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2012

NOTICE INVITING TENDER

(Document No PS:MSX:NIT)

Bharat Heavy Electricals Limited



Ref:

Date: --/--/----

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NOTICE INVITING TENDER (NIT)

NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES

OR

PURCHASE TENDERS FROM THIS OFFICE ALSO

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To

Dear Sir/Madam

Sub : **NOTICE INVITING TENDER**

Sealed offers in two part bid system are invited from reputed & experienced bidders (meeting PRE QUALIFICATION CRITERIA as mentioned in Annexure-I) for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	BHEL/NR/SCT/ PARBATI-II/ CABLING WORK /974
ii	Broad Scope of job	“ERECTION, TESTING COMMISSIONING AND MATERIAL HANDLING WORK OF CABLING OF 4X200 MW PARBATI- II HEP”
iii	DETAILS OF TENDER DOCUMENT	
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i> Applicable
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i> Applicable
c	Volume-IC	<i>General Conditions of Contract (GCC)</i> Applicable
d	Volume-ID	<i>Forms and Procedures</i> Applicable
e	Volume-II	<i>Price Schedule (Absolute value).</i> Applicable
iv	Issue of Tender Documents	<ol style="list-style-type: none"> <u>Sale from BHEL PS Regional office at :</u> Start : 01/10/2014 , Time :0900 Hrs (IST) Closes: 22/10/2014 , Time : 1200Hrs (IST) From BHEL website (www.bhel.com) Tender documents will be available for downloading from website till due date of submission Applicable/
v	DUE DATE & TIME OF OFFER SUBMISSION	Date : 22/10 /2014, Time :1500 Hrs (IST) Place : BHEL-PSNR-Noida Applicable
vi	OPENING OF TENDER	Date : 22/10 /2014, <i>(within 2 hours of the latest due date and time of offer submission).</i> Applicable

		Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may depute representative to witness the opening of tender	
vii	EMD AMOUNT	Rs 2,00,000/-	Applicable
viii	COST OF TENDER	Rs 2000/-.	Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	Date: 18/10/2014 Along with soft version also, addressing to undersigned & to others as per contact address given below	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)		Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)		Not Applicable
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendums) and not in the newspapers . Bidders to keep themselves updated with all such information	

- 2.0 The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them, duly signed & stamped on each page, as part of offer. **Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.**
- 3.0 Unless specifically stated otherwise, bidder shall remit cost of tender and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at Power Sector Regional HQ at Noida issuing the Tender, along with techno-commercial offer. Bidder may also choose to deposit the Tender document cost by cash at the Cash Office as stated above against sl no iv of 1, on any working day; and in such case copy of Cash receipt is to be enclosed with the Techno Commercial offer. Sale of tender Documents shall not take place on National Holidays, holidays declared by Central or State Governments and BHEL PS HQ at Noida, Sundays and second/ last Saturdays
- 4.0 Unless specifically stated otherwise, bidder shall deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Noida. For other details and for 'One Time EMD' please refer General Conditions of Contract.
- 5.0 **Procedure for Submission of Tenders:** The Tenderers must submit their Tenders to Officer inviting Tender, as detailed below:
- PART-I consisting of 'PART-I A (Techno Commercial Bid)' & 'PART-I B (EMD/COST of TENDER)' in two separate sealed and superscribed envelopes (ENVELOPE-I & ENVELOPE-II)
 - PART-II (Price Bid) – in sealed and superscribed envelope (ENVELOPE-III)
 - One set of tender documents shall be retained by the bidder for their reference
- 6.0 The contents for ENVELOPES and the superscription for each sealed cover/Envelope are as given below. **(All pages to be signed and stamped)**

Sl no	Description	Remarks
Part-I A		
	<p>ENVELOPE – I superscribed as : PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:</p> <p>CONTAINING THE FOLLOWING:-</p>	
i.	Covering letter/Offer forwarding letter of Tenderer.	
ii.	<p>Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above.</p> <p>Note:</p> <p>a. In case of any deviation, the same should be submitted separately for technical & commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained.</p> <p>b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding.</p> <p>i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p>ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender</p>	
iii.	<p>Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria.</p> <p>It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.</p>	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	Volume – I A : Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	
ix.	Volume – I B : Special Conditions of Contract (SCC)	
x.	Volume – I C : General Conditions of Contract (GCC)	
xi.	Volume – I D : Forms & Procedures	
xii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii.	Any other details preferred by bidder with proper indexing.	

PART-I B		
	<p>ENVELOPE – II superscribed as: PART-I (EMD/COST of TENDER) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:</p>	

	CONTAINING THE FOLLOWING:-	
i.	<p>1. Earnest Money Deposit (EMD) in the form as indicated in this Tender OR Documentary evidence for 'One Time EMD' with the Power Sector Region of BHEL floating the Tender</p> <p>2. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)</p>	

	PART-II	
	PRICE BID consisting of the following shall be enclosed	
	<p>ENVELOPE-III superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:</p> <p>CONTAINING THE FOLLOWING</p>	
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I	
ii	Volume II – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)	

	OUTER COVER	
	<p>ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:</p> <p>CONTAINING THE FOLLOWING:</p>	
i	<ul style="list-style-type: none"> ○ Envelopes I ○ Envelopes II ○ Envelopes III 	

SPECIAL NOTE : All documents/ annexures submitted with the offer shall be properly annexed and placed in respective places of the offer as per enclosure list mentioned in the covering letter. BHEL shall not be responsible for any missing documents.

- 7.0 Deviation with respect to tender clauses and additional clauses/suggestions in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.
- 8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).

9.0 Assessment of Capacity of Bidder: Bidders capacity for executing the job under tender shall be assessed 'LOAD' wise and 'PERFORMANCE' wise as per the following:

- I. **LOAD:** Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The 'Load' is the sum of the unit wise identified packages (refer Table-1) for contracts with BHEL Regions. The cut off month for reckoning 'Load' shall be the month, two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(Note: For example if latest bid submission is in Aug 2011, then the 'load' shall be calculated upto and inclusive of June 2011)

- i). **Total number of Packages**
 Total number of Packages in hand = P
 Where

- 'P' is the sum of all unit wise identified packages under execution with BHEL Regions as of the cut off month defined above, including packages yet to be commenced, excepting packages which are on HOLD due to reasons not attributable to Bidder..

- II. **PERFORMANCE:** Here 'Monthly Performance' of the bidder for all the packages (**under execution/** executed during the 'Period of Assessment' in all the Power Sector Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced shall be taken into consideration. The 'Period of Assessment' shall be 6 months preceding the cut off month. The cut off month for reckoning 'Period of Assessment' shall be the month two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(Note: For example if 'latest date of bid submission' is in Aug 2011, then the 'performance' shall be assessed for a 6 month period upto and inclusive of June 2011, for all the unit wise identified packages (refer Table I)

- i). **Calculation of Overall 'Performance Rating' for 'similar Package/Packages' for the tendered scope under execution at Power Sector Regions for the 'Period of Assessment':**
 This shall be obtained by summing up the 'Monthly Performance Evaluation' scores obtained by the bidder in all Regions for all the similar Package/packages', divided by the total number of Package months for which evaluation should have been done, as per procedure below:

- P₁, P₂, P₃, P₄, P₅, P_N etc be the packages (**under execution/** executed during the 'Period of Assessment' in all Regions) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions = P_T (ie P_T = P₁+P₂+ P₃+P₄ + .. P_N)
 - Number of Months 'T₁' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package P₁. Similarly T₂ for package P₂, T₃ for package P₃, etc for the tendered scope. Now calculate cumulative total months 'T_T' for total similar Packages 'P_T' for all Regions (i.e T_T = T₁+ T₂+ T₃+T₄ + .. T_N)
 - Sum 'S₁' of 'Monthly Performance Evaluation' Scores (S₁₋₁, S₁₋₂, S₁₋₃, S₁₋₄, S₁₋₅,.... S_{1-N}) for similar package P₁, for the 'period of assessment' 'T₁' (i.e S₁ = S₁₋₁+ S₁₋₂+ S₁₋₃+ S₁₋₄+ S₁₋₅+...S_{1-N}). Similarly S₂ for package P₂ for period T₂, S₃ for package P₃ for period T₃, etc for the tendered scope for all Regions. Now calculate cumulative sum 'S_T' of 'Monthly Performance Evaluation' Scores for total similar Packages 'P_T' for all Regions (i.e 'S_T' = S₁+ S₂+ S₃+ S₄+ S₅+.... S_N.)
- d) **Overall Performance Rating 'R_{BHEL}' for the similar Package/Packages (under execution/** executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL:

$$= \frac{\text{Aggregate of Performance scores for all similar packages in all the Regions}}{\text{Aggregate of months for each of the similar package for which performance should have been evaluated in all the Regions}}$$

$$= \frac{S_T}{T_T}$$

e) Bidders to note that the risk of non-evaluation or non-availability of the ‘Monthly Performance Evaluation’ reports as per relevant formats is to be borne by the Bidder

f) Table showing methodology for calculating ‘a’, ‘b’ and ‘c’ above

Sl no	Item Description	Details for all Regions							Total
		(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	
1	Similar Packages for all Regions → (under execution/ executed during period of assessment)	P ₁	P ₂	P ₃	P ₄	P ₅	...	P _N	Total No of similar packages for all Regions = P _T ie Sum (Σ) of columns (iii) to (ix)
2	Number of Months for which ‘Monthly Performance Evaluation’ as per relevant formats should have been done in the ‘period of assessment for corresponding similar Package (as in row 1)	T ₁	T ₂	T ₃	T ₄	T ₅	...	T _N	Sum (Σ) of columns (iii) to (ix) = T _T
3	Monthly performance scores for the corresponding period (as in Row 2)	S ₁₋₁ , S ₁₋₂ , S ₁₋₃ , S ₁₋₄ , ... S _{1-T1}	S ₂₋₁ , S ₂₋₂ , S ₂₋₃ , S ₂₋₄ , ... S _{2-T2}	S ₃₋₁ , S ₃₋₂ , S ₃₋₃ , S ₃₋₄ , ... S _{3-T3}	S ₄₋₁ , S ₄₋₂ , S ₄₋₃ , S ₄₋₄ , ... S _{4-T4}	S ₅₋₁ , S ₅₋₂ , S ₅₋₃ , S ₅₋₄ , ... S _{5-T5}	S _{N-1} , S _{N-2} , S _{N-3} , S _{N-4} , ... S _{N-TN}	-----
4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	S ₁	S ₂	S ₃	S ₄	S ₅	...	S _N	Sum (Σ) of columns (iii) to (ix) = S _T

ii) Calculation of Overall ‘Performance Rating’ (R_{BHEL}) in case ‘similar Package/Packages’ for the tendered scope ARE NOT AVAILABLE, during the ‘Period of Assessment’:

