

SPECIAL TERMS & CONDITIONS

FOR PROCUREMENT OF MK-JB FOR LTHPL LANCO TEESTA (NHPC) PROJECT Enquiry No: Dated

1. In case any discrepancy between the requirements mentioned under special terms & conditions and general terms & conditions, special terms and conditions shall prevail.
2. For any technical clarification, please contact Mr. Puneet Chawla (TBEM); Contact No. 0120-6748499; e-mail: puneet.chawla@bhel.in
3. For any commercial clarification, please contact Ms. Shipra Gupta (TBMM); Contact No.0120-6748509; e-mail: shipra@bhel.in
4. **Bidder to submit offer directly through Govt. E-PROCUREMENT MODE ONLY.** Bidder may visit <https://eprocurebhel.co.in/nicgep/app>. No other mode for submission of tender is acceptable.
5. **Proposed delivery plan: IMMEDIATE.** However, vendor has to examine their best possible delivery plan & mention in **ACTIVITY SCHEDULE (Annexure-II)** to meet the tender delivery requirement. In case, BHEL's delivery requirement is not met by vendor(s), then a chance may be given to all such vendors to review their quoted delivery schedule in line with BHEL's delivery requirement. However, if vendor fails to meet the requisite delivery plan, then BHEL reserves the right not to consider the offer of such vendor(s).
6. **Technical specification No – As per** Tech Spec No. TB-415-316-013 and Technical QR (ENCLOSED). No permissible Technical Deviation has been envisaged.
7. **Clause No. 2.1 of General Terms & Conditions (GTC) for tender Enquiry / Contract should be as follows:**

PRICES: A. All prices shall be FIRM & Ex-works price including packing & forwarding charges. No enhancement of rate for whatsoever reasons unless and until asked by BHEL shall be allowed.

PROJECT STATUS: Domestic in nature. GST is applicable as per prevalent law.
8. Terms of Payment: As per Cl.No. 3.1 of BHEL/TBG/GTC/2016 REV01.
9. **REVERSE AUCTION (Refer clause no: 15 of Addendum to GTC): APPLICABLE AS PER BHEL RA GUIDLEINES 2021.**
10. **Make in India (PPP-MII) (Refer clause no: 17 of Addendum to GTC): Exempted.**
11. **Compliance to GOI Order for restrictions under Rule 144 (xi) of General Financial Rules (GFRs), 2017 (Refer clause no: 18 of Addendum to GTC): Annexure-VI, VII or VIII are applicable.**
12. **MOP Circular (Refer clause no: 19 of Addendum to GTC, Annexure - IX & X): APPLICABLE.**
13. **INTEGRITY PACT (Annexure-XI): NOT APPLICABLE.**

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14. **RISK AND COST (Annexure-XII):** APPLICABLE.
15. **PRICE BID FORMAT:** Bidder to quote each and every cell as per specified price format of NIT, otherwise their offer shall be liable to be rejected.
16. **QUANTITY VARIATION CLAUSE NO. 39 OF GTC –** BHEL shall have the right to variation in quantities of items within +/- 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. The purchaser shall have the right to increase or decrease quantity and scope up to the above extent of value and seller/contractor shall be bound to accept the same at the contracted prices without any escalation.
17. **PERFORMANCE BANK GUARANTEE (PBG): CLAUSE NO. 7 OF GTC & 10 OF STC – NOT APPLICABLE**
18. **GUARANTEE CLAUSE (Defects Liability Period) :** 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 / datasheets, if any, "Twenty-Four (24) months from the date of taking over of the Facilities (31.07.2024) or eighteen (18) months from the date of last delivery (or any part thereof), whichever is later".
The liability for latent defects warranty shall be limited to the period of five (05) years from the end of defects liability period.
19. **Inspection Required:** Yes, Pre Dispatch by CUSTOMER/BHEL. Supplier has to submit Quality Plan to BHEL for Customer approval. Inspection shall be carried out as per approved Quality Plan.

20. Schedule of Deviation-

		Vendor to mention as NIL deviation	Remarks if any
1.	Schedule of Commercial Deviation, if any (All terms and conditions shall be as per GeM except as mentioned above)	Nil	
2.	Schedule of Technical Deviation, if any (Against Technical Specification)	Nil	

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21. IMPORTANT INSTRUCTION:

- All boxes / Containers are to be distinctly marked with boldly written "TBG" mark on it.
-
- Vendor to furnish "Quoted/Not Quoted" and GST % in unpriced bid. **If Bidder mention "Not quoted" and found applicable at later stage during detailed engineering, it means bidder shall supply the item free of cost to BHEL.**

22. Destination / Delivery Location:

BHEL/TBG c/o Head of Stores, Teesta-VI HE Project Sikkim
GSTIN- 11AAACL7122M1ZQ

23. Following confirmation to be provided by vendor:

ANNEXURE-D

CONTACT DETAILS OF BIDDER

Works Address-	
Communication Address-	
Details of contact person for clarification regarding bid:	
Contact Person Name:	
Designation:	
Email Id.:	
Mobile No.:	
Landline No.:	

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

NAME & SEAL OF TENDERER

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Enquiry No: Dated

Enclosed:

1. Addendum to GTC AND RA GUIDELINES 2021
2. Activity Schedule (Annexure-II), Annexure-III (Checklist for billing), Annexure-IV (Arbitration)
3. General terms and condition (GTC), Technical & Commercial deviation sheets.
4. Tech Spec No. TB-415-316-013 and Technical QR.
5. Unpriced Bid Schedule

(LTHPL LANCO TEESTA (NHPC) PROJECT -MK & JB)

SCHEDULE OF UNPRICED BID

Enquiry No:

(BIDDERS TO STRICTLY ENSURE SUBMITTING THE PRICE BIDS IN THIS FORMAT)

S.NO.	ITEM DESCRIPTION	HSN CODE	UNIT	QUANTITY	UNIT EX WORKS PRICES (INR)	TOTAL EX WORKS PRICES (INR) (Rs.)	GST RATE ON EX WORKS PRICES (%)	GST AMOUNT ON TOTAL EX WORKS PRICES (INR)	UNIT FREIGHT & INSURANCE CHARGES (INR)	TOTAL FREIGHT & INSURANCE CHARGES (INR)	GST ON FREIGHT & INSURANCE CHARGES (%)	GST AMOUNT ON FREIGHT & INSURANCE CHARGES (INR)	TOTAL FOR(D) PRICES (INR)
1	SUPPLY- MK & JB : IP65, JUNCTION BOX WITH DISCONNECTING TYPE 130 TBS		NO.	2									
2	SUPPLY- MK & JB : IP65, JUNCTION BOX WITH DISCONNECTING TYPE 45 TBS		NO.	2									
A	TOTAL COST (SUPPLY) TO BHEL =												

FORMAT ONLY - NOT FOR FILLING PRICE

NOTE:

1. PLEASE NOTE THAT UNPRICED COPY OF PRICE BID (i.e. WITH ALL PRICES BLANKED) SHALL BE FURNISHED ALONG WITH TECHNO-COMMERCIAL BID.
2. REQUIRED COPIES OF FORMAT BE MADE & DETAILS MAY BE ANNEXED.

SIGNATURE & SEAL OF TENDERER



निविदा / Enquiry

भारत हेवी इलेक्ट्रिकल्स लिमिटेड / BHARAT HEAVY
ELECTRICALS LIMITED
पारेषण व्यापार समूह / Transmission Business
Group
सामग्री प्रबंधन / Materials Management

Project : LTHPL LANCO TEESTA (NHPC)

Enquiry No	Enquiry Date	Rev No	Rev Date	PI No	Enquiry Type	Inspection by	Due Dt	Commercial Comments	Technical Comments	Signing Authority
25Q2300060	02-Jun-22	0		25I2300286	Package		14-Jun-22	AS PER NIT	As per Tech Spec No. TB-415-316-013 and Technical QR	Shipra Gupta

Equipment Detail

SN	Material Code	Equipment	HSN Code	Phy Unit	Qty	Plan Dt	Comments
1	TB9250600791	SUPPLY- MK & JB : IP65, JUNCTION BOX WITH DISCONNECTING TYPE 130 TBS	0	NO	2.0000		
2	TB9250600874	SUPPLY- MK & JB : IP65, JUNCTION BOX WITH DISCONNECTING TYPE 45 TBS	0	NO	2.0000		

Instructions to Bidders

You are requested to submit your most competitive offer so as to reach us positively by the tender opening date & time. THE TENDERS NOT RECEIVED WITHIN SCHEDULED DATE AND TIME ARE LIKELY TO BE IGNORED. BHEL shall not be responsible for any postal delay.

In your own interest, you are advised to carefully read "the instructions to bidders". Incomplete bids and/or bids not complying with tender conditions shall be treated as non-responsive and are likely to be ignored.

In case Tender Documents are not received within 7 days of this E-mail message, intimate BHEL accordingly. If no intimation is received, it will be considered that you have received tender enquiry and delay in submission offer due to late receipt of tender documents will not be entertained.

You are requested to submit your most competitive offer as stated in Terms & conditions.

BHEL reserves the right to opt for reverse auction for obtaining best prices.

Offers Through E-MAIL / FAX / E-Procurement Portal: WHOSEVER DESIRES TO SEND OFFERS ON THEIR OWN RISK (COMPLETE IN ALL RESPECTS) VIA E-MAIL or FAX HAVE TO SEND THE OFFERS TO THE COMMON E-MAIL ADDRESS tenderbox@bhel.in or 0120-6748581 FAX or bhel.abc.procure.com as instructed. THE RECEIVED EMAIL OFFERS WILL BE PRINTED BY PURCHASE COORDINATOR AND PUT THEM INTO COVERS AS PER CONVENTIONAL METHOD FOR TENDER OPENING I.E., TECHNO COMMERCIAL & PRICE OFFER SHALL BE PUT INTO TWO SEPARATE COVERS AND BOTH THE COVERS ARE KEPT IN THIRD COVER DULY SUPER SCRIBING ENQY. NO. AND DUE DATE. OFFERS SENT TO ANY OTHER E-MAIL ID or FAX NO AND INCOMPLETE OFFERS SHALL NOT BE CONSIDERED FOR EVALUATION PURPOSE. The venders who has sent offers with password, the passwords are to be forwarded to email id: tenderbox@bhel.in

It is suggested that the bidders are advised to send the files with 'password protection'.

भारत हेवी इलेक्ट्रिकल्स लिमिटेड के लिए / for BHARAT HEAVY ELECTRICALS LTD

Please acknowledge the receipt of tender enquiry and e-mail/fax back this letter by ticking the appropriate item below.

We acknowledge the receipt of tender.

(a) The offer against subject enquiry shall be submitted by the scheduled date and time.

(b) We regret to quote. The item in reference is out of our manufacturing range.

(c) We regret because of our prior commitments.

(d) Any other reason.

To
Shipra Gupta
Bharat Heavy Electricals Limited
Transmission Business Group
Tower-A,5th Floor,
Advant Navis IT Business Park,
Plot No-7,Sector-142,Expressway Noida
Noida-201305
Distt. Gaut am BudhNagar,U.P
Ph: 0120-6748137

हस्ताक्षर और निविदाकार की सील / Signature and Seal of Tenderer

Enquiry No : 25Q2300060 Enquiry Date: 02-Jun-22

Addendum to General Terms and Conditions (GTC)

1	Offer Submission/ Opening Time	Offer Submission Time: 14:00 Hrs IST Offer Opening Time: 14:30 Hrs IST
2	Instruction to Bidder(s)	<p>I. 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>II. 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>III. Endorsed LR is not required in GST Regime.</p> <p>IV. 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 CUSTOMER. Necessary credentials/documents to be submitted for approval by Customer.</p>
3	Offer Submission Mode	<p>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://bhel.abcprocure.com</p> <p>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.</p>
4	Validity of Purchase Order	Purchase order shall be valid for two (02) 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 Annexure-I . The bidder must ensure that they confirm the PQR (Technical)
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	Project Status	Domestic/Export. GST shall be payable as applicable.
9	Delivery Plan	As per Activity Schedule (Annexure-II).
11	Terms of Payment	As per clause 3.1 to 3.7 of GTC (as applicable) . Supplier to submit bills alongwith billing checklist as per Annexure-III
12	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>Separate BG for Spares shall be submitted alongwith BG for main supply items.</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>
13	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 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>
14	Arbitration	As per Annexure-IV

Addendum to General Terms and Conditions (GTC)

15	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-2020" may also be seen at BHEL website (www.bhel.com) on "Supplier Registration" Page.</p>
16	Splitting of Contract	Splitting of Contract not applicable for this tender.
17	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 and Class II suppliers as defined under the DPIIT order no. P-45021/2/2017-PP (BE-II) dated 04.06.2020 are eligible to bid in this tender. Bids received from Class-II & Non-Local supplier shall be rejected."</p>
18	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.
19	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>
20	Integrity Pact	As per Annexure-XI.
21	Risk and Cost	As per Annexure-XII
22	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>
23	Docuemts 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
24	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>
25	Start-up India	Start-up vendors to submit applicable documents alongwith their offers for availing the benefits as per GOI guidelines.

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://eprocure.gov.in/>)

(Sign and seal of Bidder)

SCHEDULE OF COMMERCIAL DEVIATION

This Format is to be submitted in original duly signed by bidder.
The following are the deviations/variations/exceptions from the Terms and Conditions :-

S N	CLAUSE NO. OF TERMS AND CONDITIONS	STATEMENT OF DEVIATION

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

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

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

Place :
Date :

Signature of the authorised representative of
Bidder's name :.....
Designation:.....
Company Seal:.....

SCHEDULE OF TECHNICAL DEVIATION

This Format is to be submitted in original duly signed by bidder.
The following are the deviations/variations/exceptions from the Terms and Conditions :-

S N	CLAUSE NO. OF TERMS AND CONDITIONS	STATEMENT OF DEVIATION

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

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

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

Place :
Date :

Signature of the authorised representative of
Bidder's name :.....
Designation:.....
Company Seal:.....



ACTIVITY SCHEDULE (ANNEXURE-II)

ENQUIRY NO. -

PROJECT -

BIDDER NAME -

(SEPARATE ACTIVITY SCHEDULE TO BE FILLED-UP FOR EACH PROJECT BY THE SUPPLIER)

Name of Bidder:-

Please fill here

SI. NO.	ACTIVITY	ACTIVITY TIME IN WEEKS	REMARKS IF ANY
1	Inputs to vendor by BHEL. Last inputs date will consider		BHEL Activity
2	Submission of Documents necessary for getting manufacturing clearance like Drawings, Date sheet etc.		Vendor to fill ensuring Delivery completion date mentioned by BHEL in the NIT
3	Approval of documents/ Manufacturing Clearance from BHEL / Customer *	4	BHEL Time to issue Manufacturing Clearance
4	Manufacturing time		Vendor to fill ensuring Delivery completion date mentioned by BHEL in the NIT
5	Inspection call		Vendor to fill ensuring Delivery completion date mentioned by BHEL in the NIT
6	Customer Inspection & Dispatch Clearance	2	BHEL Time to issue MICC
7	Dispatch		Vendor to fill ensuring Delivery completion date mentioned by BHEL in the NIT
8	ETC site		Not Applicable

Note: 1) * Supplier must ensure the completeness and correctness of the requisite documents before submission for approval. Delay in approval on account of incomplete/inadequate information shall be the responsibility of supplier.

2) Inspection call should be given in the prescribed format only. Inspection calls not in the prescribed format shall not be entertained.

3) Qty. to be offered for Inspection should be in accordance within Delivery- schedule - lot BHEL reserves the right not to entertain multiple inspection calls for a Delivery- lot and delay on this account shall be the responsibility of Supplier.

DATE

PLACE

SIGN AND STAMP OF BIDDER

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	Received 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 atatched along with supply Invoice 2. Calculation sheet and applicable PVC indices are also enclosed 3. If delay in delivery, then PVC indices 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.				

Check List for Supply bills

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 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	Received 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 nedded 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 valdity 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 Certfcate	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 attached along with supply Invoice 2. Calculation sheet and applicable PVC indices are also enclosed 3. If delay in delivery, then PVC indices are as per PO conditions.				
9			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				

Check List for Freight(Exclusive as per Transportation contract)

Check List for Freight(Exclusive as per Transportation contract)							
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	Invoice	1 Original	Freight Invoice Invoice for the Main Supply submitted				
2	Receipted LR (signed & stamped)/ confirmation from site regarding receipt of packages/ Boxes	1 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	Transporter's document indicating the freight amount. Original money receipt to be submitted if required as per SCC	1 Original	As per Rate Contract (if any)/ WO.				
4	PVC (If applicable) Invoice is submitted along with the Despatch Invoice		1. PVC invoice is attached along with supply Invoice 2. Calculation sheet and applicable PVC indices are also enclosed 3. If delay in delivery, then PVC indices are as per PO conditions.				
5	LD Calculation, if applicable		Calculation Sheet of LD due to delay in delivery is attached				
6	MRC		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 of supply 4. It is signed and stamped by Site executive 5. In case of any shortages / damages / adverse remark , clarification is needed				
	Invoice control No				Vendor Signature	MM Signature	Finance Signature
					Date:	Date:	Date:

Applicable check list for MRC Bills:							
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	Invoice	1 Original	MRC Bill enclosed				
2	Material Receipt Certificate	1 Copy	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 of supply 4. It is signed and stamped by Site executive 5. In case of any shortages / damages / adverse remark , clarification from site/MM/CM is needed				
3	Submission of all final documents for the packages as detailed in Anx-10 of GCC rev 00, duly certified by Engg. Deptt. of purchaser or As per PO	1 Copy	Certificate as per PO requirement is attached				
Note*	Every Field to be ticked. If some documents is not applicable, same should be mentioned, All Pages to be numbered starting from the Last Page.						
	Invoice control No				Vendor Signature	MM Signature	Finance Signature
					Date:	Date:	Date:

(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:

- a. On the date of signing of the Settlement agreement by the Parties; or,
- b. 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,
- c. 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,
- d. 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.
- e. 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>	<p>As per entitlement of the equivalent officer (pay scale wise) in BHEL.</p>
	Others	<p>As per the extant entitlement of whole time Functional Directors in BHEL.</p>

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):

SI. 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.*

Item/Package Name :	
Enquiry No.:	
Project:	
Type of project	
Percentage of Local Content	(Bidder to enter the applicable % of local content)

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

Format of Self certification regarding Local Content in line with PPP-MII order, 2017 & its revision dated 04.06.2020.

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.

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

Item/Package Name :	
Enquiry No.:	
Project:	
Type of project	
Percentage of Local Content	<i>(Bidder to enter the applicable % of local content)</i>

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

- 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 or 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 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 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
1	<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>	<p align="center"><i>Agreed</i></p>

(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 :
Project :
Name of items/Package :

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

Annexure-XI

INTEGRITY PACT:

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

(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 Monitor (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

Details of IEM for this tender is furnished below

Name: Shri Arun Chandra Verma, IPS (Retd.)

Email: acverma1@gmail.com

Name: Shri Virendra Bahadur Singh, IPS (Retd.)

E-mail: ybsinghips@gmail.com

(b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-1, 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 IEM shall be done through e-mail only.

Note: No routine correspondence shall be addressed to the IEM (Phone/post/email) regarding the clarification, 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 as mentioned on Point 2 & 3.

INTEGRITY PACT

Between

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

and

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

Preamble

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

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

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

Section 1- Commitments of the Principal

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

1.1.3 The Principal will exclude from the process all known prejudiced persons.

1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions:

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

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant 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 will 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 or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 4 - Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to

demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher.

