incoming cables.
- 12.8 **Equipment Wiring**
- 12.8.1 Each conductor shall be individually identified at both ends through a system providing ready and permanent identification, utilizing slip-on ferrules approved by the purchaser.
- 12.8.2 The markers provided may be typed individually or made up from sets of numbers and letters firmly held in place. Open markers will not be accepted.
- 12.8.3 The markers must withstand a tropical environment and high humidity. Only fungus-proof materials will be accepted. The ferrules of adhesive type are not acceptable.
- 12.8.4 All trip circuits shall employ markers having a red background.
- 12.8.5 Sensitive control circuits shall be effectively shielded against extraneous signals and interference. Separate terminals shall be provided for termination of individual cable shields which will be grounded at source end only.
- 12.8.6 All wiring connections shall be readily accessible and removable for test or other purposes. The wiring between the terminals of the various devices shall be point to point.
- 12.8.7 The splices or tee connections between terminal points are not acceptable. The wire runs shall be neatly trunked inside the panels or in wiring troughs. Whenever possible, unused areas of the panels shall be kept free of wiring to facilitate the installation of future equipment.
- 12.8.8 Multi-conductor copper cables 2.5 sq.mm for PT circuits and 4.0 sq.mm for CT circuits shall be connected to the terminal blocks in such a manner as to minimise crossovers. The claw washers or crimp type connectors used shall be of approved design & shall be used to terminate all small wiring. The grommets or insulating bushings shall be installed, where necessary.



12.9 Cubicles and Control Panels

- 12.9.1 The enclosures of cubicles and control panels shall be of sheet steel with minimum thickness of 2.5 mm and gland plate shall be of minimum thickness of 3 mm. These shall have rigid & self-supporting construction and supplied with channel bases.
- 12.9.2 The cubicles shall be fitted with close fitting, gasketed, hinged, lift-off doors capable of being opened through 180°. The doors shall be provided with integral lock and master key.
- 12.9.3 The cubicles and panels shall be vermin-proof. The gland plates of removable type shall be supplied and located in such a way so as to provide adequate working clearance for the termination of cables. Under no circumstances shall the floor / roof plate be used as a gland plate. The cables and wiring shall enter from bottom or top as approved or directed by purchaser.
- 12.9.4 The cubicles and panels shall be adequately ventilated, if required, by vents or louvres and shall be so placed as not to detract from the appearance. All ventilating openings shall be provided with corrosion-resistant metal screens or a suitable filter to prevent entrance of insects or vermin. Space heating elements with thermostatic control shall be included in each panel.
- 12.9.5 Where cubicles are split between panels for shipping, terminal blocks shall be provided on each side of the split with all necessary cable extensions across the splits. These cable extensions shall be confined within the panels with suitable internal cable ducts.
- 12.9.6 Unless stated otherwise all the cubicles and panels shall be provided with a ground bus 40 Sq. mm copper bar extending throughout the length. Each end of this bus shall be drilled and provided with lugs for connecting ground cables ranging from 70 to 120 mm².
- 12.9.7 The standard phase arrangement when facing the front of the motor control centers and switchboards shall be RYB from left to right, from top to bottom and front to back. All the instruments, devices, buses and other equipment involving 3-phase circuits shall be arranged and connected in accordance with the standard phase arrangement, wherever possible. Electrical clearances shall conform to the applicable standards and shall not require cutting away of adjacent framework.
- 12.9.8 All the instruments, control knobs and indicating lamps shall be flush mounted on the panels. The devices sensitive to vibration shall not be installed on doors or hinged panels and no equipment shall be installed on rear of access doors.
- 12.9.9 The instrument and control wiring, including all the electrical interlocks and the interconnected wiring between sections shall be completely installed and connected to terminal blocks by the supplier.
- 12.9.10 The arrangement of control and protection devices on the panels and the exterior finish of the panels shall be subject to the approval of the purchaser. The interior of all cubicles and panels shall have a mat white finish unless specified otherwise.
- 12.9.11 Switched interior light and socket outlets shall be provided for all the cubicles and control panels.