This shall be obtained by summing up the ‘Monthly Performance Evaluation’ scores obtained by the bidder in all Regions for ALL the packages, divided by the total number of Package months for which evaluation should have been done. ‘R_{BHEL}’ shall be calculated subject to availability of ‘performance scores’ for at least.6 ‘package months’ in the order of precedence below:

- a) ‘Period of Assessment.
- b) 12 months preceding the cut-off month
- c) 24 months preceding the cut-off month
- d) 36 months preceding the cut-off month

In case, R_{BHEL} cannot be calculated as above, then Bidder shall be treated as ‘NEW VENDOR’. Further eligibility and qualification of this bidder shall be as per definition of ‘NEW VENDOR’ described in ‘Explanatory Notes’

iii) Factor “L” assigned based on Overall Performance Rating (R_{BHEL}) at Power Sector Regions.:

Sl no	Overall Performance Rating (R _{BHEL})	Corresponding value of ‘L’
1	=60	NA
2	> 60 and ≤ 65	0.4
3	> 65 and ≤ 70	0.35

4	> 70 and ≤ 75	0.25
5	> 75 and < 80	0.2
6	≥ 80	NA

III. **'Assessment of Capacity of Bidder':**

'Assessment of Capacity of Bidder' is based on the Maximum number of packages for which a vendor is eligible, considering the performance scores of similar packages, as below:

Max number of packages $P_{Max} = (R_{BHEL} - 60)$ divided by corresponding value of 'L'
i.e. $(R_{BHEL} - 60)/L$

Note:

- i. In case the value of P_{Max} results in a fraction, the value of P_{Max} is to be rounded off to next whole number
- ii. For $R_{BHEL} = 60$, $P_{Max} = '1'$
- iii. For $R_{BHEL} \geq 80$, there will be no upper limit on P_{Max}

The Bidder shall be considered 'Qualified' as per 'Assessment of Capacity of Bidder' for the subject Tender if $P \leq P_{Max}$
(where P is calculated as per clause 9.1)

IV. **Explanatory note:**

- a) Similar package means Boiler or ESP or Piping or Turbine or Civil or Structure or Electrical or CI, etc at the individual level irrespective of rating of Plant, and irrespective of whether the subject tender is a single package or as part of combined/composite packages. Normally Boiler, ESP, Piping, Turbine, Electrical, CI, Civil, Structure, etc is considered individual level of package. For example in case the tendered scope is a Boiler Vertical Package comprising of Boiler, ESP and Power Cycle Piping (i.e the 'identified packages as per Table-1 below), the 'PERFORMANCE' part against sl no II above, needs to be evaluated considering all the identified packages (ie Boiler, ESP and Power Cycle Piping) and finally the Bidder's capacity to execute the tendered scope is assessed in line with III above
- b) Identified Packages (Unit wise)

Table-1

	Civil	Electrical & CI	Mechanical
	i). Enabling works	i). Electrical	i). Boiler & Aux (All types including CW Piping if applicable)
	ii). Pile and Pile Caps	ii). CI	ii). Power Cycle Piping/Critical Piping
	iii). Civil Works including foundations	iii). Others (Elec & CI)	iii). LP Piping
	iv). Structural Steel Fabrication & Erection		iv). ESP
	v). Chimney		v). Steam Turbine Generator set & Aux
	vi). Cooling Tower		vi). Gas Turbine Generator set & Aux
	vii). Others (Civil)		vii). Hydro Turbine Generator set & Aux
			viii). Turbo Blower (including Steam Turbine)
			ix). Material Handling
			x). Material Management
			xi). Material Handling & Material Management
			xii). Others (Mechanical)

- c) Bidders who have not been evaluated for at least six package months in the last 36 months in the online BHEL system for contractor performance evaluation in BHEL PS Regions, wef July'2010 shall be considered "NEW VENDOR".

A 'NEW VENDOR' shall be considered qualified subject to satisfying all other tender conditions

A 'NEW VENDOR' if awarded a job (of package/packages identified under this clause) shall be tagged as "FIRST TIMER" on the date of first LOI from BHEL.

The "FIRST TIMER" tag shall remain till execution of work for a period of not less than 09 months, from the commencement of work of first package

A Bidder shall not be eligible for the next job as long as the Bidder is tagged as "FIRST TIMER" excepting for the Tenders which have been opened on or before the date of the bidder being tagged as 'FIRST TIMER'.

After removal of 'FIRST TIMER' tag, the Bidder shall be considered 'QUALIFIED' for the future tenders subject to satisfying all other tender conditions including 'Capacity Evaluation of Bidders'.

- d) In the unlikely event of all bidders shortlisted against Technical and Financial Qualification criteria not meeting the criteria on 'Assessment of Capacity of Bidders' detailed above, OR leads to a single tender response on applying the criteria of 'Assessment of Capacity of Bidders' or due to non-approval by Customer, then BHEL at its discretion reserves the right to consider the further processing of the Tender based on the **Overall Performance Rating 'R_{BHEL}'** only, starting from the upper band.
- e) 'Under execution' shall mean works in progress as per the following:
- i. up to Boiler Steam Blowing in case of Steam Generator and Auxiliaries
 - ii. upto Synchronisation in case of all other works excepting sl no (i) and (iii)
 - iii. Upto execution of at least 90% of anticipated contract value in case of Civil & Structures (unit wise), Enabling works and upto 90% of material unloading (in tonnage) as per the original contract in case of MM Package.

Note : BHEL at its discretion can extend (or reduce in exceptional cases in line with Contract conditions) the period defined against (i), (ii) and (iii) above, depending upon the balance scope of work to be completed.

- f) Performance evaluation in CL 9 above is applicable to Prime bidder and consortium partner (or Technical tie up partner) for their respective scope of work.

10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.

11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.

12.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.

13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by

BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.

- 14.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**
- 16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 19.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .
- However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.
- 20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0 **Not Used**
- 24.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self-certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
- 25.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 26.0 The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of **banned firms** is available on BHEL web site www.bhel.com.
- 27.0 BHEL reserves the right to go for **Reverse Auction (RA)** instead of opening the sealed envelope price bid, submitted by the bidder. 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 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.”

Information and General Terms and Conditions governing RA shall form part of the RFQ/ Enquiry.

28.0 It may please be noted that **guidelines/rules** in respect of Suspension of Business dealings', 'Vendor evaluation format', 'Quality, Safety & HSE guidelines', etc may **undergo change** from time to time and the latest one shall be followed.

29.0 **Micro and Small Enterprises (MSE)**

Any Bidder falling under MSE category, shall furnish the following details & submit documentary evidence/ Govt. Certificate etc. in support of the same along with their techno-commercial offer

Type under MSE	SC/ST owned	Others
Micro		
Small		

Note: - If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSE category.

MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either 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 (format enclosed as Annexure – 3 where deemed validity of EM-II certificate of five years has expired) applicable for the relevant financial year (last audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bids at par with other bidders. No benefits 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 attested by a Gazetted officer.

30.0 Order of Precedence

In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:

- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
- b. Notice Inviting Tender (NIT)
- c. Price Bid
- d. Technical Conditions of Contract (TCC)—Volume-1A
- e. Special Conditions of Contract (SCC) —Volume-1B
- f. General Conditions of Contract (GCC) —Volume-1C
- g. Forms and Procedures —Volume-1D

for BHARAT HEAVY ELECTRICALS LTD
(SCT)

Enclosure

01. Annexure-1: Pre Qualifying criteria.
02. Annexure-2: Check List.
03. Annexure-3: Chartered Accountant certificate for MSMED
04. Other Tender documents as per this NIT.

