

TENDER SPECIFICATION

NO:BHE/PW/PUR/KHARGONE WIS/1311

ENTERING INTO PRE-BID TIE UP/MOU WITH BHEL FOR
BIDDING & EXECUTION (IF JOB AWARDED TO BHEL)
OF DESIGN, ENGINEERING, SUPPLY, CIVIL,
STRUCTURAL AND ARCHITECTURAL WORKS FOR
CONSTRUCTION OF RIVER WATER INTAKE SYSTEM
FOR UPCOMING

2X660 MW NTPC KHARGONE PROJECT

TECHNICAL BID - VOLUME- I

TENDER SPECIFICATIONS CONSISTS OF:

- **Notice Inviting Tender**
- **Volume 1 A - Technical Conditions of Contract,**
- **Volume 1 B - Special conditions of Contract,**
- **Volume 1 C - General conditions of Contract**
- **Volume 1 D - Forms & Procedures**



Bharat Heavy Electricals Limited
(A Government of India Undertaking)
Power Sector - Western Region
345-Kingsway, Nagpur-440001

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STRUCTURAL AND ARCHITECTURAL WORKS FOR
CONSTRUCTION OF RIVER WATER INTAKE SYSTEM
FOR UPCOMING
of
2X660 MW NTPC KHARGONE PROJECT**

EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender

LAST DATE FOR TENDER SUBMISSION: Refer Notice Inviting Tender

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING VOLUME-I AND VOLUME- II ARE ISSUED TO:

M/s.

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PLEASE NOTE:
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

AGM (Purchase)
Place: Nagpur
Date:

1311

NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



NOTICE INVITING TENDER (NIT)
NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES
OR
PURCHASE TENDERS FROM THIS OFFICE ALSO

=====

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.

Important Information:

BHEL is in the process of submitting bid/offer for construction of 2X660 MW NTPC Khargoon STPP on EPC basis.

Towards above bidding and execution of a specific portion of job (if awarded) i.e Design, Engineering and Civil Construction of River Water Intake system for the project, BHEL intends to enter into Pre-bid MOU with a reputed and experienced agency.

Detailed scope and specification are covered under this NIT

Mandatory terms and conditions of the pre-bid tie up/MOU are given below. In case of conflict with any condition given elsewhere in this NIT, the conditions given hereunder shall prevail on the condition given elsewhere;

- 1) As per the terms and conditions of this NIT, bidders shall submit their techno-commercial offer for the subject job. Based on the offer of successful lowest bidder, BHEL shall submit its bid to the customer.
- 2) Successful lowest bidder shall be responsible for execution of the subject job on EPC basis if the work is awarded to BHEL by the customer. Execution of Job and the technical conditions of contract shall be on Back to Back basis with NTPC contract.
- 3) Pre-Bid MOU shall be signed between BHEL and successful Lowest bidder in the prescribed format (attached as Annexure V of NIT)
- 4) Opening of the tenders (technical bid and price bid) shall be in camera. Bidders shall not be permitted to witness the bid opening. BHEL reserves all rights to keep the entire proceedings of pre-bid tie MOU confidential.

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- 5) The agreed price drawn during MOU may be subject to further proportional reduction for the package under MOU, in the event of any price reduction given by BHEL to its customer together with alteration in terms & conditions during negotiation with customer.
- 6) Within 30 days of entering into MOU, successful bidder shall have to submit a bid-bond in the form of bank guarantee for 1 % of value agreed in MOU, in order to ensure successful bidder's continued association & linkage with BHEL till customer finalizes order.
- 7) MOU will be converted to contract on receipt of firm order from customer without any major deviation/ financial implication keeping in view the spirit of MOU and without again going through tendering procedures. Contract will be signed only with pre-bid tie-up party on receipt of firm order from customer on BHEL.
- 8) Based on the techno-commercial conditions given in the NIT, bidders shall submit the offer on EPC basis. Any changes/ modifications, addition/ deletion necessary, which are necessitated because of fault of successful bidder, shall be to their account. All Technical customer contract conditions (included in this NIT with specific modifications) shall be applicable to the bidder on back to back basis during all stages.

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION	
i	TENDER NUMBER	BHE/PW/PUR/KHARGONE – WIS/ 1311	
ii	Broad Scope of job	DESIGN, ENGINEERING, SUPPLY, AND EXECUTION OF CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS FOR CONSTRUCTION OF RIVER WATER INTAKE SYSTEM FOR UPCOMING 2X660 MW NTPC KHARGONE PROJECT	
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>	<i>Applicable</i>
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i>	<i>Applicable</i>
c	Volume-IC	<i>General Conditions of Contract (GCC)</i>	<i>Applicable</i>
d	Volume-ID	<i>Forms and Procedures</i>	<i>Applicable</i>
e	Volume-II	<i>Price Schedule (Absolute value).</i>	<i>Applicable</i>
iv	Issue of Tender Documents	1. Sale from BHEL PS Regional office at : Start : 02/10/2014 Closes: 22/10/2014 2. From BHEL website (www.bhel.com) Tender documents can however be downloaded from website till due date of submission	<i>Applicable</i>
v	DUE DATE & TIME OF OFFER SUBMISSION	Date : 23/10/2014 Time :15.00Hrs Place : BHEL OFFICE , NAGPUR	<i>Applicable</i>
vi	OPENING OF TENDER	1 hours after the latest due date and time of Offer submission Notes: (1) In case the due date of opening of tender becomes a non-working day, tenders shall be opened on next working day at the same time.	<i>Applicable</i>

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		<i>(2) Bidder may depute representative to witness the opening of tender</i>	
vii	EMD AMOUNT	Rs 2,00,000/- (Rupees Two Lakhs Only)	Applicable
viii	COST OF TENDER	Not Applicable	Not Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	Date: (Atleast 10 days before the due date of offer submission) Along with soft version also, addressing to undersigned & to others as per contact address given below	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)	Date: 13/Oct/2014	Applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	Shri D .R.S Chaudhary IAS (Retd), Flat No. L-202 & L-203 (1st Floor), Ansal Lake View Enclave, Ansal Lake View Enclave, Shamla Hills, Bhopal – 462013, Ph 91 755 -4050495, Email: dilip.chaudhary@icloud.com	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 Nagpur 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 Nagpur, 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 Nagpur. 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	

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	<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 : <u>Technical</u> 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> <p>CONTAINING THE FOLLOWING:-</p>	
i.	<p>1. Earnest Money Deposit (EMD) in the form as indicated in this Tender</p> <p style="text-align: center;">OR</p> <p>Documentary evidence for 'One Time EMD' with the Power Sector Region of BHEL floating the Tender</p>	