- 12.9.12 All the cubicles and the control panels shall be provided with lamacoid name plates, non-rustic, identifying the purpose of the panel & all its components.
- 12.10 Alarm Contacts**
- 12.10.1 Wherever applicable, all alarm contacts shall be of galvanically isolated type and provide inputs to the following devices:
- (i) Local annunciator
 - (ii) Station annunciator
 - (iii) Computerized Control System.
- 12.10.2 All alarm contacts shall be of changeover type. Wherever required, relays shall be provided as contact multiplier.
- 12.11 Earthing**
- 12.11.1 The earthing terminals for the equipment covered in these specifications shall also be included in the scope of supply. The supplier shall connect the earthing terminals to the grounding conductors available in the vicinity area of the equipment.
- 12.11.2 The earthing risers from the station earthing mat to the vicinity of equipment will be arranged by the purchaser unless specified otherwise.

13 QUALITY ASSURANCE PLAN (QAP)

3.1 Quality Assurance Programme

The supplier should adopt suitable quality assurance program to control all necessary activities to ensure that the equipment and / or services under the scope are in accordance with this specification. A quality plan detailing out the specific quality measure and procedures adopted for controlling the quality characteristics to be submitted for BHEL and PHPA approval.

The quality program is defined by ISO 9001, 1994 Quality systems- Model for quality assurance in design, development, production, installation and servicing.

13.2 Quality Assurance Test

- 13.3.1 A quality assurance plan detailing specific control procedures proposed to be adopted for controlling the quality characteristics for major items & equipment shall be furnished. The bidder shall submit and finalise manufacturing Quality Plans for all the major components and equipment with the purchaser. These quality plans will detail out various tests/inspections to be carried out and standards as mentioned in these specifications, various quality practices & procedures followed by bidder's Quality Control Organisation, the relevant reference documents acceptance norms etc., various stages of material procurement, manufacture, assembly and final testing/performance testing etc. These shall include but not limited to the following:
- (i) Test of raw material.
 - (ii) Non Destructive Tests as approved by Purchaser.



- (iii) Component Inspection and Tests.
 - (iv) Assembly Inspection and Tests.
 - (v) Pressure Test
 - (vi) High Voltage Dielectric and other test
 - (vii) Operational Tests
 - (viii) Performance and efficiency tests as applicable.
- 13.3.3 The bidder shall furnish field quality plans which will detail out the quality practices & procedures etc. for all the equipment to be followed by the bidder's site quality control organization during various stages of site activities from receipt of material/equipment at site. The field quality plans shall also be approved by the PHPA/ BHEL.
- 13.3.4 No material shall be dispatched from the manufacturer's works before the same is accepted prior to pre-dispatch / final inspection including verification of records of all previous tests/inspection by PHPA/ BHEL's / their authorized representative duly authorized for despatch.
- 13.3.5 All the vendors/sub-vendors proposed by the bidder for procurement of major bought out items including castings, forgings, semifinished and finished components/equipments, list of which shall be drawn up by the bidder and finalized/approved in consultation with PHPA/ BHEL. The bidder's proposal shall include vendor/sub-vendor's facilities established at the respective works, the process capability, process stabilization, Q.C. system followed, experience list etc. along with their own technical evaluation of vendor/sub-vendors and shall be submitted to the purchaser for approval prior to any procurement. The approval for such vendor/sub-vendor shall not relieve the bidder from any obligation, duty or responsibility under the contract. This action shall, however, not involve PHPA/ BHEL in any complications arising between the bidder and his sub-contractor(s)/vendor/sub-vendors from whom he proposes to procure the material and submit their quality plans for PHPA/ BHEL's approval.