ANNEXURE - 1**PRE QUALIFYING REQUIREMENTS**

JOB	“ERECTION, TESTING, COMMISSIONING AND MATERIAL HANDLING WORK OF CABLING OF 4X200 MW PARBATI- II HEP”
TENDER NO	BHEL/NR/SCT/ PARBATI-II/ CABLING WORK /974

S. NO.	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria	Page no. of supporting document
A	Submission of Integrity Pact duly signed	Not Applicable	
B	Assessment of Capacity of Bidder to execute the work as per sl. no. 9 of NIT	Applicable	
C	<p>Technical</p> <p>Bidder must have achieved any one of following</p> <p>C.1) Executed in the last seven (7) years ending last day of month previous to the one in which bid application are invited, any one of the following listed cabling work (Power, control & instrumentation cables) in any power plant or any industry or Switch yard/substation:</p> <p>C.1.1) Three similar works each of value not less than the amount equal to Rs. 51.20 Lakhs. OR</p> <p>C.1.2) Two similar works each of value not less than the amount equal to Rs. 64.00 lakhs. OR</p> <p>C.1.3) one similar works each of value not less than the amount equal to Rs. 102.40 lakhs. OR</p> <p>C.2) Executed in the last seven (7) years ending last day of month previous to the one in which application are invited: - Cabling work (Power, control & instrumentation cables) in at least one unit of 11 MW or higher rating in any power plant. OR</p> <p>C.3) Executed in the last seven (7) years ending last day of month previous to the one in which application are invited: - Erection, testing & commissioning work of electro mechanical package work of at least one unit of 11 MW or higher rating in any power plant.</p>		

D.1 D.2 D.3	<p><u>Financial TURNOVER</u></p> <p>TURNOVER Tenderers should have an average annual turnover minimum of Rs. 38.40 Lakhs(Rupees thirty eight lakhs forty thousand only) based on the audited accounts of last three Financial Years (2010-11, 2011-12, 2012-13). Bidders shall submit audited annual accounts (balance sheets and profit & loss account) in support of this.</p> <p>Net worth: Net worth of the bidders based on the latest audited accounts as furnished for D.1 above should be positive.</p> <p>Profit: Bidder must have earned cash profit in any one of three financial years as applicable in the last three years defined in D.1 above based on latest audited accounts.</p> <p>(Relevant documents, meeting above requirements mention in SI.No. C & D shall be submitted by bidders)</p>		
E	Approval of Customer	Applicable	
F	Consortium criteria	Not Applicable	

Explanatory Notes for QR `C`

1. Tenderer shall submit documents in support of meeting the respective Qualifying Requirement.
2. If the qualifying work is completed in the seven (7) years period specified above, even if started earlier, the same will also be considered meeting the qualifying requirements.
3. The word '**SIMILAR WORKS**' means cabling work (Power, control & instrumentation cables) in any power plant or industry or Switch yard/Substation.

4. The word "**EXECUTED**" means:

In respect of cabling work the tenderer should have completed the following :

- I) Erection/installation of cable trays, laying of cables, termination including testing.
AND
- II) Charging of cables & systems and pre-commissioning/ commissioning of system. However where charging of cables and commissioning of machines/systems could not be done on account of customer constraints such as non-availability of Station Power or completion mechanical system etc. will also be considered as completed (Certificate from awarding authority is required to be submitted by the bidder for customer constraints).

In respect of Erection, Testing & Commissioning of E & M, the tenderer should have completed the following :

- I) Synchronization of Unit should have completed. However, where Synchronization of unit could not be done on account of customer Input/ constraints such as non-availability of Station Power, Water availability, Switchyard, Transmission line, completion of other associated BOPs etc. (not in scope of the bidder, essentially required for Synchronization of Unit) will also be considered as completed (Certificate from awarding authority is required to be submitted by the bidder for customer constraints).
5. "**NET WORTH**" means: Paid up share capital*+Reserves. (* Share Capital OR Partnership OR Proprietor Capital as the case may be).
6. "**PROFIT**" means: NET Profit (PAT+ Non Cash Expenditure viz depreciation) earned during any one year of last three financial years (2010-11, 2011-12, 2012-13).

BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT INCLUSIVE OF WORK ORDER AND WORK COMPLETION CERTIFICATE ETC IN THE RESPECTIVE ANNEXURES IN THEIR OFFER

ANNEXURE - 2**CHECK LIST****NOTE:- Tenderers are required to fill in the following details and no column should be left blank**

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3.a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
3.b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	EMD DETAILS	DD No: Date : Bank : Amount: Please tick (<input type="checkbox"/>) whichever applicable:- ONE TIME EMD / ONLY FOR THIS TENDER	
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE	
		APPLICABILITY (BY BHEL)	ENCLOSED BY BIDDER
6	Whether the format for compliance with PRE QUALIFICATION CRITERIA (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable/Not Applicable	YES/NO
8	Copy of PAN Card	Applicable/Not Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable/Not Applicable	YES/NO
10	Integrity Pact	Applicable/Not Applicable	YES/NO
11	Declaration by Authorised Signatory	Applicable/Not Applicable	YES/NO
12	No Deviation Certificate	Applicable/Not Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable/Not Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable/Not Applicable	YES/NO
15	Non Disclosure Certificate	Applicable/Not Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable/Not Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable/Not Applicable	YES/NO

18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/Not Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable/Not Applicable	YES/NO
20	Analysis of Unit rates	Applicable/Not Applicable	YES/NO

NOTE : STRIKE OFF 'YES' OR 'NO', AS APPLICABLE. TENDER NOT ACCOMPANIED BY THE PRESCRIBED **ABOVE APPLICABLE DOCUMENTS** ARE LIABLE TO BE SUMMARILY REJECTED.

DATE :

AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

ANNEXURE - 3**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 which is not applicable)

The above investment of Rs.....Lacs is within permissible limit of
 Rs.....Lacs for Micro / 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

GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION (RA)

Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit "online sealed bid" in the Reverse Auction. Non submission of "online sealed bid" by the bidder for any of the eligible items for which techno commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Compliance form before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL"s standard practice.
12. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the

„Business Rules of Reverse Auction“, which will be communicated before the Reverse Auction.

13. 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*, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. In case BHEL decides to go for reverse auction, the H1(s) bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

ANNEXURE – 4**Authorization of representative who will participate in the on line Reverse Auction Process;**

1	NAME & DESIGNATION OF OFFICIAL	
2	POSTAL ADDRESS (COMPLETE)	
3	TELEPHONE NOS. (LAND LINE & MOBILE BOTH)	
4	FAX NO.	
5	E-MAIL ADDRESS	
6	NAME OF PLACE/ STATE/ COUNTRY, WHEREFROM S/HE WILL PARTICIPATE IN THE REVERSE AUCTION	

Rev 01
1st June
2012

TECHNICAL CONDITIONS OF CONTRACT (TCC)

(Document No PS:MSX:TCC)

BHARAT HEAVY ELECTRICALS
LIMITED



S.No.	DESCRIPTION	Chapter No.	PAGE NO.
	Part-I: Contract specific details		
1.	Project Information	Chapter-I	2
2.	Scope of Works	Chapter-II	3
3.	Facilities in the scope of Contractor/BHEL (Scope Matrix)	Chapter-III	14
4.	T&Ps and MMEs to be deployed by Contractor	Chapter-IV	20
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10.	Rate Schedule/BOQ	Chapter-X	29
11	Tentative weight/length schedule	Chapter-XI	30
12	ANNEXURE-A (BILLING BREAK UP)		33

Chapter - 1: Project Information

1. PROJECT INFORMATION

Name of the Owner	:	NHPC LIMITED
Address	:	4X200 MW Parbati-II HEP, Sainj District- Kullu, Himachal Pradesh
Capacity	:	4X200 MW, Pelton Hydro-Turbine
Power-house Type	:	Surface Power house
Nearest Railway station	:	Kiratpur Sahib -- 190km Chandigarh -- 260 km
Nearest City	:	Mandi (H.P) – 60 km
Nearest Airport	:	Bhunter (Kullu) - 40 km
Maximum Temperature	:	40° C
Minimum temperature	:	Can drop below freezing point.

Chapter - 2: SCOPE OF WORKS

2.0 SCOPE OF WORK

2.1 Scope of these specifications cover complete work of receiving of cabling Package (cable tray, power and control cables, junction boxes ,MCB, box and other items) material at store/work site from other agency /BHEL, transportation of cabling package materials from store to power house /work site, Installation of cable trays, laying of power and control cables, cable dressing, termination, testing and safe keeping (storage) of above materials at erection site of 4X200 MW Pārbati-II HEP site.

2.2 SCOPE OF WORK FOR CABLE PACKAGE.

1. Receiving, verification & storage of material/consignments of the cabling package from Trucks arriving from supplying unit/vendor, at BHEL store/ Pārbati site/Work site.
2. Loading/unloading, transportation & handling of material of cabling package from Store to power house /work site for its erection.
3. Erection & Testing of all types of supplied HT & LT Power cables etc.
4. Erection & Testing of all types of supplied control/instrumentation cables etc.
5. Termination of all type of supplied power and control /instrumentation cables etc.
6. Erection of all types of cable trays, Cable ducts & tray supports etc.
7. Erection & Testing of all types Junction boxes, MCBs and Push button Boxes etc.
8. Functional Electrical Site testing of Power and control/instrumentation cables etc.
9. Manpower assistance for cabling related work to BHEL commissioning engineer during commissioning (including trouble-shooting) of units.
10. Re-conciliation of material with BHEL & NHPC.

WORK OF CABLE PACKAGE

2.3 GENERAL

- 2.3.1 All the work shall be carried out as per instructions of BHEL engineer. BHEL engineer's decision regarding the correctness of the work and method of working shall be final and binding on the contractor.
- 2.3.2 Contractor shall erect all items/materials of cabling package etc. as per sequence prescribed by BHEL at site, for powerhouse complex, pothead yard area, valve house, surge shaft gallery and other area in vicinity of power house such as fire pump house, fire tank etc. including all floors, battery charges, DCDB, LT/HT switchgear, Transformers etc. any floor/equipment not specifically mentioned but are essential for making units operational are deemed to be included in the scope. Depending upon the availability of materials & work fronts etc. BHEL engineer will decide the sequence of erection/commissioning methodology. No claims for extra payment from the contractor will be entertained on the grounds of deviation from the methods of erection/ commissioning adopted in erection/ commissioning of similar job or for any reasons whatsoever.
- 2.3.3 Site testing wherever required shall be carried out for all items/materials installed by the contractor to ensure proper installation and functioning in accordance with drawings, specifications and manufacturer's recommendations.
- 2.3.4 Pre-Commissioning & Commissioning being specialised job, the contractor shall have to provide experienced/ qualified man-power assistance to assist BHEL engineer for satisfactory testing, pre-commissioning, integrated commissioning and trial-run of the Unit. They shall have to assist BHEL in locating any cause of malfunction and rectify the same for proper operation. Testing shall also include any additional tests, which the Engineer feels necessary because of site conditions and also to meet system specification.
- 2.3.5. During the course of erection, testing and commissioning of cabling package work certain modification / re-work / rectification / repairs / fabrication etc. may be on account of design changes and manufacturing incompatibilities and site operation / maintenance requirements. Contractor shall carryout such modification / rectification / fabrication / repairs/ re-work/ etc. promptly and expeditiously and the same shall be deemed to be part of the scope of work.
- 2.3.6 The contractor shall have valid ELECTRICAL LICENSE to carry out the electrical works. All necessary certificates and licenses required to carry out this work are to be arranged by the contractor expeditiously at his cost.
- 2.3.7 The contractor shall receive/ take delivery and unload the material the consignment of Cabling package at store /power house/work site from BHEL

manufacturing Units and its suppliers/ vendors. Verification and proper storage of the material at store/power house/work site shall be in contractor scope.