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	2. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)	
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PART-II		
PRICE BID consisting of the following shall be enclosed		
ENVELOPE-III superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:		
CONTAINING THE FOLLOWING		
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		
ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:		
CONTAINING THE FOLLOWING:		
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 Bidders:**
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:

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(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:
- a) $P_1, P_2, P_3, P_4, P_5, \dots P_N$ 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 (i.e $P_T = P_1 + P_2 + P_3 + P_4 + \dots P_N$)
 - b) Number of Months ' T_1 ' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package P_1 . Similarly T_2 for package P_2 , T_3 for package P_3 , etc for the tendered scope. Now calculate cumulative total months ' T_T ' for total similar Packages ' P_T ' for all Regions (i.e $T_T = T_1 + T_2 + T_3 + T_4 + \dots T_N$)
 - c) Sum ' S_1 ' of 'Monthly Performance Evaluation' Scores ($S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots S_{1-N}$) for similar package P_1 , for the 'period of assessment' ' T_1 ' (i.e $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots S_{1-N}$). Similarly S_2 for package P_2 for period T_2 , S_3 for package P_3 for period T_3 , 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 ' $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots S_N$.)
 - 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):

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

$$= \frac{S_T}{\dots\dots\dots}$$

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.I)

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

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			xii). Others (Mechanical)
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- 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

- g) Similar Work for this evaluation shall be all civil packages given in table 1 at SI No IV b above.

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.

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- 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 **twelve 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 Consortium Bidding (or Technical Tie up) shall be allowed only if specified in Pre Qualifying Requirement (PQR) criteria, and in such a case the following shall be complied with:~~

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- ~~23.1 Prime Bidder and Consortium Partner or partners are required to enter into a consortium agreement with a validity period of six months initially. In case the consortium is awarded the contract, then the Consortium Agreement between the Prime Bidder and Consortium Partner or partners shall be extended till contractual completion period including extension periods if any applicable.~~
- ~~23.2 'Stand alone' bidder cannot become a 'Prime Bidder' or a 'Consortium bidder' or 'Technical Tie up bidder' in a consortium (or Technical Tie up) bidding. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected.~~
- ~~23.3 Number of partners for a consortium Bidding (or Technical Tie up) shall be as specified in the PQR.~~
- ~~23.4 Prime Bidder shall be as specified in the Pre Qualification Requirement, else the bidder who has the major share of work~~
- ~~23.5 In order to be qualified for the tender, Prime Bidder and Consortium partner or partners shall satisfy (i) the Technical 'Pre Qualifying Requirements' specified for the respective package, (ii) "Assessment of Capacity of Bidder" as specified in clause 9.0~~
- ~~23.6 Prime Bidder shall comply with additional 'Technical' criteria of PQR as defined in 'Explanatory Notes for the PQR'~~
- ~~23.7 Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified~~
- ~~23.8 In case customer approval is required, then Prime Bidder and Consortium Partner or partners shall have to be individually approved by Customer for being considered for the tender.~~
- ~~23.9 Prime Bidder shall be responsible for the overall execution of the contract~~
- ~~23.10 In case of award of job, Performance shall be evaluated for Prime Bidder and Consortium Partner or partners for their respective scope of work(s) as per prescribed formats~~
- ~~23.11 In case the Consortium partner or partners back out, their SDs shall be encashed by BHEL. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.~~
- ~~23.12 In case the prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.~~
- ~~23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of two similar works with the same consortium partner or partners under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'stand alone' bidder for similar works, subject to certification from BHEL about the active involvement of the Prime Bidder for satisfactory execution of the works.~~
- ~~23.14 The consortium partner shall submit SD equivalent to 2% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value. In case there are two consortium partners, then each partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value.~~
- ~~23.15 In case of a Technical Tie up, all the clauses applicable for the Consortium partner shall be applicable for the Technical Tie up partner also~~
- 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 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

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

for BHARAT HEAVY ELECTRICALS LTD

AGM Pur

Enclosure

1. Annexure-1: Pre Qualifying criteria.
2. Annexure-2: Check List .
3. Annexure-3: INTEGRITY PACT
4. Annexure-4: Important Information .
5. Annexure -5: MOU format
6. Other Tender documents as per this NIT.

ANNEXURE - 1

PRE QUALIFYING CRITERIA

JOB	DESIGN, ENGINEERING, SUPPLY, AND EXECUTION OF CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS FOR CONSTRUCTION OF RIVER WATER INTAKE SYSTEM FOR UPCOMING 2X660 MW NTPC KHARGONE PROJECT
TENDER NO	BHE/PW/PUR/KHARGONE WIS/1311

SL NO	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria	Page no of supporting document. Bidder must fill up this column as per applicability
A	Submission of Integrity Pact duly signed (if applicable) (Note: To be submitted by Prime Bidder & Consortium/Technical Tie up partner jointly in case Consortium bidding is permitted, otherwise by the sole bidder)	APPLICABLE	
B	<u>Technical</u> Bidder should have successfully Executed atleast one job of construction of intake well (in submerged condition), intake water pump house etc for water intake system in last seven years as on latest last date of submission of offer. The lateral outer dimension of the well should have been atleast 6.0 meters AND Bidder should have successfully Executed atleast one job of RCC bridge in river bed in last seven years as on latest last date of submission of offer. Minimum length of the bridge should have been 25 meters supported on piers. Note: The word 'executed' shall mean execution upto 70 % of total work.	APPLICABLE	
C-1	<u>Financial TURNOVER</u> Bidders must have achieved an average annual financial turnover (Audited) of Rs 3000 Lakhs or more over last three Financial Years (FY) i.e. 2011-2012, 2012-2013, 2013-14	APPLICABLE	
C-2	<u>NETWORTH</u> (only in case of Companies) Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive	APPLICABLE	

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C-3	PROFIT Bidder must have earned cash profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'C-1' above based on latest Audited Accounts.	APPLICABLE	
D	Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT (if applicable)	APPLICABLE	By BHEL
E	Approval of Customer (if applicable) Note: Names of bidders (including consortium/Technical Tie up partners in case consortium bidding is permitted) who stand qualified after compliance of criteria A to D shall be forwarded to customer for their approval.	NOT APPLICABLE	BY BHEL
F	Price Bid Opening Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E		BY BHEL
F	Technical Tie up criteria (if applicable)	NOT APPLICABLE	

Explanatory Notes for the PQR (unless otherwise specified in the PQR):

1. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against C-1 above along with all annexures
2. In case audited Financial statements have not been submitted for all the three years as indicated against C-1 above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e total divided by three.
3. C-2:-NETWORTH : Shall be calculated based on the latest Audited Accounts as furnished for C-1 above. Net worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies)
4. C-3:- PROFIT : shall be NET profit (PAT + Non cash expenditure viz depreciation) earned during any one of the three financial years as in C-1 above
5. ~~'Additional' Criteria in respect of 'Technical' criteria of PQR (as in 'B' above) for Civil, Electrical, CI, unless otherwise specified :~~
 - i. ~~_____ Bidder should have executed similar work of any one of the following:~~
 - a. ~~_____ One (1) work of value not less than Rs XXX~~
~~_____ OR~~
 - b. ~~_____ Two (2) works of not less than Rs YYY~~
~~_____ OR~~
 - c. ~~_____ Three (3) works of not less than Rs ZZZ~~
~~(Value XXX, YYY, ZZZ shall be as indicated by BHEL~~
 - ii. ~~_____ 'Similar' work for criteria 5 above means~~
 - a. ~~_____ Civil or Structures or Civil & Structures or Chimney respectively as applicable to the tendered scope in respect of 'CIVIL' Works~~
 - b. ~~_____ Electrical works in respect of 'ELECTRICAL'~~
 - c. ~~_____ CI works in respect of 'CI' Works~~
 - d. ~~_____ Material Handling and/or Management works in respect of 'MM' works~~
6. Time period for achievement of the 'Technical' criteria of PQR (as in 'B' above) will be the last 7 years ending on the 'latest date' of Bid submission
7. 'EXECUTED' means the Vendor should have achieved the criteria specified in the Technical criteria of PQR (as in 'B' above) even if the Contract has not been completed or closed
8. Unless otherwise specified, for the purpose of 'Technical' criteria of PQR (as in 'B' above), the word 'EXECUTED' means:
 - i. ~~_____ "BOILER LIGHT UP" in respect of Boiler & Aux and ESP~~
 - ii. ~~_____ "SYNCHRONISATION" in respect of STG/GTG and "SPINNING" in case of HTG~~
 - iii. ~~_____ "STEAM BLOWING COMPLETION" in respect of at least Main Steam Line of~~

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	<p style="text-align: center;">Power Cycle Piping</p> <p>iv. “HYDRAULIC TEST” of the system in respect of Structures, Pressure parts/IBR Piping</p> <p>v. “CHARGING” in respect of power Transformers, Bus ducts, HT/LT switchgears</p> <p>vi. “Completion of RCC Shell and liner (steel or brick as per tendered scope) up to the HEIGHT specified using slip form” in case of RCC Chimney.</p> <p>vii. Achievement of physical Quantities as per respective PQRs in respect of Civil & Structures and Piling Works</p> <p>viii. “Readiness for coal Filling” in respect of Bunker Structure Work.</p> <p>9. Boiler means HRSG or WHRB or any other types of Steam Generator</p> <p>10. Critical/Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass, LP Bypass lines</p> <p>11. For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5TPH where ever rating of HRSG/BOILER is mentioned in MW. Similarly, where ever rating of Gas Turbine is mentioned in terms of Frame size, ISO rating in terms of MW shall be considered for evaluation.</p> <p>12. In case the experience/PO/WO certificate enclosed by bidders do not have separate break up prices for the E&C portion of Electrical and CI Works, (i.e. the certificates enclosed are for composite order for supply and erection of Electrical & CI and other works if any), then value of Erection and Commissioning for the Electrical & CI portion shall be considered as 15% of the supply & erection of Electrical & CI, unless otherwise specifically indicated in the PQR.</p> <p>13. Scope for capital overhaul of STG shall cover Bearing Inspection work and overhauling of all cylinders of the Turbine unless otherwise specifically indicated in the PQR.</p> <p>14. In case the tendered scope is not a Pulverised Fuel Boiler, experience of Oil/Gas Fired Boilers also can be considered unless otherwise specifically indicated in the PQR</p> <p>15. The value of work (Experience submitted against PQR B) shall be updated as per the PVC indices for “All India Avg. Consumer Price Index for Industrial Workers” with base month as date of execution (completion of contract/work) and indexed upto two months prior to bid opening month.</p>
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BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.

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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	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Fax No:	
4	EMD DETAILS	DD No: Date : Bank : Amount: <u>Please tick (✓) whichever applicable:-</u> ONE TIME EMD / ONLY FOR THIS TENDER	
			APPLICABILITY BIDDER REPLY
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 submitted	Applicable	YES/NO
8	Copy of PAN Card submitted	Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable	YES/NO
10	Integrity Pact	Applicable	YES/NO
11	Declaration by Authorised Signatory submitted	Applicable	YES/NO
12	No Deviation Certificate submitted	Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions submitted	Applicable	YES/NO
14	Declaration for relation in BHEL submitted	Applicable	YES/NO
15	Non Disclosure Certificate submitted	Applicable	YES/NO
16	Bank Account Details for E-Payment submitted	Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable	YES/NO

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18	Tie Ups / Consortium Agreement against this tender	Not Applicable for this tender	-----
19	Power of Attorney for Submission of Tender/Signing Contract Agreement submitted	Applicable	YES/NO
20	Analysis of Unit rates submitted	Applicable	YES/NO

NOTE: STRIKE OFF 'YES' OR 'NO', AS APPLICABLE

DATE:

**AUTHORISED SIGNATORY
(With Name, Designation and Company seal)**

Annexure-3

INTEGRITY PACT

Between

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

And

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

Preamble

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

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

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

Section 1 - Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for itself or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all

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Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

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

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

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

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

2.1.1 the Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

2.1.2 The bidder(s)/ Contractors(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.1.4 The Bidders (s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

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

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

Section 4 – Compensation for Damages

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

Section 5 – Previous Transgression

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

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

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

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

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

Section – 8 Independent External Monitor(s)

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

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visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

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

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

Section 9 – Pact Duration

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

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

Section 10 – Other Provisions

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

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

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

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

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

For & On Behalf of the Principal
(Office Seal)

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

IMPORTANT INFORMATION

1. 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 ---> Tender Notification -> List of Banned Firms)
2. All Statutory Requirements as applicable for this project shall be complied with.

3. Broad Terms & Conditions of Reverse Auction

In continuation to Clause 19.0 of NIT (Notice Inviting Tender) following are the broad terms and conditions of Reverse Auction is given in Annexure V of NIT:

- 3.1. 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).
- 3.2. 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 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.
- 3.3. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- 3.4. 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.
- 3.5. 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.
- 3.6. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
- 3.7. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
- 3.8. Bidders have to fax the Compliance form (annexure IV) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.