14 DEVIATIONS FROM SPECIFICATIONS

All the deviations from the specifications shall be separately listed in Performa enclosed with respective sections of this Document, in the absence of which it will be presumed that the provisions of the specifications have been fully complied with by the bidder.

15 PACKING AND FORWARDING

- 15.1 The equipment shall be packed in crates suitable for vertical/horizontal transport as the case may be and suitable to withstand handling during transport and outdoor storage during transit. The bidder shall be responsible for any damages to the equipment during transit, due to improper and inadequate packing. The easily



damageable material shall be carefully packed and marked with the appropriate caution symbol. Wherever necessary, proper arrangement for lifting such as lifting hooks etc. shall be provided. Any material found short inside the packing cases shall be supplied by bidder without any extra cost. The replacement of damaged equipment shall be made promptly in order to complete the work within specified schedule and without waiting for the settlement of insurance claim.

15.2 The outside of the Box shall have the following details:

- a) Name of Contract Agreement Number
- b) Name of the consignee
- c) Name of Supplier
- d) Total weight of consignment
- e) Sign showing top/bottom side of the Box
- f) Storage Code/ Symbols
- g) Handling and unpacking instructions
- h) Packing List of the material.

A copy of detailed packing list shall also be kept inside the Box.

15.3 All removable external accessories and other components susceptible to damage if transported mounted on the equipment, shall be dismantled, adequately packed and shipped separately. All openings thus resulted shall be sealed by means of temporary steel plates (blanks).

15.4 Packing shall be sturdy and adequate to protect all assemblies, components, auxiliary devices and accessories from injury by corrosion, dampness, heavy rains, breakage and vibration encountered at the plant site.

15.5 Mandatory Spare parts and Tools & Tackles required for Operation & Maintenance shall be packed separately and clearly marked.

16 TYPE TESTING, INSPECTION, TESTING & INSPECTION CERTIFICATE

16.1 All the equipment, apparatus, materials and supplies covered under the specification shall be subjected to test in the shop and at the field In the presence of the representatives of PHPA / consultants/ BHEL for conformity with the requirements of the specifications. The method and procedure for the tests shall be as specified for particular item or shall be in conformity with the applicable standards for making such tests. The details of the test procedures and test equipment to be used should be intimated well in advance i.e. at least 6 weeks before these tests are conducted.

16.2 The end customer (PHPA)/ BHEL, his duly authorised representative and/or outside inspection agency acting on behalf of purchaser shall have at all reasonable times access to the supplier's premises or works and shall have the power to inspect and examine the materials and workmanship of the works during its manufacture or erection. Purchaser reserves the option for getting any or all the type tests repeated on the equipment. The equipment, if found unsatisfactory at any stage as to workmanship or material is liable to be rejected.



- 16.3 The test reports shall indicate the tests performed, the results obtained, instruments used, names of personnel carrying out the tests and provision for signature of the witnesses. They shall also show the test report number and the date of conducting the test. The format of these reports shall be submitted alongwith testing procedures for the Purchaser's (PHPA)/ BHEL approval well in advance.
- 16.4 All services such as labour, materials, electricity, fuel, water, stores, apparatus and instruments required for conducting any or all tests shall be arranged & provided by the supplier at his cost.

The price of conducting all tests and additional type tests is deemed to be included in Bid price.

17 TRANSPORTATION, HANDLING, STORING AND INSTALLATION

The Bidder is required under the Contract to undertake transportation of goods from FOB/Ex-works to Project Site including clearing, forwarding and handling at port of entry, storage and preservation at site, intermediate location (if any) and further transportation to work site, including handling wherever required. All necessary transportation equipment including lifting and handling equipment shall be provided and/ or hired by the Bidder at his own cost.

Where the Bidder is required to effect delivery under any other terms, for example, by post or to another address, the Bidder shall be required to meet all the expenses until delivery on the site.