- 2.3.8 The contractor shall have to do loading, transportation & unloading the material from storage yard to power house/ work site for its erection. The contractor shall have to make arrangement for transportation of material from stores to work site at his own cost. Hydra/ EOT crane for loading & unloading of material shall be provided by BHEL on free of hire charges on sharing basis. However, fuel/consumable & operator shall be arranged by contractor at his own cost. He shall also make arrangements for safe custody, watch & ward of equipment after it has been handed over to him till they are fully erected, tested and commissioned till the contract period.
- 2.3.9 The contractor shall transport the items/materials, and consumables from the stores/ storage area / sheds of BHEL / customer after getting approval of engineer / customer in the prescribed indent forms of BHEL / customer.
- 2.3.10 After completing all the works, contractor shall hand-over all remaining extra materials with proper identification tags in packed condition to BHEL/ NHPC stores as per instruction of BHEL engineer. In case of any use over than actual design requirements, BHEL reserves the right to recover the cost of material used in excess or misused. Decision of BHEL engineer in this regard will be final and binding on the contractor. Cable length of more than 05 metre should be treated as serviceable and are to be returned to store. The other cables having less than 05 metre can be treated as scrap.
- 2.3.11 Contractor shall retain all T&P/Testing instrument/Material handling instrument etc. at site as per advice of BHEL engineer and same can be taken out from site only after getting the clearances from engineer-in-charge.
- 2.3.12 Contractor shall remove all scrap materials periodically generated from his working area in and around power station and collect the same at one place earmarked for the same. Load of scraps is to be shifted to a place earmarked by BHEL. Failure to collect the scrap is likely to lead to accidents and as such BHEL reserves the right to collect and remove the scrap at contractor's risk and cost, if there is any failure on the part of contractor in this respect. All the package materials, including special transporting frames, etc. shall be returned to the BHEL stores / customer's stores by the contractor.
- 2.3.13 If any item or equipment not covered but requires being erected/commissioned of cabling package, same shall be carried out by the contractor. No extra cost shall be payable to contractor .
- 2.3.14 The contractor shall ensure that his premises are always kept clean and tidy to the extent possible. Any untidiness noted on the part of the contractor shall be brought to the attention of the contractor's site representative who shall take immediate action to clean the surroundings to the satisfaction of the Engineer-in-charge.

2.3.15 The Contractor may have to execute work in such a place and condition where other agencies also will be under such circumstances.

2.3.16 Scope of work covered under this specification requires quality workmanship, Engineering and construction management. The contractor shall ensure timely completion of work. The contractor shall have adequate tools, measuring instruments, calibrating equipment etc. in his possession. He shall also have adequate trained, qualified and experienced engineers, supervisory staff and skilled personnel. The manpower deployed by contractor shall match with above scope of works.

2.3.17 All the surplus, damaged, unused materials, package materials, containers, Special transporting cabling drums /frames , etc. shall be returned to the BHEL stores / customer's stores by the contractor.

2.3.18 Any wrong erection shall be removed and re-erected promptly to comply with The design requirements to the satisfaction of BHEL engineer.

2.3.19 Contractor shall ensure following:

- I. Contractor has to maintain contact with local hospital having ambulance facility, scanning & other ultra-modern medical facilities required during emergency.
- II. Contractor has to ensure pre-employment medical check for all staff & workers.
- III. Contractor has to ensure that adequate First Aid facilities with medicines & trained person available at work site for emergency purpose.
- IV. In addition to above, BHEL (through its other contractor) has arranged ambulance at work site for emergency purpose, which can be utilized by the contractor in case of emergency. The charges for the same will be decided mutually at site. In case, under unavoidable circumstances, if the ambulance is not available / being used elsewhere, the contractor will have to arrange for the same as under clause 2.3.19 (I).

2.3.20 The contractor shall comply with following towards Social Accountability;

- a) The contractor shall not employ any employee less than 15 years of age in pursuant to ILO convention. If any child labour were found to have been engaged, the Contractor shall be levied with expenses of bearing his education expenditure which will include stipend to substantiate appropriate education or employ any other member of family enabling to bear the child education expenditure.
- b) The contractor shall not engage Forced/ Bonded Labour and shall abide by abolition of Bonded Labour System (Abolition) Act, 1976.
- c) The contractor shall maintain Health & safety requirement as stipulated in the Contract and Contract Labour (Regulation & Abolition) Act, 1970.

- d) The Contractor shall abide by UN convention w.r.t. Human Rights and shall be liable for Discrimination/ Corporal Punishment for failure in meeting with relevant requirements.
- e) The Contractor shall abide the requirement of Contract Labor (Regulation & Abolition) Act, 1970 for working hours.
- f) The Contractor shall abide by the statutory requirement of Minimum Wages Act 1948, payment of Wages Act 1936.
- g) The Contractor shall arrange potable drinking water to its employees & workers.

2.3.21 The scope of specification covers the erection, testing and commissioning of and material handling work of the cabling package along with accessories as detailed in rate schedule /bill of quantities (BOQ).

Note: - The weight/length/ quantity of items indicated in cabling package is tentative only and is liable for variation. Payment will be made on the lump sum /unit rate accepted by BHEL.

2.4 **The contractor's scope of work is further described in the clauses hereafter:**

The work will comprise of, but not limited to the following:

A. MATERIAL HANDLING- POWER, CONTROL & INSTRUMENTATION CABLES, CABLE TRAYS & ACCESSORIES, SUPPORT STRUCTURES & ACCESSORIES:

- 1. Receiving and unloading of consignments of cabling package at store from Trucks/ trailer arriving from BHEL manufacturing units & its vendors/suppliers.
- 2. Verification, proper stacking & storage of received material at store. Preparation of Shortages/ damages report (if any).
- 3. Loading & Transportation of Materials from site stores to Power-house/ valve house/ work site as per site requirement on the instructions of BHEL site engineer.
- 4. Unloading of material at Power-house/ valve house/ work site as per instructions of BHEL site engineer.
- 5. Shifting & handing over spare/surplus material at place/location designated by BHEL/ NHPC engineer.
- 6. Shifting of scarp material from Power-house/ work site to NHPC stores/ scrap yard as per instruction of site engineer.
- 7. Reconciliation of material with BHEL & NHPC.

8. Some consignments of cabling packages have already been received at site. For the material of cabling package already received, unloaded & stored in store. Payment for further handling of such material shall be applicable @ 70% of the rate item for material handling.
9. For the material directly delivered in Power House and unloaded in Power house front from the Truck/trailer from manufacturing unit/ vendor/ supplier. Payment for handling (Unloading, verification, stacking & further handling) of such material shall be applicable @ 20% of the rate item for material handling.
10. The weight to be handled for this package shall be approximately 400 MT . However, the quantity may change and material of other packages may be included for material handling with the same terms & conditions for the quoted rate item, at the discretion of BHEL engineer.

B. CABLE LAYING – POWER (HT & LT) /CONTROL / ALUMINIUM /COPPER INSTRUMENTATION SHIELDED/ TWISTED PAIR / ARMoured / SINGLE / MULTI-CORE, PVC / HR PVC / FRLS / XLPE INSULATION/ OPTICAL FIBER.

1. Cable laying includes cutting to the required length, cable marking as per drawing , laying in overhead Cable racks / underground cable trenches, pipes, flexible conduits, dressing/tagging of cables as per standard practice or as per instruction of site engineer. Clamping in tray, drilling of holes in gland plates in panels and junction box, proper glanding, splicing, dressing of spliced wire inside the panel and JB's, / ferrule, termination by using crimp type copper tinned/aluminium lugs, insulated/un-insulated, crimp and soldered termination, plug-in connections with insert type crimping, providing identification cable tags of PVC/aluminium at both the ends and at appropriate interval (Approximately 30 meters) throughout the route length, continuity checking, insulation resistance checking.
2. Entry to the panels, JB's may be from top, side or bottom. All cable are required be supported and clamped near to the panel. All cables are to be tied by cable ties at regular intervals and wherever required single phase/core cable will be run in trefoil manner. Suitable trefoil clamps will be provided by BHEL as free issue.
3. Cable lugs & glands, Cable ferrules, cable identification tag of PVC/metal, Clamping and dressing material such as suitable cable ties/ clamps etc. shall be supplied by BHEL MUs and shall be issued to sub-contractor.
4. All care should be taken to avoid abrasion, tension, twisting, kinking and stretching of cables during cable lying.

5. Cable entry in panels, MCCs, instruments, electrical actuators etc. are also required to be sealed. The required sealing material shall be included by contractor in the cabling laying work.
6. Contractor shall carefully plan the cutting schedule of each cable drum in consultation with BHEL site engineer such that wastages are minimized. Recovery will be made in case the wastages exceed the wastage allowances fixed in this contract.
7. Laying of power and control cables included glanding, dressing, tagging, lugging & termination and loop test of cables etc.
8. Laying of optical fibre cable within Power house complex, from power house to penstock valve house & Switchyard shall be within the scope of work of the contract. The Optical fibre cable from the Power House to PSV shall be laid on existing power-line poles.
9. Laying & Termination of incoming power cables/control cables to the BOPs panels/ drives shall be within scope of contract.
10. Insulation resistance (IR) is to be checked for all Power & Control Cable after laying and before termination.
11. The HT Cables (11kV) should be checked with High Voltage Test before/after laying.