Section 5 - Previous Transgression

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

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

- 6.1 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors. In case of sub-contracting, the Principal contractor shall be responsible for the adoption of IP by his sub-contractors and shall continue to remain responsible for any default by his sub-contractors:
- 6.2 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 - Criminal Charges against violating Bidders/ Contractors /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 Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality in line with Non- disclosure agreement.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

- 8.5 The role of IEMs is advisory, would not be legally binding and it is restricted to resolving issues raised by an intending 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, the matter should be examined by the full panel of IEMs jointly as far as possible, 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 CMD, BHEL, at the earliest. They may also send their report directly to the CVO and the Commission, in case of suspicion of serious irregularities requiring legal/ administrative action. IEMs will tender their advice on the complaints within 10 days as far as possible.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.9 IEM 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 organization should be looked into by the CVO of the concerned organisation.
- 8.10 If the Monitor has 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 Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.12 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

- 9.1 This Pact shall be operative from the date IP 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. Issues like warranty / guarantee etc. should be outside the purview of IEMs.
- 9.2 If any claim is made/ lodged during currency of IP, 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 agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

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

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

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

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

For & On behalf of the Principal

(Office Seal)

Place-----

Date-----

Witness:_____

(Name & Address) _____

For & On behalf of the Bidder/
Contractor

(Office Seal)

Witness:_____

(Name & Address) _____

**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.

Sr. No.	
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>

Sr. No.	
	<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>

Sr. No.	
	<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>

Sr. No.	
	<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>

Sr. No.	
	<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>

Sr. No.	
	<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

Sr. No.	
	<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 suppliers / contractors 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>

Sr. No.	
	<p>Order / Contract or any other Purchase Order / Contract executed by the supplier / contractor.</p> <p>Note :</p> <p>i) In case of Illumination System, items viz. Lamps, Tubes, Ballast, Starters, Capacitors & Fuses will not be under Guarantee after commissioning.</p> <p>ii) In addition to the above guarantee period, Extended Guarantee / Warranty, if any, shall be as per NIT / Technical Specifications.</p> <p>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.</p>
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> <p>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.</p> <p>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.</p> <p>iii) Unless otherwise specified in the NIT, deviation taken for non-submission of PBG / Deposit, as applicable, shall not be accepted.</p>

Sr. No.	
	<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>

Sr. No.	
	<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 : 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 : Delivery / Completion requirement shall be mentioned in the NIT. Bidder to specify best delivery / completion period possible in weeks from the date of LOI / PO as per activity schedule for consideration by BHEL. Time required for type test, if applicable, is to be separately indicated. Note : LR / GR date or invoice date (whichever is later) for indigenous supplies and BL / AWB date for FOB / CIF (if applicable) contracts shall be considered as delivery date.</p>
13.	<p>LIQUIDATED DAMAGES FOR DELAYED DELIVERY: In case of delay in execution of Purchase Order beyond the contractual delivery time, an amount of 0.5% of the total Purchase Order value for supply (incl. taxes and duties, 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. 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. Note : 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</p>

Sr. No.	
	later than six months from the end of the financial year in which the payment is withheld. Based on the above details / documents submitted by the supplier, BHEL shall take final decision and if considered appropriate by BHEL, withheld amount (full or part as the case may be) shall be released, otherwise, full or balance withheld amount shall be treated as deduction of Liquidated Damages (LD) towards delayed delivery.
14.	<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>

Sr. No.	
	<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 / Contractor firm on account of cancellation of the Purchase Order / Contract.</p> <p>Decision of BHEL that legal representatives of deceased Supplier / Contractor or</p>

Sr. No.	
	<p>surviving partners of the Supplier / 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 : 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 : 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 : 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>

Sr. No.	
	<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

Sr. No.	
	iv) Type of Cargo (Break Bulk / LCL / FCL) v) Customs Tariff No.
30.	<p>COLOUR CODING : Aluminium stickers are required to be attached to large components but plastic sheet tags should be tied with small components, giving details like purchase order, description of the component, quantity etc. Tags should be of the colour as follows :- 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</p>
31.	<p>MICRO, SMALL & MEDIUM ENTERPRISES (MSME) : MSMED Act 2006 as amended from time to time & extant regulations of Govt. of India for MSME will be applicable. Micro & Small Enterprises (MSE) can avail the intended benefits only if they submit along with the offer / bid, attested copies of either Acknowledgement of Entrepreneur Memorandum Part-II (EM-II certificate) having deemed validity (five years from the date of issue of acknowledgement in EM-II) or valid NSIC certificate or EM-II certificate along with attested copy of a CA certificate (As per BHEL format where deemed validity of EM-II certificate of five years have expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of opening (for Techno-commercial Bid : Part-I in case of two part bid). Non-submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or arrested (in original) by a Gazetted officer. Copy of Udyog Aadhaar Memorandum with Acknowledgement of Ministry of Micro, Small & Medium Enterprises should also be furnished.</p>
32.	<p>BUSINESS ETHICS / SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS / CONTRACTORS : If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution, indulges in malpractices cheating, bribery, fraud or other misconduct or formation of cartel so as to influence the bidding process or influences the price or fails to perform or is in default without any reasonable cause etc or performs any act considered objectionable as per extant %Guidelines 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 : BHEL reserve the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder or price bid submitted by the bidder through e-procurement system. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA. In case BHEL decides to go for Reverse Auction, only those bidders who have given their unconditional acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit %online sealed bid in the Reverse Auction. Non-submission of %online sealed bid by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue. General Terms and Conditions of RA are available at Annexure. Business Rules for</p>

Sr. No.	
	<p>RA shall be sent to the bidders before conducting RA. Abridged Version of %Common Guidelines for Conducting Reverse Auction+may also be seen at BHEL website (www.bhel.com) on %Supplier Registration+ Page & %Tender Notifications+Page.</p>
34.	<p>INTEGRITY PACT : Bidders shall have to enter into Integrity Pact with BHEL, duly signed with seal in original, if specified in NIT / RFQ failing which bidder's offer shall be liable for rejection.</p>
35.	<p>TERMINATION OF CONTRACT : BHEL shall have the right to cancel the Purchase Order / Contract without any financial implication to BHEL if vendor approval by end user / customer is withdrawn or in case of Suspension of Business Dealings with the Suppliers / Contractors by BHEL.</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 : 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 : 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>

Sr. No.	
	<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>

Sr. No.	
	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

Certificate by Chartered Accountant on letter head

This is to Certify that M/S
(hereinafter referred to as 'company') having its registered office at
..... is registered under MSMED Act 2006, (Entrepreneur
Memorandum No (Part-II) dtd:.....,
Category: (Micro/Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per the latest audited financial year as per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722(E) dated October 5, 2006 :
Rs.....Lacs
2. **For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006:
Rs.....Lacs

(Strike off whichever is not applicable)

The above investment of Rs.....Lacs is within permissible limit of Rs.....Lacs forMicro / Small (Strike off which is not applicable) Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/ Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:



(Signature)

Name -

Membership number -

Seal of Chartered Accountant

Annexure for List of Banks (32 Nos.)

Sr. No.	Name of Bank
1	Allahabad Bank
2	Andhra Bank
3	Bank of Baroda
4	Canara Bank
5	Corporation Bank
6	Central Bank
7	Indian Bank
8	Indian Overseas Bank
9	Oriental Bank of Commerce
10	Punjab National Bank
11	Punjab & Sindh Bank
12	State Bank of India
13	State Bank of Hyderabad
14	Syndicate Bank
15	State Bank of Travancore
16	UCO Bank
17	Union Bank of India
18	United Bank of India
19	Vijaya Bank
20	IDBI
21	CITI Bank N. A.
22	Deutsche Bank AG
23	The Hongkong and Shanghai Banking Corporation Limited
24	Standard Chartered Bank
25	J P Morgan
26	Axis Bank
27	The Federal Bank Limited
28	HDFC
29	Kotak Mahindra Bank
30	ICICI
31	Indusind Bank
32	Yes Bank

**SOURCING STRATEGY & POLICY
CORPORATE OPERATIONS MANAGEMENT
BHEL – NEW DELHI**

AA:SSP:RA:05:amdt01

Dated: 10.03.2021

(Circular No. 45 of 2020-21)

Sub: Guidelines for Reverse Auction - 2021

Pursuant to the issue of Circular no. 44 of 2020-21 dated 08.03.2021 on Guidelines for Reverse Auction - 2021, following is to be noted with respect to clause 10.1:

1. In case of two or three techno-commercially qualified bidders, there shall be no elimination of H1 bidder (whose quote is highest in sealed envelope price bid).
2. In case of four qualified bidders, H1 bidder to be eliminated whereas in case of five qualified bidders, H1 and H2 bidders are to be eliminated.

Accordingly, Clause 10.1 of Guidelines for Reverse Auction - 2021 has been amended and the document is enclosed.

Based on above, Units/ Regions may issue/ modify necessary work instructions/ departmental procedures etc.

This issues with the approval of Competent Authority.



(C. Venkat Rao)
GM/ SS&P

Distribution:

- All Heads of Units/ Regions
- All Heads of MM of Units/ Regions
- SS&P page on Corporate Office intranet - <http://intranet.bhel.in>
- CVO - for kind info please
- SA to Director (Fin)/(E, R&D)/(HR)/(IS&P)/(Power) - for kind info of Director
- SA to CMD - for kind info of CMD

**SOURCING STRATEGY & POLICY
CORPORATE OPERATIONS MANAGEMENT
BHEL – NEW DELHI**

AA:SSP:RA:05
Dated: 08.03.2021

(Circular No. 44 of 2020-21)

Sub: Guidelines for Reverse Auction – 2021

Guidelines for Reverse Auction (RA) were last revised in March 2020. Based on implementation feedback from Units/ Regions and deliberation with various agencies, the revised RA guidelines are attached herewith.

Following are the major changes:

1. Start price for RA to be L1 of e-bid/ sealed envelope price bids.
2. Minimum two techno-commercially qualified bidders are required to conduct RA.
3. Wherever six or more techno-commercially qualified bidders are available, RA would be conducted amongst first 50% of the bidders arranged in the order of prices from lowest to highest. Number of bidders eligible for participating in RA would be rounded off to next higher integer value if number of techno-commercially qualified bidders is odd (e.g. if 7 bids are technically qualified, then RA will be conducted amongst lowest four bidders). However, there will be no elimination of bidders who are MSE or qualifying under PPP-MII Order, 2017.

These revised guidelines shall be applicable for:

- (a) all NITs issued on or after 15 days from the date of issue of the circular,
- (b) NITs already issued with upfront declaration of RA and where techno-commercial bids (Part-I) are yet to be opened by issuing suitable corrigendum, if required

All other ongoing cases would be dealt as per existing guidelines.

AKG
08/03/21

Based on above, Units/ Regions may issue/ modify necessary work instructions/ departmental procedures etc.

This issues with the approval of Competent Authority.



(C. Venkat Rao)
GM/ SS&P

Distribution:

- All Heads of Units/ Regions
- All Heads of MM of Units/ Regions
- SS&P page on Corporate Office intranet - <http://intranet.bhel.in>
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- SA to CMD - for kind info of CMD



GUIDELINES FOR REVERSE AUCTION - 2021

(AA:SSP:RA:05 dated 08.03.2021)

Amendment No.	Date of issue	Remarks
01	10.03.2021	Clause 10.1 modified

**SOURCING STRATEGY & POLICY
CORPORATE OPERATIONS MANAGEMENT
BHEL, New Delhi**

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05
Dated: 08.03.2021

1.0 Scope

This document describes the guidelines to be followed by each Unit/ Division/ Region for conducting Reverse Auction (RA) for procurement of material/ works/ services. These guidelines will be applicable for all purchases/ contracts to be awarded under Purchase/ Works policy and the RA shall follow the philosophy of English Reverse (No ties). Based on these guidelines, Units/ Divisions/ Regions (hereinafter referred as 'units') may issue their own Departmental Procedures without changing the intent and spirit of the guidelines contained in this document. These guidelines will supersede earlier guidelines issued vide AA:SSP:RA:04 dated 04.03.2020.

English Reverse (No ties) is a type of auction where the starting price and bid decrement are announced before start of online reverse auction. The interested bidders can thereupon start bidding in an iterative process wherein the lowest bidder at any given moment can be displaced by an even lower bid of a competing bidder, within a given time frame. The bidding is with reference to the current lowest bid in the reverse auction. All bidders will see the current lowest quoted price and their rank. The term 'No ties' is used since more than one bidder cannot give an identical price, at a given instant, during the reverse auction. In other words, there shall never be a tie in the bids.

2.0 Intent of Reverse Auction

To derive maximum benefit in cost savings through competitive bidding.

3.0 Upfront declaration in NIT

Wherever it is felt that procurement may be done through Reverse Auction, the bids shall be invited in two parts/ three parts or single part bid (Price Bid) where Techno-Commercial MoU already exists. Wherever, the evaluation is done for individual line item, separate sealed envelope price bid for each line item shall be taken.

Decision to go for RA would be taken before floating of the tender. In case it is decided to go for RA, same shall be declared upfront in NIT by inserting the following **clause**:

"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-

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05
Dated: 08.03.2021

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."

4.0 Aspects to be considered for RA

Following aspects may be considered by the competent authority (empowered to approve the ordering) to decide before floating of the tender if RA is to be conducted for that particular tender:

- a) Number of techno-commercially qualified bidders in previous tender for same/ similar class of item
- b) Price volatility of the item(s) under consideration
- c) Past purchase experience of similar item(s)
- d) Tender Value of the item(s) under procurement
- e) Any other aspect which may be specific to tender

Note: Decision to go for RA or not will be on case to case basis with recorded reasons.

5.0 RA Committee

Purchase/ Tender committee, if already in place, shall also act as RA committee. Purchase representative will be the convener. In case Purchase/ Tender committee has not been formed, the Product Manager/ MM Head/ Department Head, shall constitute RA committee consisting of representatives (*rank as per DoP of tender/ negotiation committee*) from departments of Engineering/ Indenter/ User, Purchase and Finance. This committee will work for a specific tender. The role of RA committee shall be as below:

- To vet the comparative statement comprising sealed envelope price bids received, MSE status, qualification against Public Procurement (Preference to Make in India), Order 2017 (PPP-MII, Order 2017) of all techno-commercially qualified bidders, loading etc. before sending it to the service provider for RA.
- To decide and record the 'Start-Price' and 'Bid Decrement'.
- To observe the RA process and declare RA as successful.

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05
Dated: 08.03.2021

6.0 Business rules for RA

Model Business rules (annexure I) and other annexures II to VI are attached. MM shall prepare and fill in the required details in the annexures at appropriate places like:

- Enquiry/ Request for Quotation (RFQ) number
- Name and Addresses of the bidders
- Items description, quantities/ weight, Specification
- Date and time of opening and closing of RA
- Extension conditions
- Loading Criteria/ Formulae
- Foreign Exchange (FE) rates for evaluation
- Taxes & Duties
- Freight & Insurance
- Bidders' training, if required, etc.

The calculation sheet e.g. excel sheet (which will help to arrive at 'Total Cost to BHEL') which is communicated to respective bidders of RA, will be prepared by MM and vetted by Finance. This calculation sheet will be finalized based on the evaluation criteria specified in the NIT and will be same based on which sealed envelope price bids have been evaluated.

MM shall issue a mandate (annexure II) to the service provider covering business rules etc. and inform about event, calculation sheet etc. to all techno-commercially accepted bidders.

7.0 Role of Service Provider

- Acknowledge the receipt of mandate from BHEL.
- Contact the bidders, provide business rules and train them, as required.
- Get the process compliance form (annexure III) signed by all the participating bidders before RA event.
- Conduct the event as per the contract and business rules.
- Submit the Login Reports, Results, History sheet and authorized final bid from the bidders.
- To obtain price breakup from successful bidder and submit the same to BHEL.

8.0 Start price for RA shall be lowest of sealed envelope price bid.

Note: Wherever more than one lowest sealed envelope price bids are identical, RA committee shall declare the start price by reducing the lowest sealed envelope price bid by maximum of one decrement.

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05

Dated: 08.03.2021

amdt01 dated 10.03.2021

9.0 Witnessing Auction

Access to witness the RA shall be available to the concerned officials of BHEL (Indenter/ Finance Officials/ Purchase Officials), nominated by Head MM/ Purchase/ Contracts.

10.0 Reverse Auction Process

10.1 Reverse Auction will be conducted if two or more bidders are techno-commercially qualified. In case of two or three qualified bidders, there shall be no elimination of H1 bidder (whose quote is highest in sealed envelope price bid). In case of four qualified bidders, the H1 bidder shall be eliminated whereas in case of five qualified bidders, H1 & H2 bidders shall be eliminated. However, in case of six or more qualified bidders are available, RA would be conducted amongst first 50% of the bidders arranged in the order of prices from lowest to highest. Number of bidders eligible for participating in RA would be rounded off to next higher integer value if number of qualified bidders is odd (e.g. if 7 bids are qualified, then RA will be conducted amongst lowest four bidders). However, there will be no elimination of qualified bidders who are MSE or qualifying under PPP-MII, Order 2017, irrespective of the number of bidders qualifying techno-commercially.

In case of multiple H1 bidders, all H1 bidders (excluding MSEs and bidders qualifying under PPP-MII, Order 2017) shall be removed provided minimum two bidders remain in fray, else no H1 removal.

10.2 The lowest bidder in sealed envelope price bid shall be shown as current L1 automatically by the system. System shall have the provision to indicate this bid as current L1 for further bidding. This price can be displaced by an even lower bid of a competing bidder.

If the start price is lower than the lowest sealed envelope price bid (in line with clause 8.0), on acceptance of such start price by any bidder this bid would be indicated as current L1 for further bidding. However, if no bidder accepts the start price, RA shall be treated as cancelled for the respective line item(s) and the tender shall be processed accordingly.

In case of no further bidding, RA will be deemed to have been successful with current L1 bidder. During RA, all bidders will see their rank and current L1 price on the screen. Once the RA is done, the ranking status would be based on the last quoted price of the bidder(s) irrespective of the quote received in RA or sealed envelope price bid.

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05
Dated: 08.03.2021

- 10.3 No bidder shall be allowed to lower its bid below the current L1 by more than 5 decrements at one go.

11.0 Processing of case after RA

- 11.1 Wherever the evaluation is done on total cost basis, after Reverse Auction, prices of individual line items shall be reduced on pro-rata basis.
- 11.2 In case of splitting requirement, bidders who were removed from participation in RA may also be considered for counter offer if the pre-stated (NIT) numbers of suppliers do not accept the counter offer. However, principle of splitting to N-1 bidder shall be maintained in line with extant Purchase Policy/ Work Policy.
- 11.3 Reasonability of rates received through RA to be ascertained as per extant Policy provisions.

12.0 Payment to the Service Provider

Payment shall be made as per the agreed terms of the Framework Agreement with the service provider based on the mandate issued and service provider's invoice certified by the respective MM. If the RA event is conducted as per the mandate given by BHEL and agreed procedure, payment shall be made to the service provider irrespective of the auction outcome.

13.0 Others

- 13.1 If RA is being conducted for multiple line items and L1 is to be decided for individual items, number of items in single screen be restricted to 10 (ten) to avoid scrolling by the bidders.
- 13.2 In case of enquiry through e-Procurement, the sealed electronic price bid (e-bid) is to be treated as sealed envelope price bid.
- 13.3 BHEL will inform bidders the details of service provider who will provide business rules, all necessary training and assistance before commencement of online bidding.
- 13.4 Bidders will be advised to read the 'Business Rules' indicating details of RA event carefully, before reverse auction event.
- 13.5 Model annexures are enclosed. However, to suit specific requirement of the Units changes in the annexures may be done with the approval of respective MM Head of Unit. Such changes shall specifically be communicated to the service provider before the RA event.

---XXX---

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05

Dated: 08.03.2021

Business Rules for Reverse Auction

Annexure – I

This has reference to tender no **{tender number....date...}**. BHEL shall finalise the Rates for the supply of *{item name}* through Reverse Auction mode. BHEL has made arrangement with M/s. *{Service provider}*, who shall be BHEL's authorized service provider for the same. Bidders should go through the instructions given below and submit acceptance of the same.

The technical & commercial terms are as per (a) BHEL Tender Enq. No. {...} dated {...}, (b) Bidders' technical & commercial bid (in case of two part bid) and (c) subsequent correspondences between BHEL and the bidders, if any.

1. Procedure of Reverse Auctioning

- i. Price bids of all techno-commercially qualified bidders shall be opened.
- ii. **Reverse Auction:** The 'bid decrement' will be decided by BHEL.
- iii. The lowest bidder in sealed envelope price bid shall be shown as current L1 automatically by the system and no acceptance of that price is required. System shall have the provision to indicate this bid as current L1.
- iv. Bidders by offering a minimum bid decrement or the multiples thereof can displace a standing lowest bid and become "L1" and this continues as an iterative process. However, no bidder shall be allowed to lower its bid below the current L1 by more than 5 decrements at one go.
- v. After the completion of the reverse auction, the Closing Price shall be available for further processing.
- vi. Wherever the evaluation is done on total cost basis, after Reverse Auction, prices of individual line items shall be reduced on pro-rata basis.

2. Schedule for reverse auction: The Reverse Auction is tentatively scheduled on *{date}*: *{start time}*: *{Close Time}*: *}*.

3. Auction extension time: If a bidder places a bid in the last {...} minutes of closing of the Reverse Auction and if that bid gets accepted, then the auction's duration shall get extended automatically for another {...} minutes,

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05
Dated: 08.03.2021

Business Rules for Reverse Auction

Annexure – I

for the entire auction (i.e. for all the items in the auction), from the time that bid comes in. Please note that the auto-extension will take place only if a bid comes in those last {...} minutes and if that bid gets accepted as the lowest bid. If the bid does not get accepted as the lowest bid, the auto-extension will not take place even if that bid might have come in the last {...} minutes. In case, there is no bid in the last {...} minutes of closing of Reverse Auction, the auction shall get closed automatically without any extension. However, bidders are advised not to wait till the last minute or last few seconds to enter their bid during the auto-extension period to avoid complications related with internet connectivity, network problems, system crash down, power failure, etc.