Where assemblies are supplied in more than one section, bidder shall make all necessary mechanical and electrical connections between sections including the connection between buses. Bidder shall also do necessary adjustments/alignments necessary for proper operation of circuit breakers, isolators and their operating mechanisms

18 DOCUMENTATION

18.1 DRAWINGS

All drawings shall be prepared in AutoCAD and ultimate documentation would include drawings/documents on CDs. All dimensions and data shall be in SI metric units.

All items of the equipment should be clearly identified by proper part nos. in the contract drawings. Such parts, which are to be dispatched to site from works in dispatchable units and are reassembled at site, should be marked by proper identification marks at works and indicated in the drawings and quantified. The shipping list should be sent along with the general arrangement drawings for engineer's approval. All the items of the shipping list should be identified in the drawing.

All manufacturing and fabrication work in connection with the equipment prior to the approval of the drawings shall be at supplier's risk.



Approval of drawing or work by the purchaser/consultant shall not relieve the bidder of any of his responsibilities and liabilities under the contract.

In case of any modifications that may be necessary during erection or commissioning of the equipment, the bidder shall carry out modifications in the original drawing & submit 'As Built drawings' and required no. of prints thereof.

18.2 DOCUMENTATION SCHEDULE AT CONTRACT STAGE

A	For Approval (7 Sets – each revision), Hard copies as well as soft copies
07	Copies of GA drawings with projects details, dimension, equipment weight, fixing details, tolerances and terminal details etc.
07	Copies of type test reports
07	Copies of shipping list detailing the description & quantities of all items being dispatched separately, with shipping weights, number of cases and dimensions.
07	Copies of manufacturing and field quality plan.
07	Copies of installation, operation & Maintenance manual.
B	After Approval and For Information/Distribution (5 Sets).
05	Copies of GA drawings
05	Copies of type, Routine & Acceptances manual.
05	Copies of Insulation, Operation & Maintenance manual.
05	Set's of 'As Built' drawings
01	Sets of RTF of all drawings
02	All drawing/documents AS BUILT on CD-ROM.

NOTE:

- Any revision of drawings / documents shall be submitted in the same no. of copies submitted first time for approval
- Final drawings / documents shall be submitted in bound volume with customer and project details etc. written on the top.

Project: 400/220 kV Punatsangchhu-I HEP
 Potheadyard
 Customer: PHPA-I
 Consultant: WAPCOS Limited, Central Electricity
 Authority
 Technical Specification: 1.1 kV Aux Power & Control Cables

Bharat Heavy Electricals Limited

Document No. TB-356-510-011E

SECTION-4

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

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

BHEL ENQUIRY. NO:

BIDDER OFFER REFERENCE:

A)

(1)	(2)	(3)	(4)	(5)
S.No.	Parameters	Data	Yes / No	Remarks in case reply in Col (4) is NO
1.0	Applicable Standard	Latest IS -1554, 5831, 8130, 7098, 3975, 613, ASTM-D2843, ASTM-D2863, IEC60754, IEC60332, IS3961, IS 10418, SS4241475, NEMA WC-70, IEEE-383; For screened cables, standards mentioned in Annexure-1B, Section-1.		
2.0	Type	FRLS		
3.0	Construction feature for PVC Control and HR-PVC Aux Power cable			
3.1a	Material of Conductor for Control cables	Plain Annealed, High Conductivity, Stranded, Tinned Copper as per IS:8130, Grade EC		
3.1b	Material of Conductor for Screened Cable	High Conductivity, Annealed bare copper, Electrolytic grade, Strands: 7x0.3mm (nom)		
3.2	Material of Conductor for Power cables	Stranded Aluminium, Grade H2 /H4		
3.3	Conductor Insulation for Control and Power cables	Extruded HR-PVC, Type C as per IS:5831		
3.4a	Conductor insulation for Screened Control Cable	PVC Type Y13 (Insulation Thickness suitable for 1.1kV Voltage class as per relevant standards)		

Project: 400/220 kV Punatsangchhu-I HEP
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Bharat Heavy Electricals Limited