-
- 3.9. 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 noncompliance 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.
- 3.10. Reverse auction will be conducted on scheduled date & time.
- 3.11. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
- 3.12. 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, (Annexure VII) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
- 3.13. 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.
- 3.14. 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.
- 3.15. 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.
- 3.16. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
- 3.17. In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.
4. Following Clauses of Volume I C General Conditions of Contract shall **not be applicable** for subject tender:
- i. Clause 2.12 'Over Run Compensation'
 - ii. Clause 2.14 'Quantity Variation'
 - iii. Clause 2.15 'Extra Works'
 - iv. Clause 2.16 'Supplementary Items'

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (“MOU”) is entered into on this -----day of ----- at Nagpur

BETWEEN

BHARAT HEAVY ELECTRICALS LIMITED, a Government of India Undertaking incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, New Delhi unless repugnant or contrary to the context, be deemed to include its successors and permitted assigns) of one Part:

AND

M/s XX XX....., an existing Company under the Companies Act,1956, having its registered office at -----(hereinafter referred to as ‘ XX XX” which expression shall, unless repugnant or contrary to the context, be deemed to include its successors and permitted assigns) of the other Part:

Each BHEL and XX XX hereinafter referred to individually as a Party” and collectively as “the Parties”.

WHEREAS :

A. NTPC Ltd, having its registered office at New Delhi (hereinafter referred to as “NTPC”) is planning to set up 2X 660 MW KHARGONE SUPER THERMAL POWER PROJECT (hereinafter referred to as the “Project”) in Madhya Pradesh and has invited offers on EPC basis.

B. Whereas BHEL is submitting an offer to NTPC for the said project on EPC basis to perform the contract, if awarded (hereafter referred to as the “Contract”).

C. Whereas, XX XX in response to the tender specification No. BHE/PW/PUR/KHARGONE-WIS/1311 Floated by BHEL (hereafter referred to as the “tender”) for the **“DESIGN, ENGINEERING, SUPPLY, AND EXECUTION OF CIVIL, STRUCTURAL AND ARCHITECHURAL WORKS FOR CONSTRUCTION OF RIVER WATER INTAKE SYSTEM FOR UPCOMING 2X660 MW NTPC KHARGONE PROJECT ”** (Hereinafter referred to as “works”) to be carried out for the “Project” has submitted their offer (hereafter referred to as the “Offer”)

D. Whereas, BHEL after scrutinizing the “offers” submitted by the bidders, has selected XX XX and agrees to award the contract to them for carrying out the “works” in the event of the contract being awarded to BHEL by NTPC.

1. PURPOSE OF THE MOU;

BHEL and XX XX desire to enter into this MOU with the purpose of :

- (i) Submitting detailed proposal to NTPC IN RESPONSE TO ITS ABOVE REQUEST (by BHEL based on the offer of M/s XXXXXX)
- (ii) Entering into Contract Agreement for **“DESIGN, ENGINEERING, SUPPLY, AND EXECUTION OF CIVIL, STRUCTURAL AND ARCHITECHURAL WORKS FOR CONSTRUCTION OF RIVER WATER INTAKE SYSTEM FOR UPCOMING 2X660 MW NTPC KHARGONE PROJECT”, which will supersede this MOU WHEN ENTERED INTO (If Contract awarded to BHEL by NTPC).**

2. PRINCIPLES OF AGREEMENT:

2.1 The purpose of this agreement is to specify the rights and obligations of each Party in performing the Works, if the Contract is awarded by NTPC to BHEL. The Tender Document issued vide Ref: BHE/PW/PUR/KHARGONE-WIS/1311 and the resulting contract for the works shall be binding on both the parties

2.2 Nothing contained in this MOU shall constitute or be deemed to constitute a partnership, or joint venture between the Parties hereto and neither of the Parties shall have any authority or power (and shall not

.....
represent themselves on having such authority or power) to contract in the name of or to undertake any liability or obligation on behalf of the other Party, same in so far as expressly agreed to and provided in this MOU. There being no sharing or profit or losses, any profit arising to the parties hereto shall be taken credit by the Party causing the profit, any loss shall be borne by the Party causing the loss. The relationship between the parties shall be on an arm's length basis and shall be strictly temporary and nothing contained herein is intended, nor shall it be construed as creating or requiring any other on going or continuing relationship or commitment between the Parties.

2.3 The Parties agree to cooperate in carrying out the Works in the event of the award of the Contract to BHEL by NTPC as per their respective scope and as per the terms and conditions stipulated in the "tender" and General/Special and other Conditions forming part of the "tender".

3. **SCOPE OF WORK:**The scope of work is **"DESIGN, ENGINEERING, SUPPLY, AND EXECUTION OF CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS FOR CONSTRUCTION OF RIVER WATER INTAKE SYSTEM FOR UPCOMING 2X660 MW NTPC KHARGONE PROJECT"** as detailed in tender no. BHE/PW/PUR/KHARGONE-WIS/1311.

4. It is agreed between the parties that they shall make best efforts to secure award of contract for the project execution from NTPC. Pooling their resources, experiences, special expertise and capabilities available with them and compile technically and commercially optimum proposal, subject to the terms of this MOU. XX XX shall provide promptly all relevant technical and commercial information and assistance as required for the purposes of the preparation of the detailed proposal before the due date and for the negotiation of the tender. XX XX, may attend the meeting required in connection with the Tender and contract between the parties wherever required. Each party's expenses associated with such work shall be borne by the respective parties.

5. PERFORMANCE OF CONTRACT : LIABILITIES OF THE PARTIES

BHEL shall not be liable to the contractor, M/s XX XX for the failure to obtain the Contract or for loss of contract or business opportunity, or for any indirect or consequential loss or damage.

M/s XX XX shall be liable to BHEL for the due performance of its respective Scope of Work in accordance with the tender.

6. CONFIDENTIALITY

Each party undertake to treat as confidential any information which it obtains from the other party in connection with the agreement, to use such information solely for the purpose of the proposal and any resulting contract and to disclose such information only to the extent necessary in connection with this MOU.

7. NOTICE

All notices pursuant to this Agreement shall be issued in accordance with the terms and conditions of as detailed in tender no. BHE/PW/PUR/KHARGONE-WIS/1311.

8. DISPUTE RESOLUTION

a. Any difference or dispute arising from this MOU or from the performance of the scope of work of the parties (the dispute) shall be settled in accordance with the terms and conditions of as detailed in tender no. BHE/PW/PUR/KHARGONE-WIS/1311.

General Manager or his successor, as the case may be, either to act himself as the Arbitrator or to appoint

9. GOVERNING LANGUAGE & LAW

9.1 The governing language of the Agreement shall be English, Correspondence and technical and commercial documents as well as any other information relating to this Agreement shall be written in the English Language.

9.2 This Agreement and performance of the Scope of Work by the Parties shall be subject to Indian substantive law.

9.3 Jurisdiction: Court of Nagpur in India shall be the jurisdiction

10. PRE-BID GUARANTEE

XX XX shall furnish a bid Bank Guarantee equal to 1% of their final quoted value within 30 days of signing of this MOU to ensure continued association and linkage with BHEL till the prospective customer finalize their tenders.