The above process will continue till completion of Reverse Auction.

Complaints/ Grievances, if any, regarding denial of service or any related issue should be given in writing thru e-mail/ fax to M/s. {Service provider} with a copy to BHEL within 15 minutes prior to initial closing time of Reverse Auction.

4. **Bid price:** The Bidder has to quote the {...} Price inclusive of Packing & Forwarding charges, all the routine & type tests as per tender scope, taxes, duties, freight and insurance as specified in tender document, including loading (if indicated by BHEL due to deviations in technical/ commercial terms) for the Items specified. Details are as shown in Excel Sheet for calculation of total cost to BHEL (To be specified by Unit as per NIT conditions).
5. **Bidding currency and unit of measurement:** Bidding will be conducted in *Indian Rupees per Unit* of the material as per the specifications {...}

In case of foreign currency bids, exchange rate (TT selling rate of State Bank of India) as on scheduled date of tender opening (Part-I bid) shall be considered for conversion in Indian Rupees. 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.

6. **Validity of bids:** Price shall be valid for {... days} from the date of reverse auction. These shall not be subjected to any change whatsoever.

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05
Dated: 08.03.2021

Business Rules for Reverse Auction

Annexure – I

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7. **Lowest bid of a bidder:** In case the bidder submits more than one bid, the lowest bid at the end of Reverse Auction will be considered as the bidder's final offer to execute the work.
 8. Unique user IDs shall be used by bidders during bidding process. All bids made from the Login ID given to the bidders will be deemed to have been made by the bidders/ bidders' company.
 9. **Post auction procedure:** BHEL will proceed with the Lowest Bid in the Reverse Auction for further processing.
 10. Any commercial/ technical loading shall be separately intimated to respective bidders prior to RA. The excel sheet provided in this regard shall cover all these aspects. Commercial/ technical loading if any, shall be added by the respective bidder in its price during Reverse Auction. Modalities of loading & de-loading shall be separately intimated to the bidders. The responsibility for correctness of total cost to BHEL shall lie with the bidders.
 11. Reverse auction shall be conducted by BHEL (through M/s {Service Provider}), on pre-specified date, while the bidders shall be quoting from their own offices/ place of their choice. Internet connectivity shall have to be ensured by bidders themselves.

During the RA process if a bidder is not able to bid and requests for extension of time by FAX/ email/ phone then time extension of additional 15 minutes will be given by the service provider provided such requests come before 5 minutes of auction closing time. However, only one such request per bidder can be entertained.

In order to ward-off contingent situation of connectivity failure bidders are requested to make all the necessary arrangements/ alternatives whatever required so that they are able to circumvent such situation and still be able to participate in the reverse auction successfully. Failure of power or loss of connectivity at the premises of bidders during the Reverse auction cannot be the cause for not participating in the reverse auction. On account of this, the time for the auction cannot be extended and neither BHEL nor M/s. {Service provider} is responsible for such eventualities.

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05

Dated: 08.03.2021

Business Rules for Reverse Auction

Annexure – I

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- 12.** Proxy bids: Proxy bidding feature is a pro-bidder feature to safe guard the bidder's interest of any internet failure or to avoid last minute rush. The proxy feature allows bidders to place an automated bid in the system directly in an auction and bid without having to enter a new amount each time a competing bidder submits a new offer. The bid amount that a bidder enters is the minimum that the bidder is willing to offer. Here the software bids on behalf of the bidder. This obviates the need for the bidder participating in the bidding process until the proxy bid amount is decrementally reached by other bidders. When proxy bid amount is reached, the bidder (who has submitted the proxy bid) has an option to start participating in the bidding process.

The proxy amount is the minimum amount that the bidder is willing to offer. During the course of bidding, the bidder cannot delete or change the amount of a proxy bid.

Bids are submitted in decrements (decreasing bid amounts). The application automates proxy bidding by processing proxy bids automatically, according to the decrement that the auction originator originally established when creating the auction, submitting offers to the next bid decrement each time a competing bidder bids, regardless of the fact whether the competing bids are submitted as proxy or standard bids. However, it may please be noted that if a manual bid and proxy bid are submitted at the same instant manual bid will be recognized as the L1 at that instant.

In case of more than one proxy bid, the system shall bid till it crosses the threshold value of 'each lowest proxy bid' and thereafter allow the competition to decide the final L1 price.

Proxy bids are fed into the system directly by the respective bidders. As such this information is privy only to the respective bidder(s).

- 13.** Bidders are advised to get fully trained and clear all their doubts such as refreshing of Screen, quantity being auctioned, tender value being auctioned etc from M/s {Service provider}.
- 14.** M/s. {Service provider}, shall arrange to demonstrate/ train the bidder or bidder's nominated person(s), without any cost to bidders. M/s. {Service provider}, shall also explain the bidders, all the business rules related to the
-

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05

Dated: 08.03.2021

Business Rules for Reverse Auction

Annexure – I

Reverse Auction. Bidders are required to submit their acceptance to the terms/ conditions/ modalities before participating in the Reverse Auction in the process compliance form as enclosed. Without this, the bidder will not be eligible to participate in the event.

15. Successful bidder shall be required to submit the final prices (L1) in prescribed format (Annexure – VI) for price breakup, quoted during the Reverse Auction, duly signed and stamped as token of acceptance without any new condition (other than those already agreed to before start of auction), after the completion of auction to M/s. {Service provider} besides BHEL within two working days of Auction without fail.
16. Any variation between the final bid value and that in the confirmatory signed price breakup document will be considered as tampering the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings (as available on www.bhel.com).
17. Bidders' bid will be taken as an offer to execute the work/ supplies the item as per enquiry no. {...} dt. {...}. Bids once made by the bidder, cannot be cancelled/ withdrawn and bidder shall be bound to execute the work as mentioned above at bidder's final bid price. Should bidder back out and not execute the contract as per the rates quoted, BHEL shall take action as per extant guidelines for suspension of business dealings (as available on www.bhel.com).
18. Bidders shall be able to view the following on their screen along with the necessary fields during Reverse Auction:
 - a. Leading (Running Lowest) Bid in the Auction (only total price of package)
 - b. Bid Placed by the bidder
 - c. Start Price
 - d. Decrement value
 - e. Rank of their own bid during bidding as well as at the close of auction.
19. BHEL's decision on award of contract shall be final and binding on all the Bidders.
20. BHEL reserves the right to extend, reschedule or cancel the Reverse Auction process at any time, before ordering, without assigning any reason, with

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05
Dated: 08.03.2021

Business Rules for Reverse Auction

Annexure – I

intimation to bidders.

21. BHEL shall not have any liability to bidders for any interruption or delay in access to the site irrespective of the cause. In such cases, the decision of BHEL shall be binding on the bidders.
22. Other terms and conditions shall be as per bidder's techno-commercial offers and other correspondences, if any, till date.
23. If there is any clash between this business document and the FAQ available, if any, in the website of M/s. {*Service provider*}, the terms & conditions given in this business document will supersede the information contained in the FAQs. Any changes made by BHEL/ service provider (due to unforeseen contingencies) after the first posting shall be deemed to have been accepted if the bidder continues to access the portal after that time.
24. Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines for suspension of business dealings (as available on www.bhel.com), shall be initiated by BHEL.

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05
Dated: 08.03.2021

Mandate to Service Provider

Annexure – II

Ref :

Date :

To,

M/s. {Service provider}

Sub: Providing of Services for Reverse Auction.

Ref: No {...} date {...}

Dear Sir,

Please conduct Reverse Auction as per the following details:

- **Scope:** Auction event management with training of BHEL and its bidders.
- Seek process compliance form from all the bidders provided by BHEL before start of RA event. In case of postponement of event to some other date, ensure acknowledgement from each bidder.
- Price: Rs. {.....}/- . No other duties, Taxes, levies etc. except service tax @ {.....}% shall be payable for conducting reverse auction. This price is firm.
- Payment Terms: 100% payment after successful completion of Auction.
- Start Price: L1 as per the CST (Comparative statement) of the envelope sealed bid shall be marked as L1 automatically by the system at the start of the auction, provided the L1 bidder participates in the RA by submitting the process compliance form. In case the Process Compliance form is not submitted by the L1 bidder, still its price has to be mapped as start price of RA for further bidding in RA.

Wherever there are more than one L1 in CST, the start price shall be the L1 price reduced by one decrement and the same shall be accepted by the interested bidder(s) for start of RA process.

- Completion of Auction Process: The auction process shall be deemed to have been successfully completed on receipt and acceptance of final report including hard copy/ email of the final bid with price break up, duly signed by the successful bidder who has participated in the reverse auction. The bill shall be submitted along with the completion report to the undersigned.
- Business Rules of the Reverse Auction are as per Annexure – I.
- The list of bidders with their contact details is given in Annexure – IV. and the details of the item (s) to be Reverse Auctioned are as per Annexure – V.
- Please acknowledge receipt of this letter order and also confirm that final report (duly signed and stamped by M/s. {Service provider}) including hard copy/ email of the final bid with breakup of prices duly signed by the successful bidder (duly endorsed by M/s. {Service provider}) shall be submitted within **four** working days of conclusion of auction.

Yours sincerely,

(for and on behalf of BHEL)

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05
Dated: 08.03.2021

Mandate to Service Provider

Annexure – II

Note:

If the event has been conducted as per mandate, you shall be paid irrespective of RA outcome.

Buyer Name	<ul style="list-style-type: none">- Name of BHEL Unit- Full postal address- Fax:- Phone:- Email:- Contact person name:- Phone:-
Auction to be conducted by	<ul style="list-style-type: none">- Name of Service provider- Full postal address- Fax:- Phone:- Email:- Contact person name:- Phone:-
Date of Auction	<ul style="list-style-type: none">- Date of Auction- Reverse auction time:- Auction website:-
Documents Attached: (To be sent to the bidders)	<ol style="list-style-type: none">1) Business rules for Reverse Auction (<u>Annexure-I</u>)2) Process Compliance Form (<u>Annexure-III</u>)3) Details of item (s) to be Reverse Auctioned (<u>Annexure-V</u>)4) Post RA Price confirmation by bidder (<u>Annexure-VI</u>)

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05

Dated: 08.03.2021

Process Compliance Form

Annexure – III

(The bidders are required to print this on their company's letterhead and sign, stamp before RA)

To

- M/s. {Service provider}
- Postal address}

Sub: Agreement to the Process related Terms and Conditions

Dear Sir,

This has reference to the Terms & Conditions for the Reverse Auction mentioned in the RFQ document for {Items} against BHEL enquiry/ RFQ no.{.....} dt. {.....} This letter is to confirm that:

- 1) The undersigned is authorized official/ representative of the company to participate in RA and to sign the related documents.
- 2) We have studied the Reverse Auction guidelines (as available on www.bhel.com), and the Business rules governing the Reverse Auction as mentioned in your letter and confirm our agreement to them.
- 3) We also confirm that we have taken the training on the auction tool and have understood the functionality of the same thoroughly.
- 4) We also confirm that, in case we become L1 bidder, we will FAX/ email the price confirmation & break up of our quoted price as per Annexure - VI within **two** working days (of BHEL) after completion of RA event, besides sending the same by registered post/ courier both to M/s. BHEL and M/s. {Service provider.}

We, hereby confirm that we will honor the Bids placed by us during the auction process.

With regards

Signature with company seal

Name –

Company / Organization

Designation within Company / Organization

Address of Company / Organization

- **Sign this document and FAX/ email it to M/s {Service provider} at {.....} prior to start of the Event.**

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05

Dated: 08.03.2021

List of bidders and their address/ contact person details

Annexure – IV

Sl. No.	Address	Contact Person
1	<ul style="list-style-type: none">- Name of bidder- Full postal address- Fax:- Phone:- Email:	<ul style="list-style-type: none">- Contact person name:- Phone:- Email:
2		
3		
..		
..		

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05
Dated: 08.03.2021

Details of item (s) for Reverse Auction

Annexure – V

1. *{Details of items including quantity, specification, Enquiry no. & date*

- 1.
- 2.
- ..
- ..
- ..
- ..
- }

Guidelines for Reverse Auction – 2021

Doc. No. AA:SSP:RA:05

Dated: 08.03.2021

RA price confirmation and breakup (To be submitted by L1 bidder after completion of RA)

Annexure – VI

To

- M/s. Service provider
- Postal address

CC: M/s BHEL
{Unit-
Address-}

Sub: **Final price quoted during Reverse Auction and price breakup**

Dear Sir,

We confirm that we have quoted.

**Rs. {___ in value & in words _____} for item(s) covered under tender enquiry
No. {...} dt. {...}**

Total price of the items covered under above cited enquiries is inclusive of {Packing & forwarding, GST, E.D., C.S.T., freight and insurance charges up to {.....} District, {.....} State and Type Test Charges etc., (exclusive of service tax), other as per NIT}

as our final landed prices as quoted during the Reverse Auction conducted today {date} which will be valid for a period of {___ in nos. & in words ___} days.

The price break-up is as given below.

Total =====
- Rs. **in value & in words**
=====

Yours sincerely,

For _____

Name:
Company:
Date:
Seal:

TECHNICAL PRE QUALIFICATION REQUIREMENT

Name of Project : - 4x125MW Teesta-VI HEP
Name of Customer : - LTHP Ltd. (A wholly owned subsidiary of NHPC Ltd.)
Name of Consultant : - NHPC Limited
Name of Item : - Junction Box

TECHNICAL PRE QUALIFICATION REQUIREMENT

The bidder should have manufactured and supplied Outdoor Junction Box for 132kV or higher voltage level substation/utility during the last ten (10) years ending on 31.12.2019.


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 / 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

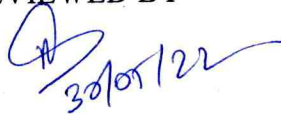
Notes (General points):

1. Consideration of offer shall be subject to customer's approval of bidder's, if applicable.
2. Bidder to submit all supporting documents in English. If documents submitted by bidder are in language other than English, a self- attested English translated document should also be submitted.
3. Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.
4. 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


30/05/22

REVIEWED BY


30/05/22

APPROVED BY


30-5-22



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS ENGINEERING MANAGEMENT
 NOIDA

DOCUMENT NO.	TB-415-316-013	Rev 00	Prepared	Checked	Approved
TYPE OF DOC.	TECHNICAL SPECIFICATION	NAME	PC	RD	VK
TITLE JUNCTION BOXES (FOR CT AND CVT)	SIGN	<i>[Handwritten Signatures]</i>			
	DATE	04.05.2022	04.05.2022	04.05.2022	
	GROUP	TBEM			
	WO No.				
CUSTOMER	LTHP Ltd. (A wholly owned subsidiary of NHPC Ltd.)				
Consultant	NHPC Limited				

PROJECT	4x125MW Teesta-VI HEP
---------	-----------------------

Contents

Section No.	Description	No of Pages
Section-1	Scope, Technical Requirements and Bill of Quantities	06
Section-2	Equipment Specification under scope of supplies	05
Section-3	Project details and General Specifications	40
Section-4	Schedule of Guaranteed Technical Particulars	01
Section-5	Check List	03
Annexure A	Schedule of Technical Deviations	01
Annexure B	Compliance Certificate to Technical Specification	01
Annexure-I	Painting System	01

Remarks: Bidder to note that data and details of Guaranteed Technical Particulars & Design documents shall not be reviewed during Technical Evaluation/ Review, hence compliance of Guaranteed Technical Particulars in line with Technical Specification shall be bidder's responsibility.

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

Revised	Date	Altered	Checked	Approved	
Distribution				To	
				Copies	

Contents

1. Scope
2. Codes & Standards
3. Specific Technical Requirements
4. Bill of Quantities
5. Type & Routine test:
6. Drawings & Documentation
7. Quality plan
8. Packing and Dispatch

SECTION 1

SCOPE, PROJECT SPECIFIC TECHNICAL REQUIREMENTS & BILL OF QUANTITIES

1. SCOPE

This technical specification covers the requirement of design, manufacture, testing at works, proper packing & dispatch of Junction Box complete with accessories.

This section covers the specific technical requirements of the equipment (*Junction Box*). This constitutes minimum technical parameters for the above item as specified by the BHEL/LTHP/NHPC. The offered equipment (*Junction Box*) shall also comply with the Section-2 (Equipment Specification Under Scope of Supplies) of this specification and Section-3 (Project Details and General technical requirements for all equipment under the Project)

Note: The terms used in this specification namely, "Employer/Purchaser" refers to LTHP/NHPC, "Contractor" refers to BHEL & "Sub-contractor" refers to successful bidder.

The specification comprises of following sections:

Section-1	:	Scope, Project Specific Technical Requirements & Bill of Quantities
Section-2	:	Equipment Specification under scope of Supplies
Section-3	:	Project Details & General Technical Requirements (For All Equipment under the Project)
Section-4	:	Schedule of Guaranteed Technical Particulars
Section-5	:	Check List
Annexures		Annexure A- Schedule of Technical Deviations Annexure B- Compliance Certificate to Technical Specification

The following order of priority shall be followed. In case of conflict between requirements specified in various documents, the more stringent one shall be followed. BHEL/ LTHP/NHPC concurrence shall, however, be obtained before taking a final decision in such matters.

1. Statutory Regulations
2. Section-1
3. Section-2
4. Section-3

Bidder shall furnish list of conflicts/ ambiguities/ deviations, if any, along with their technical offer and also furnish the basis that is considered for submitting technical offer. BHEL/ LTHP/NHPC will resolve listed conflicts prior to award. In case of ambiguity, bidder shall inform BHEL of their interpretation. In case bidder fails to convey the same prior to award, BHEL/ LTHP/NHPC decision on interpretation shall be considered final if need arises during the execution. No additional cost or extra time on account of conflicts/ ambiguities/ deviations shall be admissible.

In general, no deviation from the requirements specified in various clauses of this specification shall be allowed and hence, a certificate to this effect shall have to be furnished along with the

offer (Annexure-B), however bidder shall furnish list of conflicts/ ambiguities/ deviations (Annexure-A), if any. Any conflicts/ ambiguities/ deviations mentioned elsewhere in technical offer shall not be reviewed.

The equipment (*Junction Box*) is required for the following project:

Name of the Customer: **LTHP Ltd. (A wholly owned subsidiary of NHPC Ltd.)**
Consultant: **NHPC Limited**
Name of Main Contractor: **Bharat Heavy Electricals Limited**
Name of the Project: **4x125MW Teesta-VI (HEP)**

The scope of supplies shall be as per commercial terms and conditions enclosed separately with the notice inviting tender/ enquiry.

2. CODES & STANDARDS

The design, manufacture and testing of the various equipment covered under this specification shall comply with the requirements of the latest edition of the relevant IEC/IS/IEEE/ISO standards only. Preference for latest IEC standards for particular equipment / system shall be governed over IEEE/ IS/ ISO standards. Further rules, guidelines and standard laid down by international/ national agency shall be applicable in this specification.

3. SPECIFIC TECHNICAL REQUIREMENTS

Technical requirements for the equipment (*Junction Box*) shall be as per Section-2. Specific requirement is follows:

- i) The terminal blocks shall be disconnecting stud type.
- ii) The wiring diagram plate for the interconnections of the three single phase CTs and CVTs shall be provided inside the respective CT & CVT Junction box.
- iii) The offered Junction Box shall include all accessories such as fixing hardware / foundation bolts etc.
- iv) The Quantity is subject to change by +/-30%.
- v) The offered Junction box shall be as per NHPC approved standard drawings.
- vi) The CT/CVT star point earthing shall be made in respective yard Junction Box, provision for the same shall be provided.
- vii) The following routine tests along with the routine tests as per IS:5039 shall also be conducted:
 - check for wiring
 - visual and dimension check
 - including the application of 2.5kV rms for 1 (one) minute insulation resistance.