C. CABLE TERMINATION OF POWER AND CONTROL /INSTRUMENTATION CABLES

1. The Cost of cable lying work shall also include the cost of termination with suitable crimping type lugs & ferrules and testing/ loop testing. HT terminations (indoor & outdoor) are also included in the scope of erection. Necessary jointing kits for HT cables will be supplied by BHEL as free issue. Jointing kit can be heat shrinkable/push on type /cold process jointing type. However contractor has shall have to arrange blow lamps/gas torch for heat shrinkable jointing kit at his own cost.
2. Cable Lugs, Glands, ferrules, cable ties, tags etc. shall be issued by BHEL as free issue item to contractor as supplied by BHEL MUs. Drilling of holes in gland plates of control panels, JB's etc. as per requirement shall also be part of cabling at no extra cost to BHEL. As such necessary hole saw cutter along with compatible drives shall be included in the scope of the contractor.
3. The contractor shall carryout insulation testing, loop testing and other testing if required as per the instructions of Engineer at site.

D. CABLE TRAYS/CABLE DUCTS & TRAY SUPPORTS

1. Various types of sheet metal, galvanized cable tray, i.e. perforated, ladder type, sheet metal duct, solid bottom trays, pre-fabricated structural trays etc., will be supplied in standard lengths along with accessories and hardware viz; coupler plate, tray covers and tray clamps etc.
2. Erection of cable tray/cable duct shall include cutting, laying, jointing, fixing tee/reducers/ bends/clamps, fixing of tray covers, hardware. Pre-fabricated cable tray support structure for fixing of cable trays shall be supplied from the manufacturing unit/ supplier. However, at some location it may require some modification/ re-fabrication & welding of tray supports to suit the site condition. The contractor shall be required to this adjustment within the quoted rate, as per tray route layout etc. fixing of earthing to nearby risers at intervals specified in the contract/directions of BHEL is also in the scope of the contractor.
3. Fabrication of bends/tee/ reducers from straight length of tray is within the scope of work and rate quoted shall be inclusive in cable tray erection work. All site welds of cable trays shall be painted with approved primer, which shall be arranged by the contractor.
4. Cable trays/duct etc. may have to be routed underground in cable trench, over head on structure, along the walls, roofs, floors etc as per drawings.
5. Installation of tray/duct covers/fabrication of tray supports, wherever provided, will be done as a part of tray erection and no extra rates will be payable.
6. As required, earthing of all cable trays, supporting structures adjacent to current carrying conductors, panels, JB, push button boxes etc. shall be in the scope of contractor and within the cost of cable tray installation.

E. JUNCTION BOXES /MCB DISTRIBUTION BOXES ETC.

Different type of Electrical Junction boxes/ MCB distribution boxes shall be supplied by BHEL unit. The scope of installation of Junction boxes/MCB distribution boxes shall be as follows:

1. Erection of junction boxes/MCB distribution boxes shall include providing necessary supports, drilling of suitable holes for cable glands in gland plates as required shall be in scope of contractor and this is the part of power/C&I cable laying, Painting/printing of the tag No of JB or fixing a separate tag plate as required on junction boxes/MCB distribution boxes, minor chipping, grouting as required for mounting the JB's/MCBs shall be in the scope of contractor. No extra cost shall payable to contractor.
2. The contractor shall close all unused holes on the gland plates using suitable material in consultation with Site Engineer at no extra cost to BHEL.

3. The scope of minor civil works like drilling, chipping and punching & opening in concrete floors, slabs, brick walls, etc. shall be in the scope of contractor as required for installation of cable trays, MCBs, Junction Boxes etc. no extra cost shall be payable to contractor.

2.5 WELDING, NON-DESTRUCTIVE TESTING ETC.

- 2.5.1 Installation of equipment involves good quality welding, NDT checks etc.
- 2.5.2 All the welders shall be tested and approved by BHEL engineer/ Customer's quality engineer before they are actually engaged on work. BHEL reserves the right to reject any welder without assigning any reason.
- 2.5.3 The welded surface shall be cleaned of slag and painted with primer paint to prevent corrosion. For this paint will be arranged by the contractor.
- 2.5.4 Welding electrodes have to be stored in enclosures having temperature and humidity control arrangement. This enclosure shall meet BHEL specifications.

2.6 MEASUREMENTS & WASTAGE & CUTTING ALLOWANCES

- 2.6.1 For all payment purposes, measurement shall be made on the basis of the actual execution of work in line with drawings/documents/site requirements. Physical measurements shall be made by the contractor in the presence of BHEL Engineer.
- 2.6.2 The measurement for cable, conduits, flexible conduits, trays etc., shall be made on the basis of length actually laid. Measurement will be based on terminal to terminal distance.
- 2.6.3 All the surplus, scrap and serviceable materials, out of the quantity issued to the contractor shall be returned to BHEL in good condition and as directed by the engineer. Definition of scrap and useful material as per clause- **2.3.10**
- 2.6.4 All materials returned to stores should carry aluminium tag indicating the size and type. Cables more than 5 meters length is termed as serviceable material and shall be returned size wise and category wise to the owner's stores or designated place in the project area as specified by BHEL engineer at no extra cost to BHEL. Cable of serviceable length being returned to the stores in drums shall have their free ends sealed and the balance lengths on the drum(s) shall be noted and certified by the Engineer-in-charge. This shall be applicable only for the purpose of accounting the cables issued for installation.
- 2.6.5 While carrying out material reconciliation with contractor, all the above points will be taken into account. All serviceable material returned by the contractor shall be deducted from the quantities issued for the respective sizes and categories and the balance quantity will be taken as the net quantity issued to the contractor. Material reconciliation shall be done and allowable scrap

quantity calculated as per wastage allowance percentage specified above. Any scrap/wastage generated by the contractor in excess of the allowable percentage shall be charged at the rates decided by the Engineer whose decision shall be final and binding on the contractor.

- 2.6.6 For all site-fabricated steel items such as supports, racks, frame, etc. physical measurement shall be made and then converted to tonnage. For steel material supplied to the contractor, all scrap shall be returned to BHEL stores by the contractor, with due accounting of material.
- 2.6.7 Every month the contractor shall submit an account for all the materials issued to him by BHEL in the standard Performa prescribed for this purpose by the site in charge.
- 2.6.8 The erection contractor shall make every effort to minimize wastage during erection work. Cutting and wastage allowance shall be computed on length, weight of material actually used, measured and accepted. In any case, the wastage shall not exceed the following limits;

Sl.No.	Item	% Wastage on issued Qty
01.	Each iron/steel section	2
02.	Each size of control / shielded cable	2
03.	Each size of power cables	1
04.	GI pipes/conduits	1

- 2.6.9 If the actual wastage is more than the specified figure, then equivalent price of the excess portion will be deducted from the contractor's bill.
- 2.6.10 The cable take off from drums shall be planned strategically such that jointing in the run of cables and wastage are avoided. For this purpose the exact route length between various equipment/panels as per the cable schedule shall be measured and the route length recorded before lying of the cables. Depending upon the route length and the type of cable required for various destinations, the cable drums shall be suitably selected for cable laying. Any jointing shall have to be approved by BHEL engineer. All the cut pieces/bits of cables, which are not used, shall be returned to the purchaser for accounting towards wastage. The cables damaged by the contractor shall have to be replaced by the contractor at his own cost.

2.7 TESTING, PRE-COMMISSIONING, AND POST-COMMISSIONING

- 2.7.1 The pre-commissioning activities of the power plant shall start with energizing of start-up power supply systems. The contractor shall simultaneously start commissioning checks of systems erected by him to match with the various milestone activities /commissioning programme of the project. All these works need specialized testing engineers, supervisors including electricians in each area to co-ordinate with BHEL Engineers and other agencies round the clock

to match with commissioning schedule of unit. Contractor shall earmark separate manpower during various commissioning activities. The manpower shall not be disturbed or diverted.

- 2.7.2 Mobilization of team during commissioning shall be planned in time and shall be undertaken round the clock. The contractor shall discuss on day-to-day / weekly / monthly basis the requirement of testing manpower, consumables, tools & tackles with BHEL engineer and arrange for the same. If at any time the requisite manpower, consumables, T & P are not arranged then BHEL shall make alternate arrangements and the cost shall be recovered from contractor.
- 2.7.3 Any rectification/modification/ re-work/ re-routing of power and control cables are required to be done because of contractor's faulty erection, which is noticed during commissioning at any stage, the same has to be rectified by the contractor at his cost. During commissioning, if any improvement rework / rectification /modification due to design improvement / requirement is involved, the same shall be carried out promptly and expeditiously and the claims if any, for such works from the contractor shall be governed by clauses covered elsewhere.
- 2.7.4 The contractor shall have to provide man power support for pre-commissioning, testing/checking, commissioning, trail run and attending pending points. For commissioning of the units, minimum man-power support required shall not be less than the following:

SI No	Type of Manpower	Quantity	Man-months (tentative)
1	Engineer/ Supervisor	01	06
2	Electrician (skilled)	03	18
3	Semiskilled/unskilled	04	24

- 2.7.5 The above figures for manpower support for commissioning /testing /checking are tentative only and if need for any additional manpower over and above the mentioned figures are required as per site requirement, the same shall be arranged by the contractor at no extra cost to BHEL. If the contractor fails to deploy the above Engineer/Supervisor/Technician/ Skilled /semiskilled/unskilled at appropriate time of commissioning, then deduction shall be made from his bills at the rate of Rs. 30,000/- per man month for Engineer/supervisor and Rs. 15,000/- per man month for electrician/ skilled /semiskilled/unskilled.
- 2.7.6 T&P/ instruments required for cable testing are to be arranged by the Contractor
- 2.7.7 All testing activities shall be carried out as per relevant standard, code of practice, manufacturer's instructions and BHEL norms. The contractor shall follow the checklist of BHEL prior to taking up testing & commissioning activities and the activities shall be carried out in accordance with the checklist. All the above shall be witnessed by BHEL engineer and the reports signed jointly.