11. VARIATION IN PRICING AND ALTERATION IN TERMS & CONDITIONS

The agreed price drawn during MOU may be subject to further proportional reduction for the package under MOU, in the event of any price reduction given by BHEL to its customer together with alteration in terms & conditions

**BHEL PSWR
Notice Inviting Tender**

Tender Specification No: BHE/PW/PUR/ KHARGONE WIS/1311.

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.....
during negotiation with customer. XX XX shall accept variations against addition/ deletion/ changes in scope of work.

12. Any changes/ modifications, addition/ deletion necessary, which are necessitated because of default of XX XX shall be to the account of the contractor XX XX.

15. TERMS OF AGREEMENT

The present Memorandum of Understanding shall remain in force until superseded by a detailed agreement to be signed after award of work to BHEL by NTPC.

Both parties hereby confirm their consent to an approval of the above terms and conditions evidenced by its signatures on this Memorandum.

IN WITNESS WHERE OF THE parties hereto have caused this MOU to be signed by their respective authorized representatives as of the date, month and year herein above written.

For BHARAT HEAVY ELECTRICALS LIMITED

For XX XXX

By

Name :

Designation

WITNESS

- 1.
- 2.

1311

TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC) CONTENTS

SI No	DESCRIPTION	Chapter	No. OF PAGES
Volume-IA	Part-I: Contract specific details		
1	Project Information	Chapter-I	2
2	Scope of Works and Technical Specifications	Chapter-II	10
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Other Technical Documents viz Section B, Section C, Section D and Annexures are uploaded as file titled ‘Section B, Section C, Section D, Annexures’

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I: Project Information

1.0	Project Information
1.1	<p><u>INTRODUCTION</u> OWNER :-NTPC LIMITED NAME OF PROJECT:- KHARGONE SUPER THERMAL POWER PROJECT (2 X 660MW) SITE LOCATION: - Location of site is on the bank of Omkareshwar dam on river Narmada, as shown in attached drawings in Annexure. The site is approximately 2.82Km away from Gunjari village, which is connected to state highway through single road. NEAREST RAILWAYSTATION:-Nearest Railway Station is Sanawad on Indore Khandwa Meter Gauge section. NEAREST AIRPORT:-The nearest commercial airports Indore & Bhopal are located about 105 Kms. & 290 Kms from site respectively. For details refer annexure B.</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

PREAMBLE

Technical requirements are stipulated in this Volume which comprises of
Section B: This section provides 'Project Information' not covered in 'Project Synopsis', if any

Section C: Specific Technical Specification

Section D: General technical specification(s)

Annexure I: Hydrographic survey for intake Pump house

Annexure II: Layout of Intake pump house

Annexure III: Layout of switchgear building complex

Annexure IV: GA of Transformers

Annexure V: Contour survey and Terminal points

Annexure VI: Pre Bid Clarification

The requirements mentioned in the Technical Specification given below , Section C and Annexure VI above shall prevail and govern in case of conflict between the same and the corresponding requirements mentioned in the Section D in the specification.

GENERAL

BHEL is bidding for 2X660 MW Khargone STPP tender floated by NTPC. For this tender, BHEL has decided for a pre-bid tie up/MOU with a reputed agency with proven track record in civil works for execution of works detailed below. For purpose of estimation, necessary data like technical specification, bore log data, & contour drawings etc, are attached in the specification. The agency is suggested to visit site to study the actual conditions prevailing at site and provide the best offer.

SCOPE OF WORK

The scope of works shall include topographical survey, bathometry, soil investigation site clearance, preparation of design documents and drawings and getting approval of the same from the NTPC and construction of intake well, intake water pump house over intake well, Approach bridge, area development near river bank including area filling including slope/ Reservoir bank protection, switch gear building, control room including battery room, transformer foundations, approach road up to the facilities at river bank from existing road(2.82 Km length approx), stop logs, trash racks and various other works including water supply, drains, sewers, disposal of soil including enabling work required for it & supply of all construction materials required for it.

Bidder to obtain all necessary statutory approvals from local bodies like dam authority, forest department, NHAI, etc required for execution of this package of River intake System.

For ready reference the drawings are attached, however for further details are Regarding the job, the bidders are advised to visit the subject site, to carefully examine the site and surroundings, and to satisfy themselves about the nature of the existing general site conditions. Claims due to ignorance of any of the above will not be considered after submission of bid

EXCLUSION:-

- 1) Supply and E&C of Mechanical & Electrical Equipments.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

TECHNICAL SPECIFICATION

Loading

Structures shall be designed for the most critical combinations of loads.

a) Approach Bridge

0.5 ton/ Sq.m + Pipes including water load and weight of pedestals + 1.25 times Weight of the heaviest component of pump/ motor/ equipment to be moved over the structure at a time

b) Water Pressure

Water pressure (as per IRC-78) due to maximum mean velocity of current of water shall be

Design Concepts

The Intake Well & Pump House and Approach Bridge shall be designed with limiting crack width of 0.2mm under limit state of serviceability as per IS: 456. Minimum grade of concrete shall be M-30 as per IS: 456 for Intake water pump house and approach bridge. Durability criteria shall meet the requirements of moderate exposure condition as per IS:456. However, for intake well staining, sub structure including pier for approach / pipe bridge shall have minimum cover of 50 mm.

Architectural Concepts

Intake water pump house over the intake well, switch gear building and control room including battery room shall be architecturally treated in such a way that it retains a monumental scale, yet presents a pleasing composition of mass and void with suitable and functionally designed projections and recesses. The overall impact of the building shall be one of aesthetically unified architectural composition having a comprehensive scale, bend tonal values with the surroundings and taking full consideration of the climatic conditions and the building orientation. The pump houses and other buildings shall be architecturally treated in such a way so as to be in harmony with the surroundings. The overall composition may have straight or curvilinear profiles.

Intake Well

An intake well shall be founded in the submergence of Omkareshwar Dam on River Narmada at a location indicated in the Tender Drawing. Raw water shall be drawn from the intake well and pumped to reservoir at plant end. The intake well shall be of reinforced cement concrete (RCC) of grade M30. Four (4) openings in well steining shall be provided above the sump slab. The openings shall be provided at two (2) different levels. Generally, the lower openings shall be used to draw water into the pump chamber/ sump. However, during high water level in the river, the lower openings shall be closed using stop logs and water shall be drawn from the opening

at higher level. Level and size of the openings shall be such as to draw water into pump chamber/sump with an inlet velocity of 0.3 m/sec (maximum) at all times. All openings shall be provided with trash racks and provision for installing stop logs. A total of 5 trash racks (4 working + 1 standby) and 4 stop logs shall be provided for the intake well. Each set of trash rack and stop log may contain one or more number of pieces. The trash racks and stop logs shall be operated by electrically operated monorail hoist. Steel embedment's required for trash racks and stop logs shall be provided for all the openings. An exclusive lifting beam shall be provided to operate the trash racks and stop logs. Stop logs, trash racks, hoists and lifting beams shall be supplied in accordance with specifications given elsewhere in this specification. Depth of foundation of the well shall be decided considering scouring of the river bed and stability of the well. Scouring depth shall be computed in accordance with relevant IRC codes. Termination of the well shall be based on the criteria indicated in

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

Geotechnical Investigation chapter of this specifications and stability of the well considering adequate resistance through passive force below the point of rotation of the well.