4. BILL OF QUANTITIES

SN	Detailed Description	Unit	Total Qty
1.	CT Junction Box: JB D-130	Nos.	2
2.	CVT Junction Box: JB D-45	Nos.	2

5. TYPE & ROUTINE TEST:

- a) All equipment being supplied shall conform to type tests as per technical specification and shall be subject to routine tests in accordance with requirements stipulated under respective sections.
- b) The reports for all type tests as per technical specification shall be furnished by the bidder along with equipment / material drawings. However, type test reports of similar equipments/ material already accepted in NHPC shall be applicable for all project with similar requirement. The type tests conducted earlier should have either been conducted in accredited laboratory (accredited based on ISO / IEC Guide 25 / 17025 or EN 45001 by the national accreditation body of the country where laboratory is located) or witnessed by NHPC or representative authorized by NHPC or Utility or representative of accredited test lab or reputed consultant.
- c) The type test reports submitted shall be of the tests conducted within last 10 (ten) years prior to the originally scheduled date of bid opening. In case the test reports are of the test conducted earlier than 10 (ten) years prior to the originally scheduled date of bid opening, the bidder shall repeat these test(s) at no extra cost to BHEL.
- d) In the event of any discrepancy in the test reports i.e. any test report not acceptable due to any design/manufacturing changes (including substitution of components) or due to non-compliance with the requirement stipulated in the Technical Specification or any/all type tests not carried out, same shall be carried out without any additional cost implication to the Purchaser.
- e) The supplier shall intimate the BHEL/NHPC the detailed program about the tests atleast two (2) weeks in advance in case of domestic supplies & six (6) weeks in advance in case of foreign supplies.
- f) In case type tests are to be conducted /repeated and deputation of Inspectors/Purchasers representative is required, then all expenses shall be borne by Bidder.

Original Scheduled date of bid opening:

6. DRAWINGS & DOCUMENTATION

6.1. Drawings / documents required for engineering manufacturing clearance

The drawings/ documents, as follows shall be used for providing engineering manufacturing clearance of the equipment (*Junction Box*) and furthermore, it shall be used for delay analysis, if any from bidder. The successful bidder is required to submit drawings and documents that shall cover but not limited to the following:

Sl.	Description of Drawing
1	General Arrangement, Wiring Drawings and BOM of Junction Box
2	Guaranteed Technical particulars
3	Type Test Report as per relevant IEC Standards

7. QUALITY PLAN

The successful bidder shall submit Quality Assurance Plan in line with reference QAP attached in Section-2 for the equipment with in-process inspection methods, tests, records, etc. for BHEL/ LTHP/NHPC approval. LTHP/NHPC hold points will also be included in the plan, which shall be mutually agreed by the BHEL/ LTHP/NHPC. In case bidder has reference Quality Assurance Plan agreed with LTHP/NHPC, same shall be submitted for specific project to BHEL/ LTHP/NHPC approval. There shall be no commercial implication to BHEL/ LTHP/NHPC on account of Quality Plan approval.

Superior quality control system shall be adopted to assure high product quality. Raw materials of the best commercial grade quality and high reliability shall be used in the manufacture of the equipment. All materials shall be procured, manufactured, inspected and tested by vendor/ sub-vendor as per approved quality plan. The supplier shall perform all tests necessary to ensure that the material and workmanship conform to the relevant standards and comply with the requirements of the specification.

During fabrication/manufacturing or assembly, the equipment shall be subjected to inspection by BHEL/NHPC/LTHP or by an agency authorized by the owner to assess the progress of work as well as to ascertain that only quality raw material is used.

Note-Inspection and testing shall be done as per technical specification. However, any other test not mentioned but required as per relevant IEC/IS shall also be performed.

8. PACKING AND DISPATCH

1. All equipments shall be suitably protected, coated, covered or boxed and crated to prevent damage or deterioration during transit, handling and outdoor storage (for a minimum period of 2 years) at site till the time of erection. While packing all the materials, the limitations from the point of view of availability of transportation facilities in India should be taken into account. The Bidder shall be responsible for any loss or damage during transportation, handling and storage.
2. The Bidder shall include and provide for security, protection and packing the equipment so as to avoid loss or damage during transport by any mode.
3. All packing shall allow for easy removal and checking at site. Wherever necessary, proper arrangement for attaching slings for lifting shall be provided. All packages shall be clearly marked for with signs showing 'UP' and 'DOWN' side of boxes, and handling and unpacking instructions as considered necessary. Special precautions shall be taken to prevent rusting of steel and iron parts during transit and storage. Gas seals or other methods proposed to be adopted for protection against moisture during transit shall be to the satisfaction of the purchaser.
4. The cases containing easily damageable material shall be very carefully packed and marked with appropriate caution symbols i.e. FRAGILE, HANDLE WITH CARE, USE NO HOOKS etc.
5. Each package delivered under the contract shall be marked by the Bidder at his expense and such marking must be distinct (all previous irrelevant marking being carefully

-
- obliterated). Such marking shall show the description and quantity of contents, the name of consignee and address, the gross and net weights of the package, the name of Bidder with a distinctive number of mark sufficient for purpose of identification. All markings shall be carried out with such materials as to ensure quickness of drying, fastness and legibility.
6. Each Package shall contain a note quoting specifically the name of the Bidder, the number and date of contract or order and the name of office placing the contract, nomenclature of the stores and include a schedule of parts for each complete equipment giving the parts number with reference to the General Arrangement/ Assembly drawing and the quantity of each part, drawing number and tag numbers.
 7. All equipment/ material shall be suitably packed for transport, carriage at site and outdoor storage during transit. The Bidder shall be responsible for any damage to the equipment during transit. The contents of each package shall bear marking that can be readily identified from the package list and packing shall provide complete protection from moisture, termites and mechanical shocks etc.
 8. Any material found short inside the packing cases shall be supplied by the Bidder without any extra cost.
 9. Notwithstanding anything stated in this clause the Bidder shall be entirely responsible for any loss, damage or depreciation to the stores.
 10. The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract and, subject to any subsequent instruction ordered by the Employer consistent with the requirements of the Contract as per relevant Clause of Section 2 & Section-3.

----- XX -----

SECTION 2
EQUIPMENT SPECIFICATION UNDER SCOPE OF SUPPLIES

1. SPECIFIC TECHNICAL REQUIREMENTS

Technical Parameters for Junction Box

- | | | | |
|----|--------------------------------|---|---|
| a) | Installation | : | Outdoor |
| b) | Design Ambient air temperature | : | 50°C |
| c) | Thickness of sheet steel | : | At least 2.5 mm Cold Rolled |
| d) | Degree of protection | : | IP 65 as per IS 13947 |
| e) | Paint Shade | : | Ext--Shade –RAL7035
Int—Shade-Mat White
(Annexure-1 attached) |
| f) | Control Wiring | | |
| | Size of conductor | : | 2.5 mm ² |
| | Conductor | : | Stranded copper |
| g) | Space Heater Rating | : | 240 V, At least 40 W |
| h) | Terminal Block | | |
| | Make | : | Connectwell or approved Eqv. |
| | Earthlinks | : | As required |

Following Junction Boxes are proposed:

SI No.	Type	No of TBs	Type of TBs
1	JB-D130	130	Stud Type, Disconnecting
2	JB-D45	45	Stud Type, Disconnecting

Junction Box shall have terminals strips in vertical formation exclusively used for shorting the CT & CVT secondary circuits. Auxiliary circuit (Heater, Lamp and Socket) shall be provided as per Clause 2.2. The Junctions Boxes shall be supplied along with fixing hardware/ bolts etc.

2. APPLICABLE STANDARDS

STANDARD	TITLE
IS 13947(Part 1)	Low voltage switchgear and control gear: General rules
IS 5039	Distribution feeder pillars for voltages not exceeding 1000V ac / 1200V dc.
IS 8623	Specification for Low voltage Switchgear and Control gear Assemblies
IEC 60439	Factory built assemblies of low voltage switchgear and control gear
IS 13703 (All Parts):	Specification for Low-Voltage Fuses for Voltages not exceeding 1000 V AC and 1500 V DC - General Requirements

The equipment shall conform to the latest applicable Indian standard and their amendments. The equipment complying with any authorized international standard will also be considered if it ensures performance equivalent to or superior to Indian standards. In the event of supply of equipment conforming to any internationally recognised standard other than the Indian standards, the salient features of comparison shall be brought out

3. SPECIFIC DESIGN & MANUFACTURING REQUIREMENTS

Junction Box shall generally conform to IS-5039, IS-8623 or IEC-60439, and/ or its latest amendments/ issues as applicable.

Junction Box (JB) shall be of sheet steel and shall be dust, water and vermin proof. The thickness of sheet steel shall be 2.5 mm cold rolled. The box shall be properly braced to prevent wobbling. There shall be sufficient reinforcement to provide level surfaces, resistance to vibrations and rigidity during transportation and installation.

The JB shall be structure mounted type. They shall have hinged doors with padlocking arrangement. All doors, removable covers and plates shall be gasketed all round with suitable profiled EPDM gaskets. The gasket shall be tested in presence of purchaser as per approved quality plan. All gasketed surfaces shall be smooth, straight and reinforced if necessary to minimize distortion and to make a tight seal. The quality of gaskets shall be such that it does not get damaged/ cracked during ten years of operation of the equipment or its major overhaul whichever is earlier. Ventilating louvers, if provided, shall be with screens and filters. The screen shall be fine wire mesh made of brass.

The enclosures shall be door handle with integral lock and master key. The enclosure shall be provided with hinged doors and /or removable covers with padlocking arrangements. The distance between two hinges shall be adequate to ensure uniform sealing pressure against atmosphere.

All housings shall be designed for the entry of cables from the bottom by means of weatherproof and dust-proof connections. JB shall be designed with generous clearance to avoid interference between the wiring entering from below and any terminal blocks or accessories mounted within the housing. A suitable undrilled cable gland plate projecting at least 150mm above the base of the housing shall be provided for this purpose. The gland shall project at least 25 mm above the gland plate to prevent entry of moisture in the cable crutch.

Each JB shall be provided with a 15A, 240 V AC, 2 -pole, 3-pin industrial grade receptacle with switch. For incoming supply, SPN MCB of suitable rating shall be provided. Illumination of each compartment of each JB shall be with door-operated 20W fluorescent tube or 15 watts CFL. Suitable 240 V, single phase, 50 Hz ac heaters with thermostats controlled by switch and fuse shall be provided to maintain inside temperature 10 deg. above the ambient. The fittings shall be complete with switch fuse unit and switching of the fittings shall be controlled by the respective panel door switch. All control switches shall be of rotary switch type and Toggle/ Piano switches shall not be accepted.

Each JB shall be provided with a ground bus with 40mm copper bar extending throughout the

length or an earthing bar (PE) of sufficient cross section carrying any possible fault current without undue heating. End of this bus shall be drilled and provided with lugs for connecting ground cables ranging from 70 to 120 sq. mm. All metallic parts of the cubicle not forming part of the live circuits, all instrument transformer terminals to be earthed and other earthing terminals as well as cable screens and PE wires shall be connected to the earthing bar. The hinged door shall be provided with danger plate, and internal wiring diagram pasted on inside of the door. The front label shall be on a 3 mm thick plastic plate white letters engraved on black background.

4. TERMINAL BLOCKS AND WIRING:

Terminal blocks shall be 1100V grade and have continuous rating to carry the maximum expected current on the terminals. The terminal blocks shall be cage clamp type (wago or equivalent) or non-disconnecting stud type (Connectwell or equivalent) terminals, complete with washers, nuts and lock nuts. The insulating material shall be nylon 6.6 which shall be free of halogens, fluorocarbons etc.

The terminal shall be such that maximum contact area is achieved when a cable is terminated. The terminal shall have a locking characteristic to prevent cable from escaping from terminal clamp unless it is done intentionally. The conducting part in contact with the cable shall preferably be tinned or silver-plated. However, nickel-plated copper or zinc-plated steel shall also be acceptable.

The terminal blocks shall be of expandable design. The terminal blocks shall have locking arrangement to prevent its escape from the mounting rails. The terminal blocks shall be fully enclosed with removable covers of transparent, non –deteriorating type plastic material. Insulating barriers shall be provided between the terminal blocks. These barriers shall not hinder the operator from carrying out the wiring without removing the barriers. Terminal block design shall include a white-fiber marking strip. Markings on terminal strips shall correspond to numbers on wiring diagrams. The arrangement shall be such that it is possible to safely connect or disconnect terminals on the live circuits and replace fuse links when the cabinet is live.

Unless otherwise specified, terminal blocks shall be suitable for connecting the following conductors on each side.

- | | |
|--|--|
| a) All circuits except CT/CVT circuits | Minimum of two of 2.5 sq. mm copper flexible on each side. |
| b) All CT/CVT circuits | Minimum of two of 6 sq. mm copper flexible on each side. |

Terminal blocks for cables going to a common destination shall as far as possible be grouped to each other. All input and output terminals of each control cubicle shall be tested for surge withstand capability in accordance with the relevant IEC publications, in both longitudinal as well as transverse modes. The Supplier shall also provide all necessary filtering, surge protection, interface relays and any other measures necessary to achieve an impulse withstand level at the cable interfaces of the equipment.

At least 20% spare terminals shall be provided on each junction box and these spare terminals shall be uniformly distributed on all terminal rows. The terminal blocks shall be provided with test links, short circuiting and earthing facilities.

There shall be a minimum clearance of 250 mm between the first/ bottom row of terminal blocks and the associated cable gland plate. Also the clearance between two adjacent rows of terminal blocks shall be a minimum of 150 mm (End to End).

All internal wiring shall be carried out with single core, stranded copper conductor wires with PVC insulation and shall be flame, vermin and rodent proof.

All internal wiring shall be securely supported, neatly arranged, readily accessible and connected to equipment terminals and terminal blocks. Wiring gutters /troughs shall be provided for this purpose and for CT/ VT circuits as well.

Wire termination shall be made with solder less crimping type of tinned copper lugs, which firmly grip the conductor and insulation. Insulated sleeves shall be provided at all the wire terminations.

All internal equipment and wiring shall be neatly and clearly marked. Internal wiring and cables shall have sleeve type Engraved markings, marked to correspond with panel wiring diagram. Numbering shall be fitted at both ends of each wire. Ferrules shall fit tightly on wires and shall not fall off when the wire is disconnected from the terminal blocks.

The marking system and marking material shall be subjected to approval by owner.

5. TESTING

5.1. Type Test

The drawings/ documents, as follows shall be used for providing engineering manufacturing clearance of the equipment (Junction Box) and furthermore, it shall be used for delay analysis, if any from bidder. The successful bidder is required to submit drawings and documents that shall cover but not limited to the following:

The Junction Boxes shall have been subjected to type test for the IP 65 degree of protection of enclosure as per IS 13947. The bidder shall furnish the type test report at contract stage. In case the Test reports are more than ten years old on the date of bid opening, fresh testing has to be conducted and report shall be submitted. The type test for degree of protection of enclosure shall be preceded and followed by following tests:

- a) 2.5 kV withstand for one minute
- b) Insulation Resistance
- c) Functional tests

5.2. ROUTINE TESTS

The Junction Box shall be subjected to following routine tests, as per IS 5039:

- a) 2.5 kV rms. for one-minute test
- b) Check for wiring
- c) Visual and dimensional check
- d) Checking for paint.

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SECTION- 3

PROJECT DETAILS AND GENERAL SPECIFICATIONS

3.0 GENERAL

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

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

3.1 PROJECT DETAILS

Name of the Project:	Teesta-VI H.E. Project (4x125 MW)
Name of the Customer:	LTHP LTD. (A wholly owned subsidiary of NHPC Ltd.)
Name of Consultant :	NHPC

Teesta (stage-VI) H.E Project is the last of the six projects in cascade development hydro power potential of Teesta River in the state of Sikkim. Teesta-VI Project is located in south (District) of Sikkim. It is a run of river scheme, with a barrage proposed across River Teesta at Sirwani about 100km downstream of L D Kazi Bridge, near Singtam village on singtam-Dikchu Road. Barrage site is located about 4 km from Singtam. The river has been diverted through the completed barrage bays on the left side to facilitate construction of the remaining barrage and Desilting Basin and all other components (Head Regulator Intake, De- silting Basin, Tunnel intake, head Race Tunnel, Surge shaft, pressure shaft, MIV cavern, power House, Transformer cavern, Tail Race Tunnel and pot Head yard) which are on the right bank of river Teesta. Power House site will be near Subin khore 27.5 km from Singtam and about 31.5 km from Barrage site by road. A gross head of 116 m between the HRT intake site and the power house site is to be utilized for power generation.

It is a run of the river scheme for power generation. The power house will have an installed capacity of 500 MW (4x125MW) and the annual energy production is estimated to be 2400 MU with 95% machine availability.

3.2 Location of Project:

The approximate distance of Project Barrage site from different important towns is as below:

From Singtam to Barrage Site	4.0 kms (approx.)
From Rangpo to Power House Site	12.5 kms (approx.)
From Singtam to Silliguri	95 kms (approx.)
From Barrage site to Silliguri	99 kms (approx.)
From Power House site to Silliguri	67 kms (approx.)
From Silliguri to Kolkata	577 kms

3.3 Salient Features:

Location:

• Country	India
• State	Sikkim
• District	South
• River	Teesta
• Nearest Village	Singtam
• Dam site Near	Sirwani
• Latitude	27 deg 14'42" N
• Longitude	88 deg 29'15" E
• Nearest Rail Head	Silliguri, West Bengal, India
• Nearest Airport	Bagdogra, West Bengal, India

Hydrology:

• Catchment Area at diversion site	4558 Sq. Km
• Rain fed catchment	2295 Sq. Km
• Snow catchment	2263 Sq. Km.
• Average Annual Rainfall	2544 mm
• Maximum Temperature	37 deg
• Minimum Temperature	8 deg
• Maximum Relative Humidity	96.4%
• Minimum Relative Humidity	5.8%
• Standard Project Flood	11600 Cumec (SPF)
• Average annual yield	11861 Mcum

POWER HOUSE COMPLEX:

• Location	Right Bank
• Type	Underground
• Installed capacity	500 MW
• Number and capacity of units	4 Nos. of 125 MW each
• Size of Power House Cavern	142.75m x t8.5m x 52.44 m high
• Size of Transformer cum GIS Cavern	128mx14.5mx21 m high
• Service bay level	EL 248.34 m
• Type of turbine	Francis, vertical axis
• C/L of turbine	EL 235 m
• Rated head (Weighted Average Head)	105 .4 m
• Type of switchgear	GIS (Indoor)
• Size of pothead yard	100 m (L) x 30 m (w)

3.4 Seismic Zone

The project is situated in a hilly seismic area and falls within Zone-IV of the seismic zoning Map of India. The forces being caused by earthquake including hydraulic loads which may occur additionally shall be taken in to account for computations. More over vertical and

horizontal acceleration shall be combined in the most unfavourable way. For horizontal and vertical accelerations, a factor of 0.15 g and 0.075 g respectively shall be assumed. Stresses resulting after including these loads shall not exceed permissible stresses.

The Contractor shall design all equipment supplied under this contract to satisfy the seismic criteria. The Contractor shall submit to the Employer the method of calculation and relevant codes he intends to use for this purpose.

In addition to the above, the IS-1893 shall be adopted for seismic design. Hydrodynamic forces due to seismic conditions shall be considered on HM or EM equipment in addition to hydro static loads.

3.5 Transportation and Storage

The Contractor shall inform himself fully as to all relevant transport facilities and requirements, loading gauges and other limitations and shall ensure that the equipment as prepared for transport shall conform to such limitations. The Contractor shall also be responsible for obtaining from the Indian railway or highway authorities any permit that may be required for the transport of loads exceeding the normal gauges.

The Contractor shall provide means for all unloading and reloading for all consignments of plant; both during transport to Site and on the Site. Consignments shall be unloaded immediately on arrival at Site. The Contractor is required to take the necessary steps in order to provide the carriage, special supporting structures for heavy loads, etc. All parts of the plant shall be brought, as far as possible, to their final place of erection. The Contractor shall construct their own storage facilities at site.

The warehouses shall be weatherproof, with good ventilation and solid floors. The floors of the warehouses and storage areas shall be designed to carry the loads imposed on them by the stored parts. The following parts shall be stored inside enclosed warehouses:

Bolts, pins, packing, tools, insulation materials, electrical parts with electrical devices attached, electric motors, instruments, welding material and equipment, all small parts and all parts of the plant which already have been finally painted.

If large parts are stored in the open air, they shall be provided with weather resistant and fire-resistant covers. Electrical parts, which are not packed suitably and those so packed, but whose packing has been damaged shall be kept in suitable places from the moment of storage to the moment of installation. All insulation materials which will be taken from the warehouse for installation and which are stored temporarily in the station shall be protected from weather or humidity. All the equipment shall be stored as per standard storage and preservation instructions etc. of the suppliers. Dehumidifiers shall be installed in store/enclosed area as per direction of Engineer-in-charge.

3.6 Transport Limitation

For shipments, the Manufacturer shall pack the items to meet size and weight restrictions of the Indian railways and road systems. Shipments from Manufacturer's work (in case offshore consignments) shall travel to Port of entry - India, from where these will be transported, after necessary port clearances etc., by the Contractor to nearest rail head for the Project, and

further transported to site. However, in certain cases the Contractor may be required to transport the materials from Port of entry to Project site directly by road transport. For onshore consignments, the Contractor shall be responsible in all respects for transportation of all material and equipment up to the project site.