Document No. TB-356-510-011E

Technical Specification: 1.1 kV Aux Power & Control Cables

(1)	(2)	(3)	(4)	(5)
S.No.	Parameters	Data	Yes / No	Remarks in case reply in Col (4) is NO
3.4b	Shielding for Screened Control Cable	Al-Mylar Tape a) Individual Pair Shielding: 28 Micron Thickness (Min.) b) Overall cable assembly Shielding: 55micron Thickness (min)		
3.4e	Drain Wire for Screened Control Cable	For individual & Overall Shield: 7 Strand, 20 AWG (0.51sq.mm) annealed Tin coated copper		
3.5	Inner sheath	Extruded PVC, Type ST-2 as per IS:5831		
3.6a	Armouring for Control Cables	Galvanised Steel Round wire /formed wire for multicore cables		
3.6b	Armouring for Screened Control Cable	Galvanised Steel Round wire		
3.7	Armouring for Aux Power Cables	Aluminium round wire for Single core And Galvanised Steel round wire/formed wire for Multi-core cables		
3.8a	Outer sheath	Extruded PVC, FRLS, Type ST-2, Category C2 as per IS:5831		
3.8b	Outer sheath for Screened Control Cable	PVC extruded, FRLS, Compound YM1		
4.0	Construction feature for XLPE Aux Power cable			
4.1	Material of Conductor for Power cables	Stranded Aluminium, Grade H2 /H4		
4.2	Conductor Insulation	XLPE		
4.3	Inner sheath	Extruded PVC, Type-ST2		

Project: 400/220 kV Punatsangchhu-I HEP
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Bharat Heavy Electricals Limited

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Technical Specification: 1.1 kV Aux Power & Control Cables

(1)	(2)	(3)	(4)	(5)
S.No.	Parameters	Data	Yes / No	Remarks in case reply in Col (4) is NO
4.4	Armouring for Aux Power Cables	Aluminium round wire for Single core And Galvanised Steel round wire/formed wire for Multi-core cables		
4.5	Outer sheath	PVC extruded, FRLS, Type ST-2, Category C2		
5.0	FRLS properties of Outer sheath			
5.1	Minimum Oxygen index	29		
5.2	Minimum Temperature index	250°C		
5.3	Acid gas emission	Max 20% by weight		
5.4	Smoke density rating	Max 60%		
6.0	Tolerance on overall diameter	± 2mm		
7.0	Chemicals added to outer sheath to protect from rodent, vermin and termite attack	Yes		
8.0	Drum lengths shall be 1600m for Control cable and 1000m for power cable with conductor cross-section area less than 300 sq mm	Yes		
9.0	Tolerance on total quantity	± 2%		
10.0	Minimum bending radius for multicore cables	12 x D		

Project: 400/220 kV Punatsangchhu-I HEP
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Bharat Heavy Electricals Limited

Document No. TB-356-510-011E

(1)	(2)	(3)	(4)	(5)
S.No.	Parameters	Data	Yes / No	Remarks in case reply in Col (4) is NO
11.0	Core Identification	By colour coding as per IS 1554 (Part-I)/ IS 7098 Part-I for the cables upto five (5) cores; and for the cables with more than five (5) cores, by printing legible Hindu Arabic numerals on all cores as per Clause 10.3 of IS 1554 (Part-1).		
12.0	The fillers and inner sheaths shall be of non-hygroscopic, fire retardant material, shall be softer than insulation and outer sheath shall be suitable for the operating temperature of the cable	Yes		

B) TYPE TESTS

i) Whether valid type test reports of all the tests as per relevant IS including additional tests mentioned in this specification, conducted earlier on identical material are available (test reports shall be of the tests conducted not earlier than 10 (ten) years prior to the date of techno-commercial bid opening).