Thickness of well steining shall be fixed considering the following:

- i) Sinking effort and without use of excessive kentledge.
- ii) The well should be able to resist safely earth pressure developed during a sand blow or during other conditions like sudden drop that may be experienced during sinking.
- iii) If the well develops tilts and shifts during sinking, it should be possible to rectify the tilts and shifts without damaging the well.
- iv) Stresses at various levels of the steining should be within permissible limits under all loads and bending moments that may be transferred to the well either during sinking or during service.

Cutting edge for the well curb shall be of steel. Depending on construction methodology for the well, a steel caisson may have to be provided. The well may have to be sunk by pneumatic sinking. In the design of well steining, higher of the forces due to open sinking and pneumatic sinking shall be considered. Suitable arrangements required in the well steining to adopt pneumatic sinking shall be provided. Bottom plug with PCC shall be provided after the well has reached its founding level. Sand filling above the bottom plug may be carried out as per requirement. Top plug of concrete shall be provided after sand filling has been carried out up to the design level. Well cap of the sump slab shall be provided over the top plug. The steining of the well shall be raised above the sump slab up to the pump operating floor level. RCC handrail/ parapet wall shall be provided around the operating floor/ platform of well. Intake well (caisson) construction shall include casting of the well on river bank/ shore and then towing to the intake location or it can be in-situ construction also by forming an island. The methodology of the construction shall depend upon the water level and velocity in the river at the time of commencement of construction. If bidder proposes to carry out casting of the well (caisson) on river bank/ shore, he has to make all arrangements like hiring of area etc. at his own cost. Likewise, in case the bidder proposes to use islanding technique, he has to make all arrangements for the same at his own cost, including removal of temporary island. In case casting of the well is carried out on the river/ reservoir bank and towed to its final location, and following shall be considered:

- i) Adequate towing arrangement for towing the caisson shall be provided. The towing arrangement should be such that it will not excessively strain the concrete.
- ii) Adequate size of flooding valves with long spindles shall be fitted in the outside wall of the well at positions to be approved by the Engineer to facilitate lowering of the intake well.
- iii) Greatest care shall be taken in towing and placing of well. The contractor shall employ persons fully experienced in this type of towing work.
- iv) When the well seat has been inspected and approved by the Engineer, the well shall be towed to the site and accurately moored in its final position. Towing plan shall be approved by the concerned authorities. All towing operations of caisson cum well from the river bank/ shore to its final location of placement shall be specifically fully insured against all risks apart from normal insurance of works policy.
- v) The well shall be sunk by uniformly flooding the well preferably during slack water.
- vi) Wells of this height may involve stability problems dependent upon the height of the well constructed prior to the towing into the approximate location for sinking. Prior to the floating of the well, the contractor shall submit his proposed method of operations for the approval of the Engineer. This submission shall be accompanied by detailed stability calculations.

Well walls shall be cast to within a tolerance of 5 mm. Sinking of Well Sinking of the well below the river bed shall be executed according to the requirement of IRC 78. The well shall

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

be sunk vertical true to line through all types of soil. The well shall be sunk by excavating material uniformly from inside the dredge hole either manually to the extent amenable and/ or with mechanical equipment.

Pneumatic sinking may have to be resorted to by the bidder where obstacles such as large size boulders etc., are met at the bottom or when there is hard strata which cannot be removed by open

Dredging. The necessity for pneumatic excavation shall be decided by the Engineer. Sinking or loading of the well with kentledge shall commence only after the steining has been cured for at least 48 hours or as specified in the approved drawings.

Kentledge or Sinking Load

Kentledge shall be placed in an orderly and safe manner such that it does not interfere with the excavation of the material from inside the dredge hole and also does not, in anyway damage the steining of the well.

Dewatering of Well

Dewatering of well shall, normally, not be carried out as a means for sinking the well unless specifically instructed by the Engineer. It shall also never be resorted to, if there is any danger of sand blowing under the well.

Water Jetting

In situations, when the well is stuck up and normal method of kentledge and dredging fail to sink it further due to frictional resistance being developed on its outer periphery, the frictional resistance shall be reduced by forcing a jet of water all round the well on outer face.

Use of Explosives

Explosives shall not be used as an aid for well sinking.

Precautions during Sinking

The dredged material shall not be allowed to accumulate near the well. It shall be dumped from the well as directed by the Engineer.

Very deep sump shall not be made below the well curb, as it entails risk of jumping (sudden sinking) of the well. Normally the depth of sump shall not exceed 3.0 metres below the level of the cutting edge unless otherwise specifically permitted by the Engineer.

In case the well sinks suddenly and with a jerk, the steining of the well shall be examined to the satisfaction of the Engineer to see that no damage has occurred to it.

Safety Shields

Wherever, in the execution of work in which compressed air is used, the working chambers less than 3.7 metres in length and when such caissons are at any time suspended or hung while work is in progress, in such a way that the bottom of excavation is more than 2.7 meters below the deck of the working chamber, a shield shall be erected therein for the protection of the workmen.

Detection of Gases

In all cases, where gas is expected including alluvium impregnated with decayed vegetable matter, the use of Davy Safety Lamp in a pneumatic caisson sinking shall be compulsory.

Tilts and Shifts

Tilts and shifts of the well shall be measured regularly during the entire sinking operation. Observations to this effect shall be taken at each stage of casting of the steining. Simultaneously, as the sinking proceeds, necessary corrective measures shall be taken to

Contain the tilts and shifts within the permissible limits. Unless otherwise specified, the tilt of the well shall not exceed 1 in 60 and the shift shall not be more than 150 embedding of Wells Based on the actual rock profile, the cutting edge of well shall be embedded for a suitable

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depth in the rocky strata. Well sinking through rock up to the required founding level shall be done by suitable means including deployment of divers, chiseling, kentledge etc. In case, dewatering is required, the same shall be adopted as approved by the owner. Additionally, the well shall be nominally anchored to the rocky strata by anchor bars provided in the steining of the well, as an abundant measure of safety, irrespective of development of tension, at the base of the well under design loads. After the well has been evenly seated on good hard rock, arrangements shall be made by the bidder to facilitate proper inspection by the Engineer in dry and visible conditions,

Before the bottom plug is laid in position.