The Contractor shall consult with the concerned authorities in railways and highways to ensure that his packaging will be such as to permit him to transport the plant and equipment within such imposed limits. The Contractor shall arrange to deliver the maximum sized sub-assemblies consistent with safe and convenient transport.

All materials and equipment etc. arrived at nearest railhead for the Project will be unloaded from rail wagons and reloaded on to road transport for shipment to project site by the Contractor. All components shall be so designed and constructed as would enable easy assembly of components at works and at the same time permit easy transportation. The weights and sizes of the components/packages shall be within the permissible transport limits for the project site.

3.7 Main features of Project

The project shall comprise of following major components:

- i) Four units of 125 MW each at generator terminal at rated condition,
- ii) An underground Power house housing four (4) main inlet valves of butterfly biplane lattice type in MIV cavern, (4) vertical-shaft generating units, each composed of a Francis turbine directly coupled to a synchronous generator and other related auxiliaries in power house cavern,
- iii) A Transformer cavern having 13 nos. 11/220/√3kV single phase generator transformers,
- iv) A 245kV GIS hall in Transformer cavern for installing 245kV GIS,
- v) A 245 kV outdoor pothead yard for evacuation of generated power through 220kV transmission lines.
- vi) installed Capacity - 500 MW
- vii) No. and size of Units - 4 units of 125 MW each
- viii) Generation voltage – 11kV
- ix) Transmission voltage – 220kV
- x) Type of Power House – Underground
- xi) Type of Switchyard - Indoor type GIS
- xii) GSU Transformer - 13 nos. 51 MVA, Single Phase, 50 Hz, 11/220/√3kV OFWF/ ODWF type
- xiii) Method of connection between Transformer and GIS - GIB

3.8 Operating Requirement, Specification

The equipment/system to be supplied under this contract shall be suitable for continuous operation under varying grid parameters as allowed in latest "Indian Electricity Grid Code" and "Indian Electricity Rule". The equipment supplied shall also be compliant with latest Central Electricity Authority-Technical Standards for Construction of Electrical Plants and Electric Line Regulations and latest CERC norms at the time of supply of equipment.

The equipment/system shall be designed to operate continuously without any problem under +/-10 % voltage variation and +/-5% frequency variation, Temperature rise/ variation limit for equipment shall be determined considering the above variation. Frequent start/stop

requirement of all equipment for daily operation shall be taken into consideration while designing.

3.9 Auxiliary voltages

The electrical equipment like switchboards, MCCB, Surge Protection Devices, motors, contactors, relays, luminaries, heaters, switches, sockets, Terminal Blocks, Power outlets etc. should be rated for any of the following voltages:

A) AC power

Three-phase system with grounded neutral for feeding 3-phase and 1-phase equipment (connected between phase and neutral), type TN-C 415/240V +/-10% and 50Hz +/-5%. All motors and other electrical apparatus should be designed to work continuously under +/-5% frequency variation and +/-10% voltage variation.

B) DC power

- i) 220V +/- (Plus/minus) 10% DC Systems, ungrounded, with earth fault detection for the supply to main control circuits for high and medium voltage switchgear, protection circuits and to other larger essentials loads,
- ii) Other voltage systems eventually needed, shall be generated from the above systems by means of dc/dc converters, inverters etc.

3.10 Performance Guarantee

The Contractor shall guarantee that the equipment offered shall meet the ratings and performance requirements stipulated for various equipment systems covered in these specifications.

The Contractor shall demonstrate all the guarantees covered herein during functional guarantee/ acceptance tests.

3.10.1 SYSTEM PARAMETERS

S. No.	Description of parameters	220 kV System
1.	System operating voltage	220 kV
2.	Maximum operating voltage of the system(rms)	245 kV
3.	Rated frequency	50 Hz
4.	No. of phase	3
5.	Rated Insulation levels	
i)	Full wave impulse withstand voltage (1.2/50 microsec.)	1050 kVp
ii)	Switching impulse withstand voltage (250/2500 micro sec.) dry and wet	-
iii)	One minute power frequency dry withstand voltage (rms)	-
iv)	One minute power frequency dry and wet withstand voltage (rms)	460 kV
6.	Corona extinction voltage	156 kV
7.	Max. radio interference voltage for frequency between 0.5MHz and 2MHz	1000 micro-Volt at 156kV rms
8.	Minimum creepage distance (25mm/kV)	6125 mm
9.	Min. clearances	
i)	Phase to phase	2100 mm
ii)	Phase to earth	2100 mm
iii)	Sectional clearances	5000 mm
10.	Rated short circuit current for 1 sec. duration	40 kA

11.	System neutral earthing	Effectively earthed
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3.10.2 Control and Monitoring

The system shall be controlled and monitored by the SCADA system. The details of "Control and Monitoring System" and "Protection System" are covered under separate package EM-I.

It shall be the responsibility of the Contractor to make all necessary provisions required to achieve seamless and compatible interfacing of control and monitoring systems of all equipment with plant SCADA system.

Provisions of all transducers/ sensors, instruments, gauges for mechanical parameters (temperature, pressure, flow, vibration, etc.) and electrical parameters (current, voltage, frequency, power, MVAR, KWH, etc.) and spare contacts of relays, breakers, isolators push buttons, control/selector switches etc. from various equipment for monitoring, alarm, annunciation, control function etc. through plant SCADA system are in the scope of this contract.

For connecting marshalling box/junction box with various equipment in field, multi-pin plug connector system shall be used, if feasible. The contact carriers shall have two capacitive PE connects each to give the proper earthing to the system and it shall be suitable for electrical data equivalent to 250V/10A. The contact type shall fulfil the requirement of IEC 60 352/ DIN EN 60 352. The contact carriers shall be covered by housing made up of polyamide 6.6 of V0 in flammability class in accordance with UL 94 and fulfil the requirement of IP65 at least. The housing shall be directly sealable on the mounting wall without the need of any kind of wall mounting base. The complete arrangement shall be highly reliable even under harsh conditions, due to high degree of protection."

It shall also be possible to control locally the main elements of the system from local control cubicles. Local control shall be performed in a standalone manner independent of SCADA system, and all information (faults, alarms, measurements, status) necessary for such control shall be displayed locally. Provision of control selector switch for selection of control through Local Control Cubicle, Unit Control Board / Local Control Board and plant SCADA system shall be made in Local Control Cubicles and Unit Control Boards / Local Control Boards.

If the system consists of redundant subsystems, the priority of operation of such subsystems shall be selectable, either from SCADA system or locally.

3.10.3 Power supply for control and monitoring

A reliable surge protected power supply shall be provided for powering the electronic circuits of the equipment component. The power supply shall be from two independent DC station battery source, one as primary and other as secondary. Switchover from primary to secondary will follow automatically on failure of primary and return to the primary source automatically following restoration of primary supply. The primary source of supply and the charger of the battery should be protected with surge protection device. The surge arrester should be pluggable type and should have indication to show its life.

The power supply shall include redundant converter (dc-dc) connected to station battery source such that failure of any regulated output voltage shall cause instantaneous transfer to a redundant converter without affecting normal operation of the equipment component in any

way. Contacts shall be provided to alarm on power supply failure and local indication shall be provided to identify the failed functional block, The Contractor shall provide full details of the proposed power supply system for approval by the Employer.

In case AC supply is required for any control function, same shall be sourced from two on line UPS, with one main and other standby and with automatic change over facility.

3.10.4 Colour Schedule

Colour standard references to major equipment/ system shall be as mentioned in Annexure. The interior of all cubicle and panels shall preferably have a matt white finish unless specified otherwise.

3.11 Electrical equipment enclosures

3.11.1 General

Unless otherwise specifically called for or described in these Contract documents all electrical appliances shall conform to the applicable IEC Publications.

The cubicles and enclosures shall be of protection class IP 40 or higher according to their location. For outside installation and area which are humid, corrosive, and prone to dripping and/ or spray of water, the protection class of cubicles shall be IP 65. Cubicles housing electronic cards/modules such as of unit control boards/local control boards, digital governors, static excitation equipment shall be of Protection class of IP 5X.

Cables shall have at least 1100 V PVC insulation except for 220V DC and tele-metering or communication system equipment for which 650V and 300 V ratings respectively are acceptable.

Wiring shall terminate at terminal blocks at one side only. Where tap connections are required, they shall be made on terminal blocks. Wiring shall be neatly arranged and laid in wire ways accessible from the front door. The wire ways shall not be filled more than 70 %. Each cubicle shall be provided with an earthing bar (PE) of sufficient cross section carrying any possible fault current without undue heating. All metallic parts of the cubicle not forming part of the live circuits, all instrument transformer terminals to be earthed and other earthing terminals as well as all cable screens and PE-wires shall be connected to the earthing bar.

All internal equipment and wiring shall be neatly and clearly marked as indicated on the schematic and wiring diagrams- internal wiring and cables shall be marked with sleeve type engraved marking. Marking system and marking material shall be subject to approval by Employer' identification of the respective conductors shall be in accordance with the requirements of IEC publication 60204. In cable, having five conductors or more the individual conductors shall be numbered throughout the entire length. In cables having less than five conductors colour coding in accordance with IEC Recommendations 60204 shall be used.

3.11.2 Terminal blocks

Control circuits and power circuits shall be completely separated by use of divided or separate terminal blocks.

The screw type modular Terminal Block should be manufactured as per IEC-60947-7-1. The insulating material of Terminal Block should be of polyamide 6.6 meeting VO/V2 in flammability Class as per UL94. All metal parts including screws should be of copper alloy. The Terminal Block should be suitable for mounting on both 'DIN' as well as 'G' Type rail. All the metal parts should be captive and touch proof. The Terminal Block should have screw locking design so that it can withstand vibration level up to 59 and also prevent accidental loosening of conductors. The terminal blocks shall also have necessary accessories like end clamp, separation plates etc. Terminal block for CT shall be provided with shorting and disconnecting arrangement. Test terminal block for CT and PT with plug shall also be provided in all protection and measuring circuit also provided in panel.

Unless otherwise specified terminal blocks shall be suitable for connecting the following conductors on each side.

All circuits except CT/ PT circuits	Minimum of two of 2.5 sq. mm copper flexible
All CT/ PT Circuits	Minimum of 2 nos. of 6 sq. mm copper flexible

At least 20 % spare terminals shall be provided on each panel/ cubicle/box and these spare terminals shall be uniformly distributed on all terminals rows.

3.11.2.1 Protection requirement

For short circuit and overload protection of power and control circuits, air circuit breakers, moulded case circuit breakers or MCBs shall be used. Outlets from AC (and DC) distribution panels are protected in their respective panels.

3.11.2.2 Switches, Lamps & Instruments

General

Control switches, indicating lamps and instruments shall be arranged so that all parts are readily accessible for servicing without the necessity to remove other devices, terminal blocks or excessive amount of wiring.

All control switches and indicating devices mounted in cabinets and enclosures shall be visible with the doors closed.

Identification nameplates shall be provided for all control switches, indicating instruments and lamps, in accordance with clause "Nameplates".

Instruments and controls shall be located so that their dials, indicators and nameplates are clearly readable. Data for all instruments to be provided, including type, size, scale range, electrical ratings, nameplate and name of manufacturer, shall be furnished. Steel panels shall be provided for group mounting of the instruments.

All instruments shall be of an approved type and shall match, insofar as practicable, the other instruments with which they are associated; their dial type, scaled markings and units, type of connection and mounting, shall be co-coordinated. All piping and tubing required for

instruments shall be furnished and installed. All instruments and control switches shall be furnished with necessary auxiliaries, i.e. resistors, shunts etc.

3.11.2.3 Control and Selector switches

The switches and push buttons shall be provided with ample contact ratings, suitable cam or block arrangements necessary for the control functions on 230 V AC or 220V DC circuits. The control switches used in mimic diagrams shall be of discrepancy type with built in lamp indication.

Control and Selector switches shall be rotary type with escutcheon plates clearly marked to show the function and positions. The switches shall be of sturdy construction suitable for mounting on panel front. Switches with shrouding of live parts and sealing of contacts against dust ingress shall be provided.

Circuit breaker control switches shall have three positions and shall be spring return to "NEUTRAL" from "CLOSE" and "TRIP" positions and shall have pistol grip handles. They shall have at least two (2) contacts closing in close position, and two (2) contacts closing in trip position unless specified otherwise.

Ammeter and voltmeter selector switches shall have four stay out position with adequate number of contacts for three phase 4 wire system. These shall have oval handles. Ammeter selector switches shall have make before break type contacts to prevent open circuiting of CT secondaries. Contacts of the switches shall be spring assisted and shall be of suitable material to give a long trouble free service.

3.11.2.4 Push buttons

Push-buttons shall be of spring return, push to actuate type. Their contacts shall be rated to make, continuously carry and break 10A at 230V AC and 0.5A at 220V DC.

All push buttons shall have one normally open and one normally closed contact, unless specified otherwise. The contact faces shall be of silver or silver alloy.

All push buttons shall be provided with integral escutcheon plates marked with its function. The colour of the button shall be as follows:

- Green : Breaker Close
- Red : Breaker Open
- Black : For overload reset

3.11.2.5 Indicating and signalling lamps

Each indicating and signaling lamp shall have a removable cap, which can be inscribed with wording and shall not be affected with the heat of the lamp.

Indicating lamps are preferably of LED type & low watt consumption and shall be replaceable from the front of the panel. The indicating and signaling lamps shall be of the same size and type.

Lamps shall be provided with series resistors, preferably built-in the lamps assembly.

The lamps shall have escutcheon plates marked with its function, wherever necessary.

Lamps shall have translucent lamp-covers of the following colours, as warranted by the application.

Red : ACB's/MCCB's close

Green : ACB's/MCCB's open

White : Auto trip

Amber : For all healthy conditions e.g. control supply

Voilet : Circuit breaker spring charged

Blue : For all alarm conditions (e.g. overload) Also for "SERVICE" & "TEST" positions indicators

Indication lamps should be located just above the associated push buttons/control switches. All indicating lamps shall be suitable for continuous operation at 90% to 110% of their rated voltage.

3.11.2.6 HRC Fuses

HRC-Fuses shall have visible operation indicators.

HRC-Fuses shall be mounted on fuses carriers, which are mounted on fuse bases. Wherever it is not possible to mount fuses on carriers, fuses shall be directly mounted on plug-in type of bases. In such cases one set of insulated fuse pulling handles shall be supplied with each switchgear.

HRC-Fuse rating shall be chosen by the tenderer depending upon the circuit requirements.

3.11.2.7 Indicating instruments and Meters

Instruments mounted on panels, shall be of the semi flush type back connected, matching pattern, shape, and of approved finish to present neat and fitting appearance consistent with functional requirements 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 locations.

The instruments shall accurately measure and indicate the quantity under all conditions of operation with minimum instrument errors. Changes in ambient temperature within the range prevailing at site shall not affect the accuracy Contact making instruments shall have contacts suitable for 240 V AC or 220 V DC circuits.

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. The dials pointer etc. shall be designed to facilitate accurate reading by minimizing parallax and glare from instrument window and by providing clear bold dial markings. The size of dial and length of the scales of the indicating instruments shall be large enough to suit the requirements. The scale plates of panel mounted indicating instruments shall have a permanent white mat finish with black graduations and the pointer shall also be of the black colour. Instruments mounted on panels shall be of flush type and shall be back connected. All

instruments on a switchgear panel shall be of matching pattern, shape and finish so as to present a pleasing appearance consistent with the functional requirements.

All instruments shall conform to relevant International or national applicable standards. These shall be subjected to tests prior to dispatch. The instruments shall be shock, vibration and moisture proof. The electrical instruments shall withstand dielectric test of 2000 V RMS to ground for one (1) minute as per standards.

The coils of electrical instruments shall be designed for continuous operation at 110% of the full load current at instrument potential. The coil rating of the measuring instruments shall be coordinated 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 in respect of accuracy classification.

Energy meter shall be suitable for 3-phase, 4-wire unbalanced system and shall comply generally with the relevant standard. All instruments shall be tested in accordance with the requirements of relevant standards.

3.11.2.8 Integrating instruments

The Wh and VARh meters shall be of the semi-flush-mounted type. Each meter shall be connected to terminal blocks suitable for opening and short-circuiting for testing purposes. The meter cases shall be dust-tight and with removable covers. The meters shall be three-phase, three elements, equipped with an impulse contact mechanism, potential free for remote metering purposes, and shall be suitable for continuous operation from secondary of potential transformers and from secondary of current transformers, with transformer ratios and connections indicated on the contract drawings.

The meters shall be provided with primary-rated, direct reading registers, with five or more digits and a suitable multiplier. The meters for the outgoing lines shall be of the two-way type and all meters shall have mechanism to prevent negative registration.

The meters shall have built in over-voltage protection and isolation according to IEC Publication 60521. The tolerance ambient temperature range of the meters shall be 0 to 45 degrees C.

The protection class of the Wh meters shall be 0.2 and the VARh meters 0.2 according to IEC Publication 60687.

3.11.2.9 Measuring converters

The converters shall be suitable for direct connection to the secondary circuits of the potential and current transformers used, or other sensors, each as they apply. The converters shall be static type, having all accessories to provide an output signal of 4-20 mA, filtered DC.

For the measuring converters the following minimum requirements shall be fulfilled:

- Current transducers shall be single-phase, of accuracy class 0.2 or better.
- Voltage transducers shall be single-phase of accuracy class 0.2 or better.
- W and VAR transducers shall be two elements, three-phase. Accuracy class of the transducers shall be 0.2 or better.

3.11.2.10 Measuring transformers

All current and voltage transformers shall be completely encapsulated cast resin insulated type suitable for continuous operation at the temperature prevailing inside the switchgear enclosure, when the distribution board is operating at its rated condition and the outside ambient temperature is 40 deg.C.

All instrument transformers shall be able to withstand the thermal and mechanical stresses resulting from the maximum short circuit and momentary current ratings of the associated switchgear.

All instrument transformer shall have clear indelible polarity markings. All secondary terminals shall be wired to a separate terminal on an accessible terminal block where star-point formation and earthing shall be done.

All VTs shall have readily accessible HRC current limiting fuses on both primary and secondary sides. The class of insulation should be E or better.

The parameter & rating of CTs & PTs are minimum requirement & tentative only. Contactor shall submit the calculations for selection of CT/PT for approval to purchaser. Potential transformer secondary windings shall be rated 110 / $\sqrt{3}$ V Current transformer secondary windings shall have a rated current of 1A / 2.5A / 5A.

3.11.2.11 Nameplates Labels and Cautionary signs

Each major and auxiliary item of equipment shall have a nameplate permanently affixed thereto, or as directed, showing in a legible and durable manner the serial number, name and address of the manufacture, rated capacity, speed, electrical characteristics, and other significant information, as applicable.

The module identification plate shall clearly give the feeder number and feeder designation wherever applicable. For single front switchboards, similar panel and board identification labels shall be provided at the rear also.

All name plates shall be of non-rusting metal or 3-ply lamincoid with white engraved lettering on black back-ground, inscriptions and lettering sizes shall be as per their standard practice. Suitable plastic sticker labels shall be provided for easy identification of all equipment, located inside the panel/module. These labels shall be positioned so as to be clearly visible and shall give the device number, as mentioned in the module wiring drawings.

Caution and warning signs must be displayed in English, Hindi and local language. Identification plates and instruction plates shall preferably be bilingual i.e. English and Hindi/ local language.

3.11.2.12 Motors

All electric motors for driving various equipment shall conform to relevant standards viz. IEC, BS or IS as applicable. The motor rating, torque characteristics, speed etc. shall be selected to suit the duty requirements.

Type of starter for motors shall be duly approved by the purchaser during detailed engineering. The detailed design calculation for selection of type of starters is to be submitted for approval. The priority for type of starters shall be in the following order:

1. Variable frequency drive

2. Soft starter
3. Star delta/ auto –transformer
4. Direct on-line starter

The enclosure of each motor shall be of the type best suited for the service conditions of the motor. The motor insulation shall be resistant to moisture, oil or oil vapour and the motors in general shall be so designed as to suit the tropical climate. Varnished cambric or glass insulation class F shall be used for connection from the windings to the terminals.

The terminal box shall be closed conduit box type conveniently located, and shall have means for terminating the external wiring for outdoor use. The motor terminals shall be of the stud type totally enclosed. Eye bolts or lugs shall be provided for lifting.

Space heaters to avoid condensation shall also be provided. Special type of motors, not adequately covered by these specifications, shall be offered for any special application, but these shall be subject to the approval of purchaser.

3.11.2.13 Space heaters

Space heater shall be provided in the Distribution Boards, Control & Protection panels, Motor Control panels etc. The space heaters shall be suitable for continuous operation on 240V AC, 50 HZ single phase supply, and shall be automatically controlled by thermostats. Necessary isolating switches and fuses shall also be provided.