(YES/NO)

ii) If valid type test reports are not available with bidder / test reports are not acceptable to BHEL/Customer, then above tests shall be conducted by the bidder free of cost either at third party lab or in presence of BHEL/PHPA representative and submit the reports for approval.

(YES)

C)

(1)	(2)	(3)
S.No.	Description	Confirmation of Supplier
1.	Bidder to confirm that at all drawings / data sheets/QP/ valid type tests reports/ all relevant information shall be submitted to BHEL for organising approval of ultimate customer.	

Date:

Signature of the authorized representative of Bidder

Company Seal

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited ¹ (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at BHEL House Siri Fort New Delhi-110049 through its Unit at BHEL, TBG, Noida having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at _____ ² hereinafter referred to as the 'Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No PO No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Contractor having agreed to provide a Contract Performance Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount Rs ----- (Rupees -----) without any demur, immediately on a demand from the Employer, .

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

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

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

We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

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

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

This Guarantee shall remain in force upto and including.....⁶ and shall be extended from time to time for such period as may be desired by Employer.

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

Unless a demand or claim under this guarantee is made on us in writing on or before the⁷ we shall be discharged from all liabilities under this guarantee thereafter.

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

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁸
- b) This Guarantee shall be valid up to⁹
- c) Unless the Bank is served a written claim or demand on or before¹⁰ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

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

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

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

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

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ PROJECT/SUPPLY DETAILS

⁵ BG AMOUNT IN FIGURES AND WORDS

⁶ VALIDITY DATE

⁷ DATE OF EXPIRY OF CLAIM PERIOD

⁸ BG AMOUNT IN FIGURES AND WORDS.

⁹ VALIDITY DATE

¹⁰ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.

2. In Case of Bank Guarantees submitted by Foreign Vendors-

- a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
- b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
 - b.1** In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2** In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
 - b.3** The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
 - b.4** The BG should clearly specify that the demand or other document can be presented in electronic form.

Sl.	Name of the bank	
1	State Bank of India	
2	Canara Bank	
3	Axis Bank	
4	Bank of Baroda	
5	Central Bank	
6	Citi Bank N.A.	
7	Deutsche Bank **	
8	Exim Bank	
9	Federal Bank Limited	
10	HDFC Bank Limited	
11	Hongkong and Shanghai Banking Corporation Ltd	
12	Indian Bank	
13	ICICI Bank Limited	
14	IDBI Bank Limited	
15	IndusInd Bank Limited	
16	Indian Overseas Bank	
17	Kotak Mahindra Bank Limited	
18	Punjab National Bank	
19	RBL Bank Ltd.	
20	Standard Chartered Bank	
21	Union Bank of India	
22	Yes Bank Limited	
	TOTAL	

SCHEDULE OF COMMERCIAL DEVIATION

Enquiry No: 90Q2300293 dated 21.02.2023

Item: Low Voltage Cable: 1.1 kV Aux Power and Control Cable

Project: PUNATSANGCHHU-1 HEP (6X200 MW)- 400 kV & 220 kV POTHEADYARD BHUTAN

The following are the deviations/ variations exception from the General Terms and Conditions:

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

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

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

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

All deviations must be mentioned in this format only. Deviation(s) to terms mentioned else where will not be considered.

Place:

Date :

Signature of the authorised representative of

Bidder's name :.....

Designation:.....

Company Seal:.....

SCHEDULE OF TECHNICAL DEVIATION

Enquiry No: 90Q2300293 dated 21.02.2023

Item: Low Voltage Cable: 1.1 kV Aux Power and Control Cable

Project: PUNATSANGCHHU-1 HEP (6X200 MW)- 400 kV & 220 kV POTHEADYARD BHUTAN

The following are the deviations/ variations exception from the Technical Specifications:

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

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

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

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

All deviations must be mentioned in this format only. Deviation(s) to terms mentioned else where will not be considered.

Place:

Date :

Signature of the authorised representative of

Bidder's name :.....

Designation:.....

Company Seal:.....