Bottom Plugging

Plugging shall only be carried out after the approval of the Engineer after ensuring that the well has been sunk to the final position and there are no cracks anywhere in the steining for its entire length.

Concrete for the bottom plug shall be M-25 unless otherwise specified. The quantity of cement shall be increased by 10% for laying concrete under water. Before commencing plugging, all loose material from the bottom of the well shall be removed. Concrete for the plug shall be laid by 'Tremie Pipe' method. Concrete shall be laid evenly inside the well. Least disturbance shall be caused in the water inside the well while laying concrete in the

Bottom plug.

Concrete shall be done in one continuous operation till dredge hole is filled up to the required height and thereafter sounding shall be taken to ensure that the concrete has been laid to the required height. Concrete as laid shall not be disturbed in any way for a minimum period of 14 days. In order to check any rise in level of the bottom plug, soundings shall be taken at the

close of concreting and for 3 days thereafter once every day. Safety and Design Requirements The design requirements of the pneumatic equipment, safety of personnel and the structure shall comply with the provisions of the Indian Standard IS: 4138. It is desirable that the height of the working chamber in a pneumatic caisson should not be less than 2.5M to provide sufficient headroom when the cutting edge is embedded a short distance below the excavated level and in particular to allow for blowing down.

The Contractor shall maintain daily reports on the various activities of well sinking and, in particular, about the safety of the personnel working in the working chamber below the river bed under high air-pressure. The reports shall be submitted to the Engineer every day at a suitable time decided by the Engineer.

Rock Anchor

(1) Rock Anchor is an un tensioned reinforcing element consisting of a rod embedded in a cement grout filled hole. The rock anchor shall have a plate and a nut.

(2) Rock anchors shall be of Min. 32 mm dia. and shall be of various lengths as per design requirement (for longer lengths, couplers may be required).

(3) The Rock anchors shall be manufactured from reinforcing bar with Yield strength not less than 500 N/mm². (The reinforcing bar shall comply with IS 1786.)

When coupler is used, the threading in the bar shall not reduce the effective diameter of bar. Coupler itself should be able to transfer at least 125 % of the yield load of the bar.

(4) Rock anchors shall be furnished complete with all accessories and other material necessary for their installation, fixing and grouting.

(5) Bearing plates shall be flat or dished steel plates of following minimum dimensions: 32mm dia. rock anchor - 1 no. plate of 200x200x12mm The plate shall conform to IS 2062 for Structural Steel. The nuts shall be heavy hexagonal type.

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- (6) The threads on the projecting ends of anchors shall be protected and lubricated with thrust preventive compound.
- (7) The surface of the rock anchors shall be clean of rust, scale, dirt or other foreign matter.
- (8) Minimum diameter of hole drilled for installation of rock anchor shall be 1.5 times diameter of Rock anchor.
- (9) Spacers (centralizer) shall be used for 32 mm dia. rock anchors longer than 4m for equal grout annulus all around the bolt.
- (10) The length of drill hole shall be such as to receive the specified rock anchor and to provide for its satisfactory anchorage, and sufficient provision of the threaded portion out of hole to fix plate, nut, and coupling for any kind of extension piece. The holes shall extend 150 to 200 mm beyond the length of the rock anchor.
- (11) After drilling each hole in sound rock, the drill hole shall be washed with clean water and cleaned by blowing out all drill cuttings and debris with compressed air. The holes in rock, which tends to swell or is interspersed with clay filled fissures, shall be cleaned with compressed air only. The compressed air shall not contain oil or any other material which could prevent the bond between rock and grout.
- (12) Prior to installing the rock anchor, the rock surface around the hole shall be prepared for the bearing plate. When the surface is not perpendicular to the hole axis, beveled washer shall be placed between the bearing plate and the nut, or dished bearing plate and hemispherical washer used, to ensure uniform bearing.
- (13) Both for overhead application and horizontal (slightly downward) application, the grout shall be introduced into the end of the hole through a pipe. The pipe will be gradually withdrawn as the hole is filled.
- (14) Grout shall have a low water to cement ratio. An admixture containing an efficient water reducing agent, a shrinkage compensating component shall be used. The grout mix constituting 1:1 cement / sand mix shall be used. Doses of the admixture shall be as per the manufacturer's recommendation to achieve the required properties.
- (15) The anchor bar shall be forced into the grout-filled hole before the initial set of the grout and good contact between steel surface and grout ensured.
- (16) Anchors bars shall be protected after installations in such a manner as to prevent any movement until the grout has hardened. Any bars found to be loose after the grout has set shall be replaced.

TESTING AND MONITORING OF ROCK ANCHOR

- (i) The Contractor shall furnish at least two sets of testing equipment including hydraulic jacks, fixing device, hydraulic pump with pressure gauge/manometer, extensometer and all necessary accessories. The testing equipment shall be capable of stressing the largest diameter rock bolt to the yield stress of the bolt.
- (ii) Prior to the installation of rock bolts in the works, a series of pull-out test shall be carried out in different rock types, and which will be representative of the rock expected to be encountered during the excavation, to prove the suitability of the rock bolts. During the pullout test, both the load applied and movement undergone shall be measured. At least five tests shall be required for each combination of rock type / installation condition/bolt type to be able to assess the capacity of the rockbolts/ rock anchors. The initial pullout test shall be carried out up to the failure (yield load). The capacity (safe load) of the rock bolt shall be ascertained with factor of safety 2.5 and on average failure (yield) load for each combination. Rockbolts failed before reaching yield point due to improper workmanship or defect immaterial shall be rejected. The pull-out test shall be carried out sufficiently in advance of the installation of the rock bolts in the works so that, in the event that the proposed rock bolts

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do not meet load-strain requirements, the Contractor shall have time to furnish the tests for rock bolts of a different type.

(iii) During progress of the work, the contractor shall perform routine pullout tests, on at least 5% rock bolts installed or part thereof in each strata. Routine pullout test shall be carried out for safe load for the rock bolts as desired above or 3 Tonnes per one metre length of the bolt whichever is maximum. As the pulling load increase step by step, deformation of the anchor plates shall be recorded for safety. Rock bolts which fail under the routine pullout test shall be reinstalled at other locations. The Contractor shall maintain detailed records of the pullout test, the result of which will be used to establish relationships between rock quality and type of rock bolts and tensioning. If the results of the pulling load test are not satisfactory, installation of

Additional rock bolts can be made to compensate for the reduction in capacity of the installed bolts. In case of failure, additional testing shall be performed on selected rock bolts installed in the vicinity of the failed one and the rock bolts shall be replaced. If large scale failure is reported, the effectiveness of whole lot of bolts installed shall be decided by Engineer in charge.