3.11.2.14 Auxiliary relay, contacts and devices

All relays and timers in protective circuits shall be flush mounted on panel front with connections from the inside. They shall have transparent dust tight covers removable from the front. All protective relays shall have a draw out construction for easy replacement from the front. They shall either have built-in test facilities, or shall be provided with necessary test blocks and test switches located immediately below each relay. The auxiliary relays and timers may be furnished in non-draw out cases.

All AC auxiliary relays shall be suitable for operation with VTs and CTs secondaries.

DC auxiliary relays shall be designed for 220V DC unless otherwise specified and shall operate satisfactorily between 80% and 110% of the rated voltage. Relays shall have adequate thermal capacity for continuous operation in circuits in which they are used.

All protective relays and timers shall have at least two potentially free output contacts. Relays shall have contacts as required for protection schemes. Contacts of relays and timers shall be silver faced and shall have a spring action. Adequate number of terminals shall be available on the relay cases for applicable relaying schemes.

Suitable number of auxiliary contacts or auxiliary relays shall be provided with each VCB's / ACB's for indication, remote indication, annunciation and automatic changeover and interlocking scheme.

All protective relays, auxiliary relays and timers shall be provided with hand reset operation indicators (flag) for analysing the cause of operation.

3.11.2.15 Welding & NDT

Preparation of base material

Members to be joined by welding may be cut to shape and size by mechanical means such as shearing, machining, grinding, or by gas or arc cutting, to suit the conditions. Edges shall be shaped according to ASME requirements. Design of welded joints and selection of weld filler metal shall be in accordance with approved standards and shall allow thorough penetration and good fusion of the weld with the base metal. The edges of surfaces to be welded shall be sound metal free of visible defects such as laminations or defects caused by cutting operation at least 30 mm back from the edge of the weld, and free from rust, oil, grease, and other foreign matter.

The establishment of welding procedures, welder's qualifications shall conform to the requirements of the ASME Boiler and Pressure Vessel Code Section VIII and IX. The approved copy of the WPS & WPQR in accordance with the ASME requirements shall be submitted to the purchaser for review and record.

3.11.2.16 Field welding

Filler material required for field-welded joints shall be furnished by the Contractor. The Contractor shall perform all welding work at site in accordance with the applicable WPS. Only qualified welders shall be used for undertaking welding as per the applicable WPS. NDT shall be performed as per the approved drawings.

Preparation for field welding

All cutting, chamfering, and other shaping of metals necessary for the field connection shall be done as far as possible in the shop. Adequate temporary bolted field connections shall be provided to hold the assemblies rigidly and in proper alignment during shop and field assembly.

To ensure proper alignment during field erection, a minimum of two dowels shall be provided for each field connection between subassemblies. The holes shall be drilled and the dowels fitted at shop assembly after the subassemblies have been satisfactorily aligned. All stipulations for welding, structural work and other, shall be applied to fieldwork as well as to shop work, except where otherwise stated.

3.11.2.17 Painting

All the equipment furnished and installed by the Contractor shall be completely painted for final use, with the exception of those parts or surfaces that are expressly designated as unpainted. Surfaces to be painted shall receive the preparatory treatment and required number of coats. The Contractor shall perform all painting work in the shop, before shipment, followed by a final coat of paint at site after installation as per the standard procedure.

All materials, supplies, and articles furnished shall be the standard products of recognized reputable manufacturers. Colour schedule of equipment supplied shall be finalized during detailed design stage.

3.11.2.18 Galvanization

Unless otherwise specified, all structural steel including ladders, platforms, hand rails and the like and all exterior and interior steel surfaces of outdoor Works, as well as bolts and nuts

associated with galvanised parts shall be hot-dip galvanised, electrolytically galvanised or sherardized, as may be appropriate to the particular case.

A) Material:

For galvanising, only original blast furnace raw zinc shall be applied, which shall have a purity of 98.5%. The thickness of the zinc coat shall be:

- i) For bolts and nuts, approx. 60 micrometre.
- ii) For all other parts, except for hydraulic steel structures or parts intermittently or permanently submerged in water, approx. 70 micrometre.

B) Galvanising of hardware:

Bolts, nuts, washers, locknuts and similar hardware shall be galvanised in accordance with the relevant standards. Excess smelter shall be removed by centrifugal spinning.

C) Straightening after galvanising:

All plates and shapes, which have been warped by the galvanising process, shall be straightened by being re-rolled or pressed. The material shall not be hammered or otherwise straightened in a manner that will injure the protective coating. Materials that have been harmfully bent or warped in the process of fabrication or galvanising shall be rejected.

D) Repair of galvanising:

Material on which galvanising has been damaged shall be re-dipped unless the damage is local and can be repaired by soldering or by applying a galvanising repair compound; in this case, the compound shall be applied in accordance with the manufacturer's instructions. Soldering shall be done with a soldering iron using 50/50/o solder (tin and lead). Surplus flux or acid shall be washed off promptly and the work shall be performed so as not to damage the adjacent coating or the metal itself, Any member on which the galvanised coating becomes damaged after having been dipped twice shall be rejected.

3.11.2.19 Pumps

All pumps forming part of the generating units and other plant and equipment shall be of high performance requisite type (viz. centrifugal, rotary etc.) and rating, of reputed make, and shall be directly coupled to their driving motors. The pumps shall be of self-priming type and with proper sealing systems and protection.

The materials of construction of pumps in general shall suit the service conditions. The materials of construction of the pumps handling water, such as drainage & dewatering pumps, turbine top cover drainage pumps etc. shall be resistant to abrasive effects of silt in such water. The pumps shall operate quietly without undue noise and vibration in their full operating range of head and flow. They shall be easy to maintain.

3.11.2.20 Embedded parts, Anchor Bolts and Fasteners

All embedded anchor bolts, rods, pipes, welding plates and support plates shall be provided by contractor. Anchor bolts shall consist of a threaded steel rod installed inside a pipe sleeve

to provide lateral adjustment after the sleeve is embedded. The threaded end of the rod shall be provided with two steel nuts and two steel washers to permit leveling and anchoring the equipment prior to grouting.

Approved types of expansion or chemical anchors shall be used where practicable for small equipment.

3.11.2.21 Rust Prevention and Protection during Transit: -

Bright steel parts including all machined surfaces shall be given a thick coat of tar or tallow or any other approved rust resisting paint in plain colour to prevent rusting during shipment and transport.

3.11.2.22 Civil Works

Civil foundations for equipment of the generating units and other plant and equipment will be prepared by the Purchaser in accordance with the basic design data to be supplied by the Contractor.

The Contractor shall provide design for foundations and install the concrete inserts/embedment; support steels and/or components for foundation /supports purpose, shall do any chipping / levelling works, denting / painting etc.

3.11.3 Erection, Testing, Commissioning and performance of Guarantee Tests

3.11.3.1 Testing and inspection

Materials used for construction of major & important sub-assemblies shall be thoroughly shop tested and inspected by the Contractor at his own expense prior to dispatch. Shop test shall comprise of routine test & type tests.

The shop tests and inspections shall be as spelt out in individual equipment specifications as dealt in succeeding sections but shall not be limited to the same. Any other tests and inspection not specifically listed but are otherwise considered essential and advisable shall also be conducted.

The Bidders shall furnish schedule of the shop tests and inspections on materials and equipment. Important tests/inspections shall be subject to witness by the purchaser for which the Contractor shall give sufficient advance notice. In case purchaser is unable to witness shop tests/inspections, the Contractor shall be so intimated and the tests/inspections may then be carried out in the absence of the Purchaser.

Equipment on which tests and inspections have been duly witnessed and approved by the Purchaser may be dispatched by the Contractor. Equipment on which tests and inspections have not been witnessed by the purchaser shall be dispatched only after the shop tests and inspection Certificates have been approved by the Purchaser.

3.11.3.2 Dimensional Checks and Visual Inspection

Dimensional checks shall be performed on all major parts, components and partial assemblies, especially when close tolerances and fits are involved (tolerance of shafts,

between stationary and moving parts, connecting dimensions for the assembly with other supplies, etc.). If the dimensional checks show discrepancies in measurement, which may affect the fit, assembly or dismantling of the respective part or component, the same have to be corrected correspondingly. Such correction or modification shall, however, in no way lead to sacrifices with respect to reliability of operation or inter-changeability, and shall be performed only after the agreement of the Owner has been obtained. If the correction or modification cannot be carried out in accordance with the terms mentioned above, the part or component concerned may be subject to rejection. Faulty machine parts or equipment shall by no means be delivered.

3.11.3.3 Functional Tests

Functional tests on partial assemblies and/or complete assemblies shall be carried out as much as possible already in the manufacturer's workshops. Such tests shall be performed as far as possible under operation-like conditions.

When requested by the Owner, the functional tests shall be repeated until full proof has been obtained that the functioning of the assemblies will comply with the requirements of the Contract Documents.

3.11.3.4 Erection, commissioning & field tests

The Contractor has to do all the work related to assembly, erection, testing and commissioning complete in all respects. All necessary tools, plants, labour, materials including consumables for performing installation, testing and pre-commissioning shall be provided by the Contractor.

The Contractor shall submit the necessary data/information, layout and foundation/support drawings well in advance. The Contractor shall provide and install the concrete inserts/embedment, support steels and/or components for foundation/supports purpose as per approved erection drawings and coordinate the activities with civil contractors to keep his activities in synchronism with civil work. All installation for foundation shall be verified and accepted by the Engineer.

The Contractor shall use anchor fasteners for installation of piping, fixtures, mountings, conduits, cabling, panels etc. Minor Chipping of concrete is permitted. However, taking support from reinforcement bars shall not be allowed.

3.11.3.5 Installation procedure

The Contractor shall submit six copies of all detailed programs and the procedures to be adopted for erection / installation, testing and commissioning well in advance, before start of erection activities/ installation.

The installation procedure shall also have a section "site quality assurance plan" containing erection data sheets / site protocols for various components. These sheets should specify site measurements/ inspections required to be made for ensuring proper installation.

3.11.3.6 Cable laying

Wiring between equipment enclosures shall be made with cables, laid in trenches and/or cable trays and in cable conduits. The Contractor shall submit for review to the Engineer a cable route layout-showing location of trenches, conduits and trays. All material for cable laying such as cable trays supports and fastening material shall be furnished and placed by the Contractor. Cables shall be properly fastened and marked where they enter enclosures by either cable clamps or nipples.

Cables in horizontal cable trays shall be fastened properly with clamps or plastic strips. Power and control cables shall be placed in separate trays or conduits. Cables shall be clearly marked at each terminal point and appropriate intermediate locations as per Standard.

Conduits shall be of heavy gauge rigid steel, hot-dip galvanized, cut square reamed, threaded and screwed tight at all joints.

Conduit entrances to pull boxes and switches shall have double lock nuts & insulating bushings. No running thread shall be used.

Flexible metallic conduit shall be used for connection to equipment, which are subject to vibration, and also for connection to level/limit/pressure switches.

3.11.3.7 Field inspection

The Contractor shall permit Engineer to perform inspections of the assembly which will include a complete verification of the assembly of all parts as to their levels, clearances, pertinent fits, alignments and quality of workmanship. The field supervisor of the Contractor shall provide Engineer with three (3) copies of all the clearances, tolerances and data of all pertinent fits, alignments and levels, so that the latter may repeat the Contractor's measurement, if desired.

Unless otherwise specified, any rejection based on the inspection will be reported to Contractor within fifteen (15) days.

3.11.3.8 Field tests

All field tests including tests during installation, pre-commissioning, commissioning, performance and field acceptance tests shall be conducted by the Contractor, in the presence of representative of the Employer. Procedure to be adopted for conducting these tests shall be submitted well in advance, before start of relevant testing, for approval of the Employer.

The equipment / system shall be deemed to be commissioned and ready for trial run only after successful operation for a test service period specified in sub clause "Performance Testing". In the event of any failure this period shall be repeated for any number of times till the successful operation as described above is achieved.

All test equipment and instruments shall be furnished by the Contractor and will remain the Contractor's property after the fulfilment of all field tests.

Any defects or leaks disclosed in the tests shall be duly mended/ repaired to meet the desired function and retested. All necessary materials and labour for performing all the above tests shall be provided by the Contractor.

The Contractor shall prepare written test certificates in a form agreed upon by the Contractor and Employer of all tests results and hand them over to the Employer in due time.

The design, location and approval tests of anchoring rings for the fixing of lifting apparatus necessary for assembly and dismantling of equipment and plant accessories shall be the responsibility of the Contractor.

3.11.3.9 Taking over of facilities

Taking over" means that the Facilities (or a specific part thereof where specified) have been completed operationally and structurally and put in a tight and clean condition, and that all work in respect of pre-commissioning of the Facilities or such specific part thereof has been completed and commissioning has been attained as per Technical Specifications. The contractor shall make formal request for taking over the facility to the EIC.

3.11.3.10 Operation acceptance

The operational acceptance by the Employer of the Facilities (or any part of the Facilities where the Contract provides for acceptance of the Facilities in parts), which certifies the Contractor's fulfilment of the Contract in respect of Functional Guarantees of the Facilities (or the relevant part thereof) in accordance with the provisions of Specification.

3.11.3.11 Consumables, oils and Lubricant

The Contractor shall deliver to the Owner all equipment complete with initial fill of fluids, grease or lubricants, transformer oil, Nitrogen, SF6 gas and other used gases in non-returnable drums / containers and replace any quantity used up or lost during installation and testing. The oil used for the lubrication and oil pressure systems for the turbine, governor, shutoff valve and generator shall be preferably of the same type.

Supply

The Contractor shall furnish the following:

- (i) All oil for initial filling of all equipment supplied, plus additional oil equivalent to the first filling requirement of one unit.
- (ii) Grease if required for initial filling of all of the equipment, plus 10% additional.
- (iii) Gases for initial filling of all equipment supplied, plus 10 % additional quantity.
- (iv) Flushing fluids to flush and clean all systems.

3.11.3.12 Submission of Drawings, Documents, Manual, software, Calculations, Safety Margin Details etc.

All drawings and documents shall be submitted to purchaser in hard form as well as in editable soft form. Bidder shall submit Six (6) number hard copies along with copy in electronic form media of the documents & drawings to purchaser for reference / review / approval. A comprehensive list of all such drawings/documents planned to be submitted for reference/approval shall be provided beforehand to the purchaser.

At the time of completion of contract, the Contractor shall submit ten (10) copies along with five (5) copies in electronic form in DVD media, of approved and as built drawings together with operation and maintenance manual.

Loading drawings

For all larger pieces of Works which, due to their dimensions and/or weight and transport limitations, will require special means for their transportation, the Contractor shall submit binding loading drawings indicating dimensions, weights, etc., of the respective pieces of Works and the necessary trailer for its transportation to the site.

Foundation drawings

If a piece of works requires its own foundation or needs a special area for installation, the contractor shall submit drawings indicating all pertinent dimensions, static and dynamic loads, etc. They shall include all essential details required for proper design and construction of the foundations and/or buildings.

In addition, they shall include openings, sleeves, slopes and the arrangement of any supporting structure, i.e. base-frames or other steel constructions for permanent fixing or erection purposes.

If conduits are to be installed in the foundations, the relevant information such as diameter, length, and purpose shall be indicated on the drawings.

Arrangement drawings

All arrangement drawings shall be drawn to scale. The General Arrangement Drawings shall show the physical arrangement of Works (constructions, machines, complete switchgears, control panels, instrument cubicles, etc.), civil constructions (buildings, rooms, foundations, ducts, etc.) and reserved areas (for pipes, cables, lines, etc.) in relation to each other and to agreed co-ordinates and boundaries. Such drawings shall be prepared for the whole plot, for separate plots and for each building (building, hall, room, ducts and trenches, etc.).

Outline drawings

The Outline Drawing shall show all elements and the main dimensions of individual components where necessary in plan view, cross-section, side and top views. If reasonably possible such dimensions can be shown on Arrangement Drawings.

Design drawings

The Design Drawings shall include the shop drawings, assembly drawings, erection drawings, piping diagrams and piping arrangement drawings, etc., showing the dimensions, design and data of all constructions, apparatus and Works to be furnished under this Contract. The drawings shall - where applicable - substantially conform to the Contract Drawings and shall show:

- 3-D Assembly drawings for major components in hard and soft form.
- Details of manufacturing and treatment of major single work pieces specially manufactured for this Contract
- Assembly of the Works in plan and elevation with main dimensions Sub-assembly of the principal components of the Works with overall dimensions, adjustment and clearance tolerances, numbers of corresponding detail drawings
- Sub-assemblies in which the Contractor proposes to ship the Works
- All necessary details of the parts connecting to the Works supplied by others

-
- Location and sizes of auxiliary connections for oil, grease, water, air, electrical power etc.
 - Location and size of the instruments and accessories provided
 - Methods of lubrication and sealing
 - Instructions for heat treatment, pressure tests, surface preparation and anticorrosive protection
 - Full details of parts for which adjustment is provided or which are subject to wear
 - Method and sequence of installation, field joints, erection and lifting devices, jacks, grout plugs, anchoring details, etc., if not shown on foundation drawings.

Installation drawings

The construction, mechanical, electrical and I & C Installation Drawings shall provide detailed information on the disposition of the various items of a system (e.g. lighting fixtures, socket outlets, connection boxes, transmitters, actuators, loudspeakers, telephones, pipes, valves, pumps, compressors, etc.) and of the piping and wiring respectively included in the installation or assembly. They shall be based on dimension drawings of cubicles, rooms, buildings or areas containing the Works.

Diagrams

Single-line diagrams

This is a simplified diagram of the essential electrical Works and their interconnections. Each circuit shall be represented by a single line only. It shall contain all required technical information of the Works represented, e.g. voltage, current, capacity, short-circuit level, ratios, voltage variations, positive and zero sequence impedances, measuring transformer and protection relay indices, interlocking, kind of switch drive, code designation, etc. as applicable.

Circuit diagrams

The Circuit Diagrams shall show the power circuits in all the phases with the main apparatus as well as the pilot circuits (measuring and control circuits). It shall show in full the functioning of part or all installations, Works or circuits with all required technical details.

Block diagrams

The Block Diagrams shall be used to show in a simplified manner the main inter - relationships between the elements of a system by means of symbols, block symbols and pictures without necessarily showing all the connections. The symbols used for the individual kinds of components, e.g. servomotors, computing modules, etc., shall clearly be explained on the diagram or on an attached legend.

Logic diagrams

The Logic or Functional Diagrams shall be used for representation of logic and sequence controls and interlocking by showing only binary logic elements and their effect on the various process equipment disregarding their electrical realisation. Logic function elements (AND, OR, NOR, NAND, STORAGE, etc.) shall be used for processing and combining binary signals.

Terminal diagrams

Such diagrams shall be prepared for any type of terminal box, marshalling rack, control cubicle, switchboard, etc., and shall show the terminals (properly numbered) and the internal and/or external conductors (wires or cables) connected to them.

The terminal diagram of each individual switchboard, terminal box, panel, etc., shall contain, but not be limited to the following information:

Protection co-ordination diagrams

These diagrams shall show in a graphical manner separately for each power supply circuit:

- A simplified single-line diagram of the circuit with technical data of all instrument transformers and relays
- Co-ordinated tripping curves of related protection devices
- Setting of the protection devices.

Emergency shutdown diagram

This diagram shall show the sequential steps and interdependencies during emergency closure.

Flow Charts

Flow charts shall be used for representing sequence of events for start / stop / shut down of the machine including associated equipment and auxiliaries.

Manuals

The following manuals covering all equipment of EM works shall be supplied as per the time schedule in both editable soft and hard form: -

Sr.No.	Manual Description
1.	Storage and preservation manual
2.	Safety manual
3.	Erection Manual
4.	Testing and commissioning manual
5.	Operation manual
6.	Maintenance manual
7.	Long term storage manual for Generator Transformer
8.	Long term storage manual for boxed up component / equipment.
9.	Repair process / procedure manual for equipment / system

As built drawing to be provided incorporating changes made during erection, testing and commissioning.

Drawing & Document Submission Schedule

Drawings & documents submission schedule of the EM package with the categorization (i.e. Approval / reference) & tentative submission date shall be submitted to purchaser.

Preliminary list of drawings under various categories have been prepared and appended at Section 1 of the Technical Specification.

3.12 DRAWINGS & DOCUMENTS TO BE SUBMITTED BY THE SUCCESSFUL BIDDER AFTER AWARD OF CONTRACT

One set of soft copies of all the approved drawings, documents including as built drawings shall be furnished by the Bidder to the Owner / Consultant in compact discs.

White prints or other non-reproducible drawings can be mailed folded. Blue prints shall generally not be used.

All drawings, prepared by the Bidder shall be as per IS: 696. Supplier's standard drawings are exempted from the above size limitation, unless his "standard" includes drawings of very large size or length. There shall be sufficient reference notes on the drawings to permit identification of all the drawings which are required for a proper understanding.