Chapter - III: Facilities in the scope of Contractor/BHEL

3.0 FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL

PART I: ESTABLISHMENT/ FACILITY

Sl. No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
1.1.0	ESTABLISHMENT			
1.1.1	FOR CONSTRUCTION PURPOSE:			
A	Open space for office of BHEL	Yes		
B	Open space for storage	Yes		
C	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
D	Bidder's all office equipment's, office / store / canteen consumables		Yes	
E	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
F	Firefighting equipment's like buckets, extinguishers etc		Yes	
G	Fencing of his storage area, office, canteen etc of the bidder for own uses.		Yes	
1.1.2	FOR LIVING PURPOSES OF THE BIDDER			
A	Open space		Yes	
B	Living accommodation		Yes	
1.2.0	<u>ELECTRICITY</u>			
1.2.1	POWER FOR CONSTRUCTION PURPOSE (to be specified whether chargeable or free)			Chargeable

Sl. No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
1.2.1.1	Responsibilities of obtaining connection	Yes		1) Connection of approx. 250KW was arranged By BHEL.
1.2.1.2	Charges for obtaining connection	Yes		
1.2.1.3	Single point of power source at PH	Yes		Contractor will install a separate meter for consumption reading and actual monthly electricity bill shall be paid to BHEL/Other contractor of BHEL. Required cable/extension to the work-place shall be done the contractor at his own cost.
1.2.1.4	Payment of electricity consumption		Yes	At rates for per unit as fixed by BHEL/ other contractor of BHEL.
1.2.1.5	Maintenance of lighting, distribution boards of power at suitable working areas		Yes	
1.2.1.6	Providing of the consumables such as sockets, switches, MCCB, bulbs etc .		Yes	
1.2.1.7	Further distribution for the work to be done which include supply of materials and execution		Yes	
1.2.2	POWER for the office, stores, etc. of the bidder		Yes	
1.2.2.1	Responsibilities of obtaining connection		Yes	
1.2.2.2	Charges for obtaining connection		Yes	
1.2.2.3	Payment of electricity consumption		Yes	
1.2.2.4	Distribution from single point including supply of materials and service		Yes	
1.2.2.5	Demobilization of the facilities after completion of works		Yes	

Sl. No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
1.3.0	<u>WATER SUPPLY</u>			
1.3.1	For construction purposes at P/H:	Yes		
1.3.1.1	Making the water available at single point	Yes		
1.3.1.2	Further distribution as per the requirement of work		Yes	
1.3.2	<u>Water supply for bidder's office, stores, etc</u>		Yes	
1.3.2.1	Making the water available at single point		Yes	
1.3.2.2	Further distribution as per the requirement of work		Yes	
1.4.0	LIGHTING/ ILLUMINATION			
1.4.1	For construction work (supply and execution of all the necessary materials such as lamps, extension boards, hand lamps, cable etc): 1. At construction site 2. At preassembly area 3. At storage area		Yes	
1.4.4	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
1.5.0	COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER		YES	
1.6.0	COMPRESSED AIR SUPPLY			
1.6.1	Supply of Compressor and all other equipment's (including pipes, valves, storage systems etc) required for supply of compressed air at site	NA	NA	
1.6.2	Installation of the above system and operation and maintenance of the same.	NA	NA	

Sl. No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
1.6.3	Supply of the all the consumables for the above system during the contract period		Yes	

PART II: ERECTION FACILITIES

Sl. No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
2.1.0	Engineering works for construction	yes		
2.1.1	Providing the erection drawings for all the equipment's covered under this scope	Yes		
2.1.2	Drawings for construction methods	Yes		In consultation with BHEL
2.1.3	As-built drawings – where ever deviations observed and executed and also based on the decisions taken at site- example – routing of small bore pipes	Yes		Bidder to help BHEL in making as built drawings
2.1.4	Shipping lists etc for reference and planning the activities	Yes		
2.1.5	Preparation of site erection schedules and other input requirements	Yes	Yes	Bidder to prepare in consultation with BHEL
2.1.6	Weekly erection schedules based on SI No 2.1.5	Yes	Yes	”
2.1.7	Daily erection / work plan based on SI No 2.1.7		Yes	”
2.1.8	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	To be jointly done on regular basis

Sl. No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
2.1.9	Visit of the senior official (at least once in every two months) of the bidder to site to review the progress so that works are completed as per schedule.		Yes	
2.1.10	Preparation of preassembly bay		Yes	

- 3.1 BHEL will not be responsible for any loss or damage to the contractor's equipment as a result of variation in voltage or frequency or interruptions in power supply.
- 3.2 The Contractor shall be responsible for providing all necessary facilities like residential accommodation, transport, electricity, water, medical facilities etc. at his own cost as required under various labour laws and statutory rules and regulations framed there under to the personnel employed by him.
- 3.3 Provision of distribution lines of both electrical power and water from the central points to the required place with proper distribution boards observing the safety rules laid down by the electrical authorities of the state shall be done by the contractor, supplying all the materials like cables, distribution board, switch boards, TPN, CBS, ELCBS/ MCCBS/ Copper / Brass clamps, copper conductor, change over switches pipes etc. at his own cost. If any failure is caused in supply of the power and water, it is the responsibility of the contractor to make alternate arrangements at his cost. The contractor shall adjust his working shifts / hours accordingly and deploy additional manpower if necessary so as to achieve the targets. **The energy meter to be installed by the contractor & shall get tested and certified by State Electricity Board or any other approved agency at his cost.**
- 3.4 The contractor while drawing construction power supply from Distribution Board should strictly adhere to following points.
 - a) All electrical installations should be as per Indian Electricity rules.
 - b) All distribution Boards installed by the contractor should be constructed with fireproof materials viz. Steel frames, Bakelite sheets etc.
 - c) Connection for single phase should be taken from phase and neutral. Nowhere the connection should be taken with earth as neutral.
 - d) All electrical connections should be made through connectors, nuts and bolts, switches, plug and sockets. Loose connections or hooking up of wires shall not be permitted.
 - e) Contractors have to make their own earthing arrangement for their equipment / DB earthing.
 - f) All electrical equipment / tools and plants should be properly earthed. DBs to be earthed diagonally opposite at two points.

- g) Contractor should use “MCCB” and “ELCB” either on incoming or outgoing connections to the DBs.
 - h) Contractor should ensure that all the CBs / TPNs/ Fuses/ MCCB / ELCB cables etc. should be of adequate rating/ capacity.
 - i) For permission of supply connections contractor has to submit a test report of their installations with a single line diagram of connected/ proposed loads.
- 3.5** In case of power cuts / load-shedding no compensation for idle labour or extension of time for completion of work will be given to contractor.
- 3.6** On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and leveled and debris shall be removed, as per instructions of BHEL, by the contractor at his cost. In the event of his failure to do so, the Engineer will get it done and expenses incurred shall be recovered from the contractor along with prevailing overheads. The decision of BHEL Engineer in this regard shall be final.

Chapter - IV: T&Ps and MMEs to be deployed by Contractor

4.0 T&P AND MMD TO BE DEPLOYED BY CONTRACTOR

Sr.No	EQUIPMENT	CAPACITY	ACCURACY	Min Qty.
1.	Hand crimping tools up to all size of cables under scope of work			Adequate nos.
2.	General purpose Hand tools			Adequate nos.
3.	Hydraulic crimping tool upto 630 mm ²			1 No.
4.	Drilling Machines 1/4", 1/2", 3/4" & 1"			01 no. each
5.	Phase sequence indicator 110 -415V			1 No.
6.	Digital Multi-meter AC & DC	200mV to 1000V AC	±1%+1 digit	4Nos.
7.	Digital, 4 1/2 digit (Motwane or similar)			2 nos.
8.	Analog multi-meter (Motwane or similar)	Voltage 2.5 to 2.5kV AC & DC	±1%	2 nos.
		Current 100 mA to 10A AC	±2%	
		Current 250 μA to 1A DC	±1.5%	
		Resistance upto 100 MΩ	±3%	
9.	Hand operated megger 500V	Upto 200 MΩ		1 no.
10.	Motor operated megger 0-1000-2000-5000V	Upto 25000 MΩ		1 no.
11.	Tong Tester AC	0/300/600A AC	± 3%	1 No. each
12.	Tong Testers DC 30/60/300 A	0 to 300A DC		1 No.
13.	Stop watch			2 No.
14.	Standard mA / mV source of reputed make. Range 0- 50 mA and 0 - 100 mV			1 nos.

15.	Single phase variac	0-15 A		1 no.
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NOTE:

1. The contractor shall arrange all the above T&P, equipment and instruments as indicated except testing instruments which are supplied by BHEL MUs along with equipment (propriety type).
2. Any other tools and plants instruments and equipment required in addition to the above other than propriety type T&P/Instruments for the successful completion of this job shall be arranged by the contractor at his cost.
3. Necessary accessories for the above shall also be provided by the contractor.
4. The above instruments/equipment shall be sent for testing and calibration wherever required from time to time and maintained by contractor as required by BHEL. List of such agencies and periodicity of calibration required for different instruments shall be furnished by BHEL at site.
5. Contractors shall arrange experienced/qualified persons for using these calibration instruments at laboratory and also at work-front.
6. Wherever frequent calibration is required, contractor shall arrange adequate number of instruments such that the work does not suffer for want of test instruments. Other terms and conditions regarding above items shall be as per T&P clause in SCC

Chapter - V: T&P DEPLOYED BY BHEL ON SHARING BASIS

5.0 T&Ps DEPLOYED BY BHEL ON SHARING BASIS

List of T&P being provided by BHEL for use of contractor free of hire charges on sharing basis.

S.NO.	EQUIPMENT/ T&Ps	CAPACITY	QTY
1.	EOT Crane in power house	200T / 30T	02 No.
2.	E.O.T Crane (BFV House)	75 T/20 MT	01 No.
3.	Hydra	14 T	01 No.