Bills of material and drawings shall be cross-referenced for easy identification.

All drawings shall be dimensioned in the metric system. Where drawings are usually made in the British (or other) system, they shall also have metric system dimensions in parentheses or below dimension line. Titles and written notations shall be in English. If the original is in another language it shall carry English translation. The translations will appear immediately on the drawings. Attached lists of translated words shall not be accepted.

Drawings and bills of material shall be identified by a numbering system to be mutually agreed later on. Any additional identification numbers or symbols that the Bidder selects to use for his own purposes are permissible so long as Owner's number is the prime means of identification.

The scale of the drawing shall be shown clearly in the title block of the drawing. Wherever possible, scales of drawings shall be:-

1:1	1 : 2.5	1 : 5	1 : 10	1 : 20	1 : 25
1:50	1 : 100	1 : 200	1 : 300	1 : 500	
1: 1000	1 : 2000	1 : 5000			

All reproducible must be made from original drawings.

All revised drawing shall clearly indicate the number, date and subject to each revision. All the revisions carried out in the drawings shall be clearly identified and marked.

Drawing list shall be kept up-to-date, incorporating all new additions, cancellations and changes, and will be reissued periodically with Progress Report.

General arrangement drawings shall be submitted for approval to the Owner/ Consultant prior to the commencement of detail engineering by the Bidder. These drawings shall show to scale all major equipment including electrical equipment and building outlines and overall dimensions as well as tie-in dimensions and clearances shall be clearly indicated. Approved arrangement drawings shall be used as basis for design and preparation of detail drawing to be prepared by the Bidder. The Bidder shall furnish all the necessary drawings, data etc., of the plant/equipment with appropriate "Status" stamp in adequate no. of copies as indicated below:

S. No.	DESCRIPTION	TENDER STAGE	CONTRACT STAGE FOR APPROVAL	FINAL DOCUMENTATION	
				Prints	CDs
1	Drawings and Data Sheets	1	6	10	05
2	Drawings "As Built "	-	-	10	05
3	Type Test Reports	1	6	10	05
4	Erection Manuals	-	6	10	05
5	Operation and Maintenance Manuals	-	6	05	08
6	Manufacturing Quality Plan	1	6	10	-
7	Field Quality Plan	1	6	10	-
8	Inspection Test Reports	-	-	10	-

3.12.1.1 QUALITY ASSURANCE PROGRAMME

The Bidder shall follow Quality Assurance Programme to ensure that the equipment and services under the scope of contract whether manufactured or performed at the Bidder's works or at his sub-vendor's premises or at the project site or at any other place of work are in accordance with the technical specifications. Such programme shall be outlined by the Bidder and be submitted along with the bid. The QA programme shall be generally in line with IS/ISO- 9001 and generally cover the following:

- ORGANISATION STRUCTURE FOR THE MANAGEMENT AND IMPLEMENTATION OF THE PROPOSED QUALITY ASSURANCE PROGRAMME
- QUALITY SYSTEM MANUAL
- DESIGN CONTROL SYSTEMS
- DOCUMENTATION AND DATA CONTROL SYSTEMS
- QUALIFICATION/EXPERIENCE OF BIDDER'S KEY PERSONNEL.
- PROCEDURE FOR PURCHASE OF MATERIAL, PARTS, COMPONENTS AND SELECTION OF SUB-VENDOR'S SERVICES INCLUDING VENDOR ANALYSIS, SOURCE INSPECTION, INCOMING RAW-MATERIAL INSPECTION, VERIFICATION OF MATERIALS PURCHASED, ETC.
- SYSTEM FOR SHOP MANUFACTURING AND SITE ERECTION CONTROLS INCLUDING PROCESS, FABRICATION AND ASSEMBLY.
- CONTROL OF NON-CONFORMING ITEMS AND SYSTEM FOR CORRECTIVE ACTIONS AND RESOLUTION OF DEVIATIONS.
- CONTROL OF CALIBRATION AND TESTING OF MEASURING / TESTING EQUIPMENT.
- SYSTEM FOR QUALITY AUDITS.
- SYSTEM FOR IDENTIFICATION AND APPRAISAL OF INSPECTION STATUS.
- SYSTEM FOR AUTHORISING RELEASE OF MANUFACTURED PRODUCT TO THE PURCHASER.
- SYSTEM FOR TRANSPORTATION /DELIVERY, HANDLING, STORAGE AND PRESERVATION.
- SYSTEM FOR MAINTENANCE OF RECORDS.

GENERAL REQUIREMENTS - QUALITY ASSURANCE

All materials, components and equipment covered under scope and its technical specifications shall be procured, manufactured, erected, commissioned and tested at all the stages, as per a comprehensive Quality Assurance Programme agreed mutually.

Minimum Quality Assurance Test Requirement (QATR) to be followed during Manufacturing and Field erection indicating requirement of various tests / inspections, on major equipment / items, to be carried out as stipulated in technical specification and standards mentioned therein, are attached hereto and are part of bidding documents.

Clarification, if any, on these quality assurance test requirement, raised by bidder shall be discussed and resolved during pre-bid meeting.

After the award of contract, the contractor shall submit the detailed Manufacturing & Field Quality Assurance Plans for complete equipment / material during detailed engineering for approval and acceptance by LTHP Ltd./Consultant in line with technical specification, Quality Assurance – General & Test Requirements and detailed engineering.

Manufacturing Quality Assurance Plans shall detail out for all the components and equipment & various tests/inspection, to be carried out in conformity with relevant latest IEC/IS/ISO etc., quality practices and procedures to be followed by Contractor's / Sub vendor's Quality Control Organization, the relevant reference documents, standards and acceptance norms etc. during all stages of material procurement, manufacture, assembly and final testing / factory acceptance tests.

The Field Quality Assurance Plans shall detail out the various tests/inspection to be carried out in conformity with relevant latest IEC/IS/ISO, quality practices and procedures etc. to be followed by the contractor's / sub-contractor's site Quality Control Organisation during various stages of site activities from receipt of material/equipment at site till final commissioning/ acceptance/handover.

All major items/ equipment/ components to be manufactured in house as well as procured from sub-vendors (Bought out Items, BOI) to be listed in the bid. Bidder shall submit Quality Assurance Plan submission schedule in the bid for above listed items in attached Format (duly filled in the format F-060-05 Issue 2.0 Rev. 00, Total 1 Page) in line with L2 Schedule.

For components / equipment / Bought out Items procured by the contractor for the purpose of the contract, the Contractor's purchase specifications and inquiries shall call for quality plans to be submitted by the sub-vendors.

The quality plans called for from the sub-vendors shall detail out, during the various stages of manufacture and installation, the quality practices and procedures followed by the sub-vendor's quality control organisation, the relevant reference documents/standards used, acceptance level, inspection of documentation raised, etc.

Such quality plans of the successful sub-vendors shall be finalized with the LTHP Ltd./Consultant in line with requirement mentioned above and such approved Quality Plans shall form a part of the purchase order/contract between the contractor and his sub-vendor.

Within three weeks of the release of the purchase orders /contracts for such bought out items /components, a copy of the same without price details but together with the detailed purchase specifications and other related documents such as data sheet, drawings, quality plans and delivery conditions shall be furnished to the LTHP Ltd./Consultant by contractor along with a report of the Purchase Orders placed, on the monthly basis, so far for the contract.

The Quality Plans shall be submitted on electronic media e.g. CD or E-mail in addition to hard copy, for review and approval of LTHP Ltd./Consultant. After approval, the same shall be submitted in compiled form on CD-ROM by contractor.

For all spares, replacement items and additional similar items, the quality requirements/Quality Plans as agreed for the main equipment supply shall be applicable.

All material of construction shall be as per technical specification / approved drawings / GTP.

Contractor's Plant internal standards must be traceable to acceptable International / National standards & salient points of difference (if any) shall be clearly stated with submission of plant standards. The contractor shall furnish copies of reference documents, plant standards, acceptance norms, test and inspection procedure etc. as referred in Quality Plans along with Quality Plan to LTHP Ltd./Consultant. These Quality Plans and reference documents/standards etc. will be subject to approval of LTHP Ltd. without which manufacturer shall not proceed. These documents shall form a part of the contract.

Tests on components and sub-assemblies shall be carried out at various stages of manufacturing, till the product undergoes the final tests in conformity with the relevant standards.

The Customer Hold Points (CHPs), identified in approved quality plan, i.e. testing checks which shall be carried out in the presence of the LTHP Ltd./NHPC, beyond which the work will not proceed without written consent of LTHP Ltd.'s authorized representative.

The contractor / sub-vendor shall carry out routine test on 100% items at his works. The quantum of check / test for routine and acceptance test by LTHP Ltd./Consultant shall be generally as per criteria / sampling plan defined in referred standards. Wherever standards have not been mentioned, quantum of check / test for routine / acceptance test shall be as agreed during detailed engineering.

The quantum of check when specified in percentage (%) / sampling basis shall be treated as per lot per sub-vendor. When the quantum of check is indicated to in whole no., then same quantum of check shall be applicable to each sub-vendor supplying the same equipment.

For sub-vendors identified during pre-award stage for submission of vendor details/ credentials (category "DR"), contractor shall submit documents in format F-060-01 after

placement of award in the manner as specified as under prior to any procurement and within a month after placement of award or a period as agreed at the time of pre-award discussions.

The proposed sub-vendors should be registered vendors of the bidder and must have proven experience for successful operation for similar equipment / items / processes as mentioned elsewhere in technical specification.

Before assigning any portion of work to the sub-vendor, other than one specified and duly accepted in the contract, the contractor will take prior approval of BHEL/ LTHP Ltd./NHPC.

Normally no request for change of sub-vendors or inclusion shall be entertained by LTHP Ltd./NHPC. But in exceptional circumstances, if the request for change of sub-vendors or inclusion is found reasonable and justified, then the same shall be entertained and the decision of LTHP Ltd./NHPC in this respect shall be final and binding. The time consumed for the change / inclusion of sub-vendors shall not be excluded from the stipulated time of the completion of the contract. This change shall not relieve the contractor from the responsibility to complete the work within stipulated time in any manner.

The contractor's proposal shall include sub-vendor's facilities established at the respective works, the process capability, process stabilization, Q.C. system followed, experience list etc. along with his own technical evaluation of sub-vendor. (Format F- 060-01 issue 2.0 rev. 01, Supplier / Sub-vendor Assessment Sheet, Total 14 pages).

However, whenever felt necessary, sub-vendor assessment will also be carried out by LTHP Ltd./Consultant in accordance with the above procedure and by factory visits; for existing/proposed vendors/sub-vendors. This approval shall not relieve the contractor from any obligation, duty or responsibility under the contract & LTHP Ltd./NHPC shall not be responsible for any complications arising between the contractor and his subcontractor(s) / sub-vendor (s) and / or any other liabilities.

LTHP Ltd./Consultant reserves the right to carry out quality audit and quality surveillance of the system and procedures of the contractor / or their sub-vendor. The contractor shall provide all necessary assistance to enable LTHP Ltd./Consultant to carry out such details & surveillance including Quality Manuals, if required by LTHP Ltd./Consultant.

All welding and brazing shall be carried out as per procedure drawn and qualified in accordance with requirement of ASME section-VIII/IX or other International equivalent standard acceptable to LTHP Ltd./Consultant. All welding/brazing procedures shall be submitted to LTHP Ltd./Consultant/BHEL for review / verification prior to carrying out the welding/brazing. However, wherever required by the LTHP Ltd./Consultant, tests shall be conducted in presence of LTHP Ltd.'s authorized representative.

All Brazers, Welders and welding operators employed on any part of the contract either in Contractor/his sub-vendor's works or at site or elsewhere shall be qualified as per ASME section-VIII/IX or other equivalent Standards acceptable to LTHP Ltd./Consultant.

Unless otherwise proven and specifically agreed with LTHP Ltd./Consultant, welding of dissimilar material and high alloy materials shall be carried out at shop only.

All non-destructive examination shall be performed in accordance with written procedures as per International Standards. The NDT operator shall be qualified as per SNT-TC-IA (of the American or Indian Society of non-destructive examination). NDT shall be recorded in a report, which include detail of methods and equipment used, result/evaluation, job data and identification of personnel employed and details of correlation of the test report with the job.

All material used for equipment manufacture including castings and forgings, etc. shall be of tested quality as per relevant codes/standards. Details of results of the tests conducted to determine the mechanical properties; chemical analysis and details of heat treatment procedure recommended and actually followed shall be recorded on certificates and time temperature chart. Tests shall be carried out as per applicable material standards and/or agreed details.

Contractor shall submit Field Welding Schedule for field welding activities like field welding location, numbers, welding procedure to be used, requirements, codes and NDT requirement along with all supporting documents, like welding procedures, heat treatment procedures, NDT procedures, etc. to LTHP Ltd./Consultant for review at least ninety days before schedule start of erection work at site.

Any other statutory requirements as applicable for the equipment / systems shall also be complied with.

The inspection calls shall be placed at least 06 weeks in advance for overseas inspections excluding India and 15 days in advance for inspections within India.

Before submitting the inspection call to LTHP Ltd./NHPC for witnessing the Customer Hold Points (CHP's) and/or requesting LTHP Ltd./NHPC for issuance of Material Dispatch Clearance Certificate (MDCC) based on Test Certificate (TC) review / Certificate of Conformance (COC), the contractor shall ensure that all Drawings / documents / GTP / technical data sheet, relevant to respective CHP / MDCC requirement, has been duly approved /accepted / noted by LTHP Ltd./NHPC.

Contractor shall ensure readiness of offered equipment by all means, before raising such call to LTHP Ltd./NHPC to attend CHP inspections. In case, LTHP Ltd./NHPC engineer (s) on reaching at a place of inspection found that material is not ready for inspection due to whatsoever reason, the complete inspection expenditure of LTHP Ltd./NHPC engineer(s) as per actual shall be chargeable to the contractor.

Only calibrated testing & measuring instruments shall be used while performing tests during manufacturing and erection, testing & commissioning at site by the contractor. Copy of the calibration certificates will be submitted to LTHP Ltd./Consultant by the contractor during inspection as an evidence.

Non-conformities observed during manufacturing, shop testing, handling, packaging, transportation, storage, preservation, erection, testing & commissioning are required to be

intimated by the contractor. The acceptance/rejection of the non-conformities will be at the discretion of LTHP Ltd./NHPC.

Repair/rectification procedures to be adopted to make the job acceptable shall be subject to the acceptance of LTHP Ltd./NHPC. Action taken in accordance with decision of disposal of non-conformity for repair / rework / modification of the item / equipment and to prevent re-occurrence. The corrective and preventive action may involve modification of item / equipment, change in procedure and system etc. to achieve quality improvement at all stages and levels.

Quality audit/surveillance/approval of the results of the tests and inspection will not, however, prejudice the right of the LTHP Ltd./NHPC to reject the equipment if it does not comply with the specification when erected or does not give complete satisfaction in service and the above shall in no way limit the liabilities and responsibilities of the Contractor in ensuring complete conformance of the materials/equipment supplied to relevant specification, standard, data sheets, drawings etc.

No material shall be dispatched from the manufacturer's works before the same is duly accepted, subsequent to pre dispatch/final inspection including verification of records of all previous tests/inspection by LTHP Ltd./NHPC and duly authorised for Dispatch by issuance of Material Dispatch Clearance Certificate (MDCC).

The test reports of type tests conducted as per contract, in line with requirement stipulated in the technical specification / quality plan should be got accepted from LTHP Ltd./Consultant before final inspection / issuance of MDCC.

All materials used or supplied shall be accompanied by valid and approved material certificates and tests and inspection reports. These certificates and reports shall indicate the heat numbers or other such acceptable identification numbers of the material. The material certified shall also have the identification details stamped on it to ensure physical correlation and traceability of material vis-a-vis test certificate. Such identification no. shall remain same and verifiable for all stages of manufacturing and installation.

3.12.1.2 QA DOCUMENTATION

The contractor shall be required to submit the QA Documentation in two hard copies and two CD ROMs, as identified in respective quality plan.

Each QA Documentation shall have a project specific Cover Sheet bearing name and identification number of equipment including index of its contents with page control on each document. The QA Documentation file shall be progressively completed by the Contractor/sub-vendor to allow regular reviews by all parties during the manufacturing.

The final quality document will be compiled and issued at the final assembly place of equipment before despatch. However, CD-ROM may be issued not later than three weeks.

Before dispatch / commissioning of any equipment, the Contractor shall make sure that the corresponding quality document or in the case of protracted phased deliveries, the applicable section of the quality document file is completed. The Contractor will then notify the Inspector regarding the readiness of the quality document (or applicable section) for review.

The contractor shall be required to submit copies of the following quality assurance documents in original duly reviewed and accepted by contractor along with the request letter for issuance of MDCC (Material Dispatch Clearance Certificate):

- QUALITY PLAN CHECK LIST.
- MATERIAL MILL TEST REPORTS ON COMPONENTS AS SPECIFIED IN QUALITY PLAN.
- SKETCHES AND DRAWINGS USED FOR INDICATING THE METHOD OF TRACEABILITY OF THE
- RADIOGRAPHS TO THE LOCATION ON THE EQUIPMENT.
- NON-DESTRUCTIVE EXAMINATION RESULTS REPORTS INCLUDING INTERPRETATION REPORTS.
- CALIBRATION CERTIFICATE OF ALL METERS & MEASURING INSTRUMENTS PROPOSED TO
- BE SUPPLIED AS PART OF RELEVANT BILLING BREAKUP ITEM.
- ROUTINE TEST REPORTS FOR TESTING REQUIRED AS PER APPLICABLE CODES AND
- STANDARDS REFERRED IN THE SPECIFICATIONS.
- INSPECTION REPORTS DULY SIGNED BY AUTHORIZED REPRESENTATIVE OF LTHP Ltd./NHPC AND CONTRACTOR FOR THE AGREED CUSTOMER HOLD POINTS.
- ALL THE ACCEPTED DEVIATIONS SHALL BE INCLUDED WITH COMPLETE TECHNICAL DETAILS.
- LIST OF BALANCE POINTS IF ANY.
- CERTIFICATES IN RESPECT OF CALIBRATION, WELDERS & BRAZERS QUALIFICATION ETC.
- COPY OF ALL REFERENCE DRAWINGS AND REFERENCE TECHNICAL DOCUMENTS
- ACCEPTANCE OF TYPE TEST REPORTS BY LTHP Ltd./CONSULTANT.

Similarly, the Contractor shall be required to submit two sets (two hard copies and two CD ROMs), containing QA Documentation pertaining to field activities as per Approved Field Quality Plans and other agreed manuals/procedures, within 2 weeks after commissioning of individual system.

On release of QA Documentation by Inspector, one set of quality document shall be forwarded to Consultant and other set to LTHP Ltd. For the particular case of phased deliveries, the complete quality document to the LTHP Ltd./Consultant shall be issued not later than 3 weeks after the date of the last delivery of equipment.

3.12.1.3 Safety

Safety of personnel

All equipment and services provided under this contract shall abide by international standards commonly accepted in the hydroelectric utility industry for safety of personnel whether involved with operation or maintenance.

Safety of operation

All equipment and services provided under this contract shall abide by commonly accepted standards for safety of operation.

The various system and sub-systems supplied under this contract shall be designed to follow and operate under a clear hierarchical structure:

- Plant control level,
- Unit control level,
- Functional control level, functional drive group level,
- Local drive level.

Each hierarchical control level shall perform its specific tasks and always depend on the subordinate lower control levels. In general, should a higher control level failure occur, the lower control level shall not be affected and shall be able to control the power plant with full safety.

The Contractor shall accordingly build into the "Electrical & Mechanical System" adequate levels of autonomy, independence, redundancy and functional distribution to insure that safety is maintained at all times.

3.12.1.4 Earthing

Earthing terminals for equipment of these specifications shall form part of equipment supplies. The contractor shall connect the earthing conductors to these terminals as required.

Risers from earthing bus shall be in the scope of purchaser. However, extension from these risers to the equipment shall be in the scope of supplier in the Power House, Transformer Hall, Switchyard.

However, overall earthing arrangement required for HT panel, LT panel, DG set, motor & motor control panels etc. at isolated location such as Dam Site, TRT Outfall area and Surge Shaft either by pit earthing or counter poise etc. shall be in the scope of supplier including civil works, design, material supply (for main earthing risers, interconnection, charcoal, salt, Bentonite etc.), erection, testing & commissioning etc.

A copper ground bus, sized to carry maximum short circuit current, shall run along the entire length of panel structure and shall have terminal connector at each end for connection to station ground grid (50 X 6 mm G.I. flat).

Tests

Each panel shall be completely assembled, wired, adjusted and tested at the factory prior to shipment. The test shall include wiring continuity tests, insulation tests and functional tests to ensure satisfactory operation and control of individual equipment.