NOTE:

- 1. Hydra for Loading/ unloading of material of this package at Storage yard shall be provided by BHEL on free of hire charges on sharing basis. However, fuel & operator shall have to be arranged by contractor at their own cost.**
- 2. Other terms and conditions regarding above items shall be as per T&P clause in SCC**

Chapter - VI: TIME SCHEDULE

6.0 TIME SCHEDULE:-

MOBILIZATION, TIME SCHEDULE, CONTRACT PERIOD AND GRACE PERIOD

6.1 INITIAL MOBILIZATION

After receipt of LOI, Contractor shall discuss with Project Manager / Construction Manager regarding initial mobilization. Contractor shall mobilize necessary resources within 2 weeks of issue of letter of intent or as per the directive of Project Manager / Construction Manager. Such resources shall be progressively augmented to match the schedule of milestones and erection /commissioning.

6.2 MOBILIZATION FOR ERECTION, TESTING, ASSISTANCE FOR COMMISSIONING ETC.

The activities for erection, testing etc. shall be started as per directions of Construction Manager of BHEL. Contractor shall mobilize further resources as per requirement to commence the work of erection, testing etc. as per scope of work, and progressively augment the resources to match schedule of the project.

6.3 COMMENCEMENT OF CONTRACT PERIOD AND TENTATIVE SCHEDULE

Mobilization of required T&Ps/ manpower and Start of erection of cable tray of first unit shall be considered as “start of contract period”. Site mobilization will not be considered as start of contract period.

The contractor has to subsequently augment his resources in such a manner that following major milestones of erection & commissioning are achieved on specified schedules:

Sr.No	MILE STONES	MONTHS	REMARKS
1	Erection Start	ZERO	
2	Completion of Erection & Testing of cabling work of unit- 1, Valve House and common system.	6 th	
3	Completion of Erection & Testing of cabling work of unit- 2.	9 th	
4	Completion of Erection & Testing of cabling work of unit- 3.	12 th	
5	Completion of Erection & Testing of cabling work of unit- 4	15 th	
6	Completion of all work	16 th	

- Major mobilization shall start from the date of start of erection of cable tray in cable spreading room (LTAC system).

2. All dates in above schedule are from start of contract period (zero date).
3. In order to meet above schedule in general, and any other intermediate targets set, to meet customer/ project schedule requirements, contractor shall arrange & augment all necessary resources from time to time on the instructions of BHEL.
4. The contractor has to ensure that work is completed in all respects leaving no pending points. However the punch list/ pending points, which are possible to be attended at site, shall be fully liquidated within one month from successful trial operation of the unit.
5. The work under the scope of this contract is deemed to be complete in all respects, only when the contractor has discharged all the responsibilities laid down in the contract. The decision of BHEL on completion date shall be final and binding on the contractor.
6. Commissioning of the Units shall depend on the availability of water for commissioning, by the customer. In the event of delay in water availability (Dam/water conductor system) by customer, for commissioning, the contractor may be allowed/ asked for demobilization for the period between completion of erection of cabling package work & start of commissioning activity and no compensation shall be payable for the period. The contractor shall be required to provide man-power support related to cabling package work to the BHEL commissioning engineer during commissioning.

6.4 CONTRACT PERIOD

The contract period for completion of entire work under scope shall be 16 **(Sixteen) MONTHS** from the “**START OF CONTRACT PERIOD**” as specified.

The period from the commencement of preparatory work for erection till the actual “start of contract period” shall not be reckoned for the above purpose.

6.5 CONSEQUENCE OF DELAY

It may be noted that in case the delay in completion is attributable to the contractor and leads to imposition of liquidated damages by BHEL’s client, BHEL will impose LD on the contractor as per GCC.

Chapter - VII: TERMS OF PAYMENT

7.0 TERMS OF PAYMENT

- 7.1 The 'Engineer' will certify regarding the actual work executed in the measurement books and bills, which shall be accepted by the contractor in measurement book.
- 7.2 Contractor shall submit bills for the work completed under the specification, once in a month detailing work done during the month. The format for billing shall be approved by BHEL before raising invoices.
- 7.3 Subject to any deduction which BHEL may be authorised to make under the contract, the contractor on the certificate of the Engineer at site be entitled for payment at different stages of erection as explained hereunder:

7.3.1 PROGRESSIVE PAYMENT SHALL BE RELEASED ON PRORATA BASIS

(A) ITEM NO -1 OF THE RATE SCHEDULE

100% of lump sum rate of item No-1 of rate schedule shall be payable as detailed in annexure –A (Billing break up) enclosed.

(B) ITEM NO -2 OF THE RATE SCHEDULE (Material handling of cabling packages- Power, control & instrumentation cables, cable trays & accessories, support structures & accessories)

1. 80% of applicable rate on completion of material handling activity for the consignment.
2. 20% of applicable rate on completion of material reconciliation, handing over spare/ surplus material.

Note:

1. Further percentage break-up or minor changes in the annexure –A (Billing break up) referred above, if required depending upon the site conditions can be mutually discussed and finalized by construction Manager BHEL at site to enable pro-rata running payments.

Chapter - VIII: TAXES, DUTIES, LEVIES

8.0 TAXES, DUTIES, LEVIES

The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.

However, provisions regarding **Service Tax and Value Added Tax (VAT)** on output services and goods shall be as per following clauses.

8.1 Service Tax & Cess on Service Tax

Service Tax and Cess on Service Tax as applicable on output Services are excluded from contractor's scope; therefore contractor's price/rates shall be exclusive of Service Tax and Cess on Output Services.

Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. The Service Tax Rules permit more than one option or methodology for discharging the liability of tax/levy/duty and BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the

Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor. Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract. For the purpose of claiming any Service Tax from BHEL, the following procedure shall be adopted:

Contractor shall submit serially numbered Service Tax and Cess Invoices, signed by him or a person authorized by him in respect of taxable service provided, and shall contain the following, namely:

1. The name, address and registration number of the contractor
2. The name and address of the party receiving taxable service (BHEL)
3. Description, classification and value of taxable service provided and
4. The Service Tax payable thereon.

All the four conditions shall be fulfilled in the invoice for payment of Service Tax by BHEL.

Where more than one nature of Service under Service Tax Rules is involved, the invoice mentioned above shall contain the break-up of all values for each nature of Service.

Name and address of the contractor should be same in the service tax invoice and monthly bill. Any change in the name and address in past should be supported by documentary evidence duly certified by the registering authority.

Purpose of above requirements, interlia, is to enable availment of Cenvat credit by BHEL. As per recent amendments, Time restrictions for taking Cenvat credit is within six months from date of invoice. Wherever Cenvat credit could not be availed by BHEL within statutory time limit of 6 months due to delay in submission of invoices or

for any other reasons attributable to contractors, Liability towards loss of such Cenvat credit shall be passed on to contractors.

The bidder who do not accept and comply with above provisions, are liable to be rejected against this tender.

Purpose of above requirements, inter alia, is to enable availment of CENVAT credit by BHEL. As per recent amendment time restrictions for taking Cenvat credit is within Six month from date of invoice. Wherever Cenvat credit could not be availed by BHEL within statutory time limit of 6 months due to delay in submission of invoice or for any other reason attributable to contractors, liability towards loss of such CENVAT credit shall be passed on to contractors

8.2 VAT (Sales Tax /WCT)

The rates quoted by the Contractor shall be inclusive of VAT/Sales Tax and BHEL shall not reimburse any amount on this account due to any reason whatsoever.

The Contractor shall register himself with the respective Sales Tax authorities of the state and submit proof of such registration to BHEL along with the first RA bill.

Deduction of tax at source shall be made as per the provisions of law unless otherwise found exempted.

In case tax is deducted at source as per the provisions of law, this is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made unless specifically agreed to.

Contractor has to make his own arrangement at his cost for completing the formalities, if required, with Sales Tax/VAT Authorities, for bringing all their material, plant and equipment etc. at site for the execution of the work, including arrangement of Road Permits if and as applicable under the relevant VAT Act.

8.2.1 Modalities of Tax Incidence on BHEL

Wherever the relevant tax laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the contractor.

8.2.2 New Taxes/Levies

In case the Government imposes any new levy/tax on the output service/goods/work after award of the contract, the same shall be reimbursed by BHEL at actual.

In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of Price Bid. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.

No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Such impact shall be taken care of by the Price Variation/Adjustment Clause (PVC) if any. In case PVC is not applicable for the contract, Bidder has to make his own assessment of the impact of future variation if any, in rates of taxes/duties/ levies etc. in his price bid.

Chapter - IX: Others

9.0 IMPORTANT CONDITIONS

9.1 In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be as mentioned in Notice inviting tender.

9.2 Modification/ deletion in Price Variation Compensation Clause no. 2.17 of GCC:

I. Clause No. 2.17.5 of GCC shall be modified as below:-

Base date shall be the calendar month of the schedule completion date of

The contract. Schedule Completion date shall be the actual start date plus delivery period as defined in clause no 6.0 (Time schedule) of TCC.

II. Clause No. 2.17.9 shall be modified as:-

PVC shall be applicable only for the extended period of contract (if any) after the schedule completion date. However, the total Quantum of Price Variation amount payable/recoverable shall be regulated as follows:

- A.) For the portion of backlog attributable to the contractor, no PVC shall be paid.
- B.) For the period of Force Majeure, the PVC (if applicable) will be limited to the indices applicable at the beginning of the force majeure period.
- C.) For the portion of backlog attributable to BHEL, the PVC will be as per the indices applicable for the respective months
- D.) The total amount of PVC shall not exceed 20% of the cumulatively executed contract value. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works.

All other terms & conditions of clause no. 2.17 shall remain same

Chapter - X: RATE SCHEDULE/ BOQ**10.0 PARBAT-II HEP (4X200 MW) ETC & Material Handling of Cabling package**

10.1 Contractor shall fully understand equipment description and scope of work before quoting. The scope of work and responsibility of the contractor as mentioned under these specifications shall be covered within the quoted rates.

10.2 The tenderer shall quote the rates as per the rate schedule only. No cutting/ erasing / over writing shall be done.

RATE SCHEDULE CUM BOQ

Sl. No	DESCRIPTION OF WORK	Rate in Rupees / MT (in figures and words)
1	Lumpsum price for installation of cable trays, laying of power, control & instrumentation cables, termination, testing, commissioning and handing over work of cabling package of 4X200 MW Parbati-II HEP. Refer:-Chapter-II-(Scope of work)of this tender	
2	Rate in Rs./MT for entire of work as defined in this tender specification in respect of receipt, Unloading, its verification proper storage Preservation of cabling package materials at Project store/power house /work site and transportation to power house/work site from Store and unloading /handed over for erection. Refer:-Chapter-II-(Scope of work) of this tender (Approx. 400MT)	

Chapter - XI: TENTATIVE WEIGHT/ LENGTH SCHEDULE

Sr.No	DESCRIPTION	UNIT	QTY (Tentative)
1.0	LT CONTROL CABLES- CU CONDUCTOR, HR-PVC, INSULATED,PVC SHEATHED,FRLS ARMOURED.		
1.1	2C X 2.5 SQ. MM CU CONDUCTOR	Mtr.	10000
1.2	4C X 2.5 SQ. MM CU CONDUCTOR	Mtr.	16000
1.3	7C X 2.5 SQ. MM CU CONDUCTOR	Mtr.	9000
1.4	12C X 2.5 SQ. MM CU CONDUCTOR	Mtr.	15000
1.5	19C X 2.5 SQ. MM CU CONDUCTOR	Mtr.	9500
2.0	INSTRUMENT CABLESCOPPER CONDUCTOR,HR-PV INSULATED,PVC SHEATHED,FRLS ARMOURED,SCREENED		
2.1	2P X 0.5 SQ. MM CU CONDUCTOR	Mtr.	6000
2.2	4P X 0.5 SQ. MM CU CONDUCTOR	Mtr.	8500
2.3	8P X 0.5 SQ. MM CU CONDUCTOR	Mtr.	10500
2.4	12P X 0.5 SQ. MM CU CONDUCTOR	Mtr.	4000
2.5	16P X 0.5 SQ. MM CU CONDUCTOR	Mtr.	1000
2.6	2T X 0.5 SQ. MM CU CONDUCTOR	Mtr.	2500
2.7	4T X 0.5 SQ. MM CU CONDUCTOR	Mtr.	4000
3	LT POWER CABLE ALUMINIUM CONDUCTORS, PVC INSULATED,TYPE-A, TYPE-C, PVC INNER & SHEATHED TYPE ST-1,ST-2 FRLS (OUTER SHEATH), ARMOURED L.T.P CABLE.		
3.1	1 C X95 SQ MM	Mtr	1000
3.2	1 C X120SQ MM	Mtr	4000
3.3	1 C X150SQ MM	Mtr	6000
3.4	1 C X185 SQ MM	Mtr	4000
3.5	1 C X240 SQ MM	Mtr	1500
3.6	1 C X300 SQ MM	Mtr	6500
3.7	1 C X400 SQ MM	Mtr	3500
3.8	1 C X630 SQ MM	Mtr	5500
3.9	3.5 C X25 SQ MM	Mtr	1000
3.10	3.5 C X35 SQ MM	Mtr	1000
3.11	3.5CX 50 SQ MM	Mtr	1500
3.12	3.5CX 70 SQ.MM,	Mtr.	1000
3.13	3.5CX 95 SQ.MM,	Mtr	2500

3.14	4 C X 6 SQ MM	Mtr	2000
3.15	4 C X10 SQ MM	Mtr	3500
3.16	4 C X16 SQ MM	Mtr	2500
4	LT POWER CABLE COPPER CONDUCTORS, PVC, HR-PVC INSULATED, TYPE-A, TYPE-C, PVC & OUTER SHEATHED TYPE ST-1, ST-2 FRLS (OUTER SHEATH), ARMOURED L.T.POWER CABLE.		
4.1	4 C X 4 SQ MM	Mtr	1500
4.2	4 C X 6 SQ MM	Mtr	10000
4.3	2 C X 4 SQ MM	Mtr	5000
4.4	2 C X 10 SQ MM	Mtr	2000
4.5	2 C X 16 SQ MM	Mtr	1000
4.6	1 C X 300 SQ MM	Mtr	5500
5	HT POWER CABLE 1C X300 SQ MM ALUMINUM CONDUCTOR, XLPE INSULATED, 11 /11KV(UE), PVC INNER SHEATH, OVER ALL PVC OUTER SEATH, FRLS ARMOURED CABLE	Mtr	14500
6	OPTICAL FIBER CABLES	Mtr	12000
7	Cable trays, cable trays accessories horizontal 45/90 deg elbows, vertical 90 deg elbows, TEEs, cross, reducers ,MS clamps for fixing tray on cantilever with coupler plats ,fasteners clams and fixing hardwares etc.		
7.1	Galvanised Perforated type cable tray, Wide=600mm	Mtr	1800
7.2	Galvanised Perforated type cable tray, Wide=450mm	Mtr	350
7.3	Galvanised Perforated type cable tray, Wide=300mm	Mtr	1500
7.4	Galvanised Perforated type cable tray, Wide=150mm	Mtr	150
7.5	Galvanised Ladder type cable tray, Wide=600mm	Mtr	2300
7.6	Galvanised Ladder type cable tray, Wide=450mm	Mtr	450
7.7	Galvanised Ladder type cable tray, Wide=300mm	Mtr	1800
7.8	Galvanised Ladder type cable tray, Wide=150mm	Mtr	300
8	HT CABLE TERMINATION KITS/JOINT KITS		

CABLING WORK PACKAGES**TECHINICAL CONDITIONS OF CONTRACT (TCC)****PAGE 32 of 33**

8.1	11kV Indoor heat shrinkable type XLPE – 1C X300 SQ MM	Nos	108
8.2	11 KV, Outdoor, heat shrinkable type XLPE - 1C X300 SQ MM	Nos	24
9	CABLE JUNCTION BOXES		
9.1	2 MM thickness ,IP55 ,Fitted with 20 Nos TBs	Nos	30
9.2	2 MM thickness ,IP55 ,Fitted with 40 Nos TBs	Nos	10
10	MCB DISTRIBUTION BOX Phase Distribution Box , Thick ness-16 SWG, 1 no Incomer of 63 A MCCB, 4 No Outgoings	Nos	10
11	RIGID GI CONDUITS GI pipe NB-100 MM, Thick, 6 Meter standard length	Nos	50

Note: - Weight/Length /quantity of above items of cabling package are tentative and may be Change during design and no extra cost will be payable to contractor.

Annexure - A

BILLING BREAK UP FOR ERECTION ,TESTING & COMMISSIONING WORK OF CABLE PACKAGES AT PARBATI-II HEP (4X200 MW) .

SR. NO.	ACTIVITY	UNIT NO.				COMMON	TOTAL (%)
		I	II	III	IV		
1	CABLE TRAYS						
1.1	INSTALLATION OF ALL TYPE CABLE TRAYS (Approx 35 % of total cable tray work)	1	1	1	1	7	
1.2	INSTALLATION OF ALL TYPE CABLE TRAYS (Approx 70 % Total of cable tray work)	1	1	1	1		
1.3	COMPLETION OF ALL TYPE CABLE TRAY INSTALLATION WORK (On completion of ALL BALANCE Tray work)	1	1	1	1		
	SUB TOTAL (%)	3	3	3	3	7	19
2	CABLE LAYING,DRESSING ,CLAMP ,TERMINATION ETC WORK (POWER,OFC ,CONTRAL & INSTRUMENTATION CABLES)						
2.1	CABLE LAYING,DRESSING ,CLAMPING, TAGGING, TESTING, GLANDING & TERMINATION OF POWER CABLES (HT & LT) . (On completion of Approx. 35 % of total Power cable work)	1	1	1	1	9	
2.2	CABLE LAYING,DRESSING ,CLAMPING, TAGGING, TESTING, GLANDING & TERMINATION OF POWER CABLES (HT & LT). (On completion of Approx. 70 % of total Power cable work)	1	1	1	1		
2.3	CABLE LAYING,DRESSING ,CLAMPING, TAGGING, TESTING, GLANDING & TERMINATION OF POWER CABLES (HT & LT). (On completion of all balance work of total Power cabling)	1	1	1	1		
2.4	CABLE LAYING,DRESSING ,CLAMPING, TAGGING, GLANDING , TERMINATION & TESTING OF C & I CABLES (On completing of Approx. 25 % of total C& I cabling work)	1.5	1.5	1.5	1.5	13	
2.5	CABLE LAYING,DRESSING ,CLAMPING, TAGGING, GLANDING & TERMINATION including LOOP TESTING OF C & I CABLES (On completing of Approx. 50 % of total C& I cabling work)	1.5	1.5	1.5	1.5		
2.6	CABLE LAYING,DRESSING ,CLAMPING, TAGGING, GLANDING & TERMINATION including LOOP TESTING OF C & I CABLES (On completing of Approx. 75 % of total C& I cabling work)	1.5	1.5	1.5	1.5		
2.7	CABLE LAYING,DRESSING ,CLAMPING, TAGGING, GLANDING & TERMINATION including LOOP TESTING OF C & I CABLES (On completing of All balance work of total C& I cabling work)	2.5	2.5	2.5	2.5		
2.7	LAYING OF OPTICAL FIBER CABLES					3	
	SUB TOTAL (%)	10	10	10	10	25	65
3	COMMISSIONING OF UNITS	4	4	4	4		16
	GRAND TOTAL (%)	17	17	17	17	32	100