Special Cables

Special cables for specific purpose, as required, shall be supplied and installed by the Bidder.

3.12.1.5 Completeness of the specification

Any fittings, accessories, equipment or any other things required for successful commissioning of Project, though may not have been specifically mentioned in the specification but are usually necessary for the completeness of the equipment shall be deemed to be included in the specification and shall be supplied by the contractor without any extra cost to the Employer.

3.12.1.6 Packaging and Shipment

The Contractor shall provide such packing of the Goods as it is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the final destination of Goods and the absence of heavy handling facilities at all points in transit.

The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract and, subject to any subsequent instruction ordered by the Employer consistent with the requirements of the Contract.

After unpacking of Goods the packing material shall become the property of Employer

The contractor shall wrap, pack and crate all plant included in the work or part thereof, suitable for shipment to a tropical location, facilitating proper handling and protection from damage in rail, truck, ocean or air shipment as applicable. An approved drying agent, such as Silica Gel, shall be packed in containers or packages holding plant which may be adversely affected by moisture or excessive humidity.

All packing crates shall be clearly marked before shipping to indicate the contract number, shipping address, volume, weight, name, number and unit number of the contents, slinging and weight bearing points.

All plant parts shall be marked to facilitate erection. Each packing crate shall contain a packing list in a waterproof envelope. Parts shall be described and also identified by their numbered marking in the packing list.

Three copies of the packing list shall be forwarded to the purchaser prior to dispatch. The ownership of packaging materials shall be of Employer. All wooden packaging crates and steel support structures shall be dumped to the designated area within 5kms of the power house as per the direction of Engineer in charge.

The supplier shall be entirely responsible for the insurance, shipment, handling and transportation.

The equipment shall not be dispatched by the Bidder from the place of manufacture to the site until the dispatch instructions are issued by the Owner.

3.12.1.7 PACKAGING, HANDLING AND SITE STORAGE

The Contractor shall follow the general requirement of packaging, Handling and Storage elaborated in "section 8 - Transport and installation" of "General Technical Specification (GTS)". The Contractor shall pack all the consignment in sea worthy packaging, wherever required, strong enough to withstand rough handling during transit. Machine surface shall be suitably protected against scratches, corrosion, shocks, impact etc. Packages shall be suitably and distinctly identified for type of handling and kind of storage.

The packaging and storage of electronic equipment shall be strictly in accordance with internationally accepted standards. Electronic equipment shall be packaged, shipped and stored in anti-static packing. All packages shall be stored indoor. Packages containing electronic equipment shall be stored in humidity controlled environment.

If required, dehumidifiers shall be deployed by Contractor to control the condition of storage space. Storage of the equipment till commissioning is responsibility of the Contractor.

3.13 SPECIAL INSTRUCTIONS TO BIDDERS

General

The Bidder shall base the equipment design on the information given in this specification. The equipment shall be complete in all respects. Any item which is not specifically mentioned herein but found essential for safe and efficient operation and maintenance and satisfactory performance of the system shall be deemed to have been included in the scope of the Bidder. It shall be presumed that the Bidder has studied the site, all the drawings, tender documents and is fully aware of the scope of work involved and the site conditions prevailing.

3.14 Codes and Standards

- a) All equipment, systems and works covered under this specification shall comply, in all respect, with requirements of applicable latest statutes and that of latest editions of codes and standards. Latest regulations and safety & environmental requirements as applicable in India / state of installation shall also be complied with.
- b) All codes and standards mentioned shall mean as relevant and applicable to a particular equipment / system.
- c) All other codes/standards not covered in Section 1 / Section 2 but required for the plant and system offered shall also be referred / followed by the Bidder. The Bidder, along with the bid, shall submit a comprehensive list of codes and standards to be followed for various equipment / system.
- d) In all cases where IBR does not govern, German, American, British, ISO or other international standards established to be equivalent or superior to the codes specified are also acceptable. In the event of any conflict between the requirements of equivalent codes and standards and the requirements of Indian standards / regulations, the latter will govern unless specified otherwise in the specifications.

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- e) The Bidder shall be responsible to be in possession of all the specified Codes / Standards and ensure reference to the same before submitting the offer/ bid.
 - f) Mandatory codes / local regulations to be followed for safety, design, fabrication and operation of the switchyard shall be, followed:
 - g) If the equipment supplied does not conform to the codes and standards mentioned in this specification, but is manufactured to the Bidder's own standard, developed as a result of his experience, is also acceptable provided the same is found to be superior to the above mentioned codes and standards. The Bidder shall identify such equipment and shall also present sufficient data to the Owner / Consultant to support his design and to establish the superiority. The design may be accepted by Owner/ his Consultants only if the Purchase / his consultant is satisfied that sufficient experience exists with the design proposed.
 - h) Design not meeting the stipulations of the codes and standards will not be acceptable.
 - i) Apart from various codes and standards mentioned in Section 1/2, the Manufacturer shall comply with other requirements of codes and standards mentioned in this Specification for detailed design, manufacture, testing, erection, construction etc.

Control System	IEEE – 122 , 1992
Metering / Dosing pumps	API 675 – 1987 (Positive displacement pumps – controlled volume) API 676 – 1987 (Positive displacement pumps – Rotary).
Centrifugal pumps	API 610 – 1990, ASME PTC 8.2 – 1965
Gear Box	API 613 – 1993 & AGMA 420 & 421
Coupling	API 671 – 1993
Structural	IS 1893 – 1991, IS 875-1992 & IS 800 – 1991
Pressure Vessel	ASME Sec. VIII, Div. 1 – 1995
Piping	ANSI B 31.1-1995 / 31.3 – 1993, IBR
Valve	API
Instrument	ISA, API
Electrical	As per specification attached & relevant
	IS/IEC
Tanks	API 650- 1993
Electrodes	AWS, IS
Painting	IS Standards
Performances Tests	
Overload test of crane and hoists	IS 3177

3.15 Deviations and Assumptions

Bidders requested to carefully examine and understand the specifications and seek clarifications, if required, to ensure that they have understood the specifications. The Bidder's offer should not carry any sections like clarifications, interpretations and/or assumptions. In the event of conflict between the Technical Specifications and the condition of contract, the requirements as indicated in the technical specification shall govern, unless confirmed otherwise by the Owner in writing before the award of contract, based on written request from the bidder for such a clarification.

In the event of conflict between requirements of any two clauses of the specification documents, the more stringent requirements shall apply, unless otherwise confirmed by the Owner in writing before the award of this contract, based on a written request from the Bidder for such clarification.

The Bidders are advised that while making their Bid Proposals and quoting prices, all terms and conditions of bidding documents may appropriately be taken into consideration. Bidders are required to furnish a certificate indicating their full compliance to the terms and conditions of the bidding documents.

3.16 Limit of Contract

Equipment furnished shall be complete in all respect with all mountings, fittings, fixtures and standard accessories normally provided with such equipment and/ or needed for erection, completion and safe operation of the equipment as required by applicable codes though they may not have been specifically detailed in the respective specifications, unless included in the list of exclusions. All similar standard components/ parts of similar standard equipment provided shall be interchangeable with one another.

This review by the Owner's Engineer / Consultant may not indicate a thorough review of all dimensions, quantities and details of the equipment, materials, any devices or items indicative of the accuracy of the information submitted. This review and/ or approval by the Engineer shall not be construed by the Bidder, as limiting any of his responsibilities and liabilities for mistakes and deviations from the requirements specified under these specifications and documents.

3.17 Latent Defects

Notwithstanding the issue of the Take Over Certificate, the Contractor shall be responsible for making good with all possible speed any Latent Defect in any Works /equipment of the plant which appears at any time before the expiry of defect liability period. And shall remedy such defect at its own cost and expense. The latent defect liability period shall be a minimum of 5 years from the end of defect liability period. The defects to which this applies are defects in design, materials or workmanship or defects arising from any act or omission of the Contractor done or omitted prior to Take-over of the portion of the Plant affected by the defects or during the Warranty Period which a reasonable examination at the end of the Warranty Period would not have disclosed.

3.18 Defect Liability

The Contractor warrants that all the facilities or any part thereof are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

The Contractor further warrants that the Plant and equipment shall be free from defects arising from any act or omission of the Contractor or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the, If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Plant and equipment supplied or part thereof, the Contractor shall promptly, in consultation and agreement with the Employer regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good (as the Contractor shall, at its discretion, determine) such defect as well as any damage to the Facilities caused by such defect. The Contractor shall not be responsible for the repair, replacement or making good of any defect or of any damage to the Facilities arising out of or resulting from any of the following causes:

- (a) Improper operation or maintenance of the Plant and equipment by the Employer
- (b) Operation of the Facilities outside specifications provided in the Contract
- (c) Normal wear and tear.

3.19 Completion Schedule

The Bidder shall submit Time Bar chart indicating completion date of major activities such as submission of design data / calculations and drawings for approval, manufacturing of components / units, supply, inspection etc. without which the Tender shall not be considered. Time Bar Chart furnished shall afterwards form part of the contract and cannot be altered arbitrarily except Force Majeure conditions as may be agreed with the Owner.

3.20 Drawings & Documents for Owner's use and Archives

The Bidder shall submit all final drawings, documents, manuals for Owner's use and for reference / record required during course of operation and maintenance of the plant. Numbers of copies and their form (hard copy, electronic form, reproducible) to be submitted and the details of the documents, drawings, manual etc. to be furnished by the Bidder are described elsewhere in the specification.

Drawings, documents, calculation, data & Information to be submitted by the Bidder along with the offer:

Technical Data to be submitted with the Tender

- 1) List of performance tests proposed by the Bidder to demonstrate the guaranteed parameters for generator and other electrical equipment.
- 2) Specific energy consumption.
- 3) Type test certificates for major categories of equipment, issued by independent testing authority.
- 4) Guaranteed Technical Parameters.
- 5) Technical catalogues.

6) Manufacturing Quality Plan

Operation & Maintenance Manuals

Instruction manuals, presenting the basic categories of information for the operating and/or maintenance personnel, as detailed herein below shall be furnished by Bidder.

The instruction manuals shall present the following basic categories of information in particular complete and comprehensive manner and prepared for the use by operating and/or maintenance personnel.

- i. Instructions for initial commissioning, short duration and long duration shut down.
- ii. Instruction for operation, routine inspection and maintenance including preventive maintenance.
- iii. Recommendation for inspection points, method of inspection and period of inspection.
- iv. Information on detection, cause and rectification of troubles and faults.
- v. Instructions on normal repairs and overhaul.
- vi. Complete parts list with proper and complete identification (Tag nos./Serial nos. as shown in the respective approved drawings) and ordering information for all replaceable parts. The identification details of equivalent and alternative makes for these spare parts which are not manufacturer's own product shall also be listed.
- vii. List of all special tools and tackle & spares and instructions for use of such tools and tackle & spares.
- viii. One complete set of as built drawings of the entire systems.
- ix. The information shall be organized in a logical and orderly sequence. A general description of equipment including significant technical characteristics shall be included to familiarize operating and maintenance personnel with the equipment. Such description and technical characteristics shall not differ from the approved data.
- x. Necessary drawings, curves and other illustrations shall be included or copies of appropriate approved drawings shall be bound in the manuals. Tests, adjustment and calibration information, as appropriate, shall be included. Safety and other warning notices and installation, maintenance and operating cautions shall be emphasized.
- xi. Write-up, figures, part list etc., shall be clearly legible. The manuals shall be prepared on good quality paper securely bound in durable folders.
- xii. The instruction manuals shall be subject to Consultant's approval in the same fashion as that for drawings.
- xiii. Instruction manual shall give step by step procedure for Erection, testing and commissioning
- xiv. Operation, Maintenance and Repair Instruction manual shall also contain:
- xv. List of spare parts with ordering specifications and manufacturer's catalogues
- xvi. List of consumables, lubricants, chemicals with specifications, brand names and annual consumption figures.
- xvii. Drawings relevant for erection, operation, maintenance and repair of the equipment.
- xviii. Procedure for ordering spares.
- xix. Maintenance Manual shall also include:
- xx. Diagnostic trouble shooting / fault location charts
- xxi. Tests for checking of proper functioning.

Drawings / documents for approval

- Quality Control & Quality Assurance plan.
- G.A. and Cross Sectional drawings of all equipment indicating weights, material of construction, bill of material, dimension, specification etc.
- Final design calculations and assumptions.
- Actual performance data and characteristic curves based on the testing at site.
- Technical specification of all equipment, motors, for all system and all other accessories.
- Final list of drawings.
- As built drawings.

Miscellaneous

- i. General arrangement and cross sectional drawings of all major components with bill of material.
- ii. Foundation drawings, load data & design calculation for all equipment.
- iii. Erection drawings for all equipment and structures showing complete erection details.
- iv. Engineering and design calculations of installations and units.
- v. QAPs
- vi. Detailed procedures of shop testing of all the items applicable shall be submitted to the Owner/ Consultant for approval before conducting tests.
- vii. Following shop test certificates/test curves/data, shall be furnished.
 - Materials and components test certificates.
 - Performance test results and characteristic curves of all fans, pumps, and electric drive motors etc.
 - Non-destructive test results as applicable.
 - Reports and test certificates of shop tests.
 - Type test & routine test certificates.
- viii. Detailed quality assurance program along with quality plan shall be submitted.

Following data shall be furnished: -

- a) Technical data of all the plant, equipment, drive motors, instruments, panels, etc. shall be furnished.
- b) Following lists/tables / write ups shall be furnished, complete with tag nos. and brief specification. Proper numbering system as approved by Consultant/Owner shall be adopted.
 - i) Instrument schedule (with service, range, make of instrument).
 - ii) Flow element schedule.

- iii) Valve schedule.
- iv) Pipe schedule.
- v) Cable schedule (Power & Control).
- vi) Schedule of actuators (electric/pneumatic)

The scheduled dates for the submission of these as well as for, any data/information to be furnished by the Employer would be discussed and finalized at the time of award. The supplier shall also submit required no. of copies as mentioned in this specification of all drawings/design documents/test reports for approval by the Employer.

Note: The contractor may please note that all resubmissions must incorporate, all comments given in the submission by the Employer failing which the submission of documents is likely to be returned. Every revision shall be a revision number, date and subject, in a revision block provided in the drawing, clearly marking the changes incorporated.

3.21 Workmanship and Quality Control




All moving parts of equipment, which can conceivably cause injury to the operator and otherwise authorized personnel within the vicinity of working area shall be suitably guarded and warning displays shall be put at prominent places.

The Bidder shall clearly indicate and identify the plans and procedures, which shall be followed in the design, manufacture and installation of plant and equipment to control and assure to the Owner of the desired quality.

FUNGI STATIC VARNISH

Besides the space heaters, special moisture and fungus resistance varnish shall be applied on parts which may be subjected or predisposed to the formation of fungi due to the presence or deposit of nutrient substances. The varnish shall not be applied to any surface of part where the treatment will interfere with the operation or performance of the equipment. Such surfaces or parts shall be protected against the application of the varnish.

3.22 Title Block:

Project	Teesta-VI H.E. Project (4x125 MW)		
Customer	 LTHP LTD. (A wholly owned subsidiary of NHPC Ltd.) <small>(A wholly owned Subsidiary of NHPC LTD.)</small>		
Consultant	 NHPC Ltd.		
	BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION BUSINESS GROUP NOIDA		Name
		Drawn	
		Checked	
		Approved	
Title	Drawing Number :		Rev

-----XXXX-----

SECTION – 4

GUARANTEED TECHNICAL PARTICULARS

1	Manufacturer's name and country.		
2	Indoor/ Outdoor applicable.		Outdoor
3	Design Ambient air temperature.	°C	50
4	Thickness of Sheet Steel	mm	
5	Degree of Protection provided	-	IP 65
6	Bill of Material for all the equipment mounted in MK giving details a) Make & Type b) Applicable Standards c) Voltage Rating d) Current Rating e) Duty Class, if applicable f) Manufacturer's Catalogue No.	-	
7	Control Wiring a) Size of Conductor (sq. mm.) i) For CT Circuits ii) For other circuits b) Conductor solid/ stranded		
8	Space Heater Rating	W	
9	Drawing enclosed showing the following a) Outline Dimensions, floor opening, fixing arrangement, weight, etc. b) Front view and inside view showing the mounting arrangement of various equipment		
10	Schematic/ wiring diagram enclosed		
11	Interconnection drawing showing external cable connections to the MK		
12	Type Test Report to verify degree of protection		
13	Terminal Block a) Make, type & Cat No. b) Current Rating i) Power Terminals ii) Other Terminals		A A
14	PAINTING a) Type/designation/brand name b) Shade c) No. of coats Fabricated Steel Structures d) Whether descriptive pamphlet enclosed		

SECTION 5
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	Applicable Standard	Latest IS -5039,IS-8623, or IEC-60439, IS 13947											
2	Type of JB												
3.0	Construction Feature												
3.1	Thickness of Sheet Steel	2.5mm Cold rolled											
3.2	Degree of protection	IP 65 as per IS 13947											
3.3	Control Wiring	2.5 mm ² , Stranded copper											
3.4	Space Heater / Lamp for illumination /Socket	Provided											
4.0	Type of terminal block (Indenter to tick)	Disconnecting stud type of Connectwell make /Eq. suitable of connecting minimum of two of 6 mm² copper flexible on each side.											
4.1	No. of terminal block (Indenter to tick)	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">30</td> <td style="border: 1px solid black; padding: 2px;">45</td> <td style="border: 1px solid black; padding: 2px;">75</td> <td style="border: 1px solid black; padding: 2px;">90</td> <td style="border: 1px solid black; padding: 2px;">130</td> </tr> <tr> <td></td> <td style="text-align: center;">√</td> <td></td> <td></td> <td style="text-align: center;">√</td> </tr> </table>	30	45	75	90	130		√			√	
30	45	75	90	130									
	√			√									
4.0	Clearance between TBs												
4.1	Clearance between two rows of terminal blocks (End to End)	150mm minimum											
4.2	Clearance between first/bottom row of terminal blocks and	250 mm minimum											

	associated cable gland plate			
6.0	Painting of panel	a) As per Annexure-I attached b) External shade-RAL7035 c) Internal shade-Mat white finish		
7.0	40mm Cu bus for earthing	Provided		
8.0	Name plate details, type etc. shall be mentioned in Notes	Provided		
9.0	TBs with test links and isolating facilities	Provided		
10.0	TBs fully enclosed with removable covers of transparent, non-deteriorating type plastic material	Provided		
11.0	Fixing Hardware (Nuts, Bolts and Washers) for mounting JB	Provided		
12.0	Door handle with integral lock & master key	Provided		
13.0	TBs of expandable design and insulating material of Nylon 6.6 free of halogens, Fluorocarbons etc. used	Provided		

B) TYPE TESTS

i) Whether type test reports of the following test conducted earlier on identical or similar material are available (test reports are of the test conducted not earlier than 10 (ten) years prior to the date of bid opening).
(YES)

S.No.	TESTS	REPORT NO.	Date	Conducted at accredited laboratory or witnessed by independent authority
1	Degree of protection test			

ii) If type test reports are not acceptable to BHEL/Customer then above tests shall be conducted by the bidder free of cost. **(YES)**

C)

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.	
2.	Bidder to confirm that it will offer approved Make of the components and fitments at contract stage. In case the offered make is not approved by the customer, then alternate make shall be supplied without any commercial implications to BHEL.	

Date:

Signature of the authorized representative of Bidder

Company Seal

SCHEDULE OF TECHNICAL DEVIATIONS

Bidder shall list out all technical potential deviation/ change request (s) along with clause with respect to technical specifications.

Sl. No.	Page No.	Clause No.	Deviation	Reason / Justification
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Any deviation not specifically brought out in this section shall not be admissible for any commercial implication at later stage. Except to the technical deviations listed in this schedule, bidder's offer shall be considered in full compliance to the tender specifications irrespective of any such deviation indicated / taken elsewhere in the submitted offer.

Date:

Bidder's Stamp & Signature

ANNEXURE-B:
COMPLIANCE CERTIFICATE OF TECHNICAL SPECIFICATION

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

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

Date:

Bidder's Stamp & Signature



PAINTING SYSTEM

Type	Description	Surface Preparation	Paint System	Main Dry Film Thickness in μm	Remarks
D	Control panels / cubicles, switch gear panels and other panels / cubicles except marshalling kiosks etc.	Sa 2 1/2 - 3 and de-grease before painting or any other equivalent process.	Prime coat : All enclosures, frames, bottom cover etc., should be dip coat primed or zinc plated and passivated for corrosion resistance or equivalent.	20-25	Finally to be approved at design stage
			Finish Coat; Texture powder coating or equivalent as per approved colour code on interior and exterior surface	> 70	Finally to be approved at design stage
			Total	> 95	