(iv) If any rock bolts fails due to improper workmanship or defect in materials or due to any reason whatsoever, the Engineer in charge may order a test on all adjacent rock bolts and all rock bolts so failing shall be rejected, replaced and retested by the contractor at no extra cost.

(v) The bolts and anchors shall be checked for their straightness Tolerance with + 1mm.

The pullout trials shall be conducted in conformity with IS: 11309.5.04.08.07

Dredging in River/reservoir

After completion of construction of intake well, if bed level in vicinity and around the intake well is higher than the invert of water inlet opening and is not able to draw adequate quantum of water into the well, the river bed shall be dredged for sufficient width, depth and length from deep water channel of the river extending from upstream of the intake well to downstream of the intake well so that adequate water flows smoothly into the intake well sump. The dredged material shall be disposed off as directed by the Engineer.

Intake Water Pump House

The intake water pump house over the intake well shall be of RCC construction up to crane girder level/ bracket level. Above crane girder level/ bracket level, structural steel superstructure with troughed permanently colour coated sheet metal cladding shall be provided on exterior face. The sheet metal cladding shall be provided with adequate overlap.

Approach Bridge

Approach Bridge shall connect the intake water pump house over the intake well to the river/reservoir bank. For the length of the bridge, refer Tender Drawing. Exact length shall be based on final location of Intake well. The deck of Approach Bridge shall be sized for make-up water pipelines, electrical cabling and space for movement of equipment required in the pump house. The deck shall be of structural steel. Hand rail for the structure shall be provided. The deck shall be supported on longitudinal beams and crossbeams. Bottom of girder including deck shall be above the HFL with adequate clearances per relevant IRC codes. The top level of the deck shall be equal to the top level of operating floor of the intake water pump house. The entire deck shall be supported on piles/piers. The deck slab shall be designed for the live loads, pipe loads including water & weight of pedestals and 1.25 times load of heaviest equipment to be moved over the approach bridge. Apart from the specified loads, any other equipment or possible overloading during construction/ erection/ installation of pipe line/ equipment and maintenance shall also be considered in the design.

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The critical deflection shall be limited such that it shall not produce difficulties in serviceability conditions nor shall it cause damage to the structures and pipelines supported on the bridge, and its components etc. The horizontal deflection shall be checked for wind/ earthquake and current loading and the maximum value shall be limited to $L/350$, where “L” is the average distance between bridge support points. The bridge shall be designed to accommodate transverse and longitudinal differential movement between supports. Predicted maximum relative deflection shall be calculated based on “Worst case” situation, i.e., the sum of the maximum absolute deflections of the adjacent segments/ platforms. One end of the bridge shall be designed as hinged support and the other end as a sliding support. The sliding support shall provide guide restraints in the vertical and lateral support. The sliding support shall be a self-lubricating bearing element. 150% of the total predicted translation shall be allowed for the end connection and bridge design. The hinged connection shall be designed to withstand 150% of the expected axial thrust. Bridge support shall be capable of accommodating a tolerance in all directions for final support location. The tolerance shall be determined based on the accuracy of construction of support.

Data for Design of Intake Well and Approach Bridge

The proposed location of Intake Well is approximately 1200M upstream of Omkareshwar Dam on river Narmada. The salient features of the Reservoir/Dam are as collected are as Follows:

- (a) Top Level of Dam: 203 M
- (b) Maximum Water Level: 199.62 M
- (c) Full Reservoir Level: 196.60 M
- (d) Minimum Draw down level: 193.54 M
- (e) Actual water level (on 13.05.2011) : 188.5 M
- (f) Gross Storage: 0.987 Bm³
- (g) Live Storage: 0.299 Bm³
- (h) Dead Storage: 0.688 Bm³
- (i) Length of Dam: 949 M
- (j) Height of Dam: 53 M
- (k) Stilling Basin: 55 M
- (l) Gates: 23 Nos. 20M Wide and 18M High
- (m) Maximum Head: 34.40 M
- (n) Minimum Head: 30.78 M
- (o) Designed Head: 32 M
- (p) Designed Discharge: 237.25 CuM
- (q) Penstock: 8 Nos. 7.66M Diameter

For details of hydrographic survey near proposed Intake Location on upstream of Omkareshwar Dam on river Narmada refers Tender Drawing No. 9878-001-PVC-A-003. Any other data required for design of Intake Well shall be arranged by the Contractor.

Model Study for Intake Well

Dimensions of pump chamber/ sump in the intake well shall be fixed up initially based on Hydraulic Institute Standard. The dimensions shall be confirmed by conducting a Hydraulic Model Study at a recognised Institute/ hydraulic research laboratory. Scale of the model shall be 1:10. The hydraulic model study shall be conducted to study water level in the pump sump, flow conditions in the pump sump for different discharges & different depths of water, different combinations of pump operations to study velocity distribution in pump bays, etc. The model shall be based on Froude’s law of similitude and shall also be tested for following

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two more flow conditions, viz.

a. At twice the prototype maximum Froude number, i.e., the Froude number of the model is two times that of the prototype's. At equal velocity criterion, i.e., the velocity is same both in the model and prototype. The final recommendation shall be based on 2F condition. Based on recommendations of the hydraulic model study, necessary modifications shall be made in the pump sump, dimensions of water inlet openings, additional structural features required such as flow straighteners, baffle walls, mesh screens, grid walls, guide vanes, floor splitters, anti-swirl cone etc. for elimination of non-uniform velocity distribution, swirls and vortices in the model etc. The physical model shall be replica of proto-type and consists of part of river/reservoir with

an intake well and pump house along with openings.

Area Development for Make-up water facilities on the River/ Reservoir Bank Cutting/ filling is required to be carried out within the land acquisition boundary (100M x75M) on the river/reservoir bank u/s of Omkareshwar dam for make-up water facilities including switchgear room, control room, transformer foundations, 66kV substation etc. for feeding power supply to the Intake water pump house.

The FGL of the area shall be 2M above maximum water level of the dam.

Loading

Dead loads shall be taken as per IS: 875(Part-I)

Imposed Loads

Shall be taken as per IS: 875(Part-II)

Underground water structure 2T/sqm

Pump house 1:5 T/Sqm

Detailed specification can be referred from SECTION C.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II : Scope of Works and Technical Specifications

2.0.2 Other Related Activities:

1. Bidder to arrange construction power and construction water on its own.
2. BHEL will not supply any material for this Package.

2.0.3 Field Quality Assurance:

The contractor shall be responsible for day-to-day quality checks of concrete and other building materials during the progress of work. All quality records and log sheets shall be maintained as per the requirement of BHEL/BHEL'S customer and as per field quality plan approved by BHEL/NTPC. For this, contractor shall either establish their own field quality lab or have tie-up with approved lab by BHEL in/outside of the plant if so required by BHEL.

2.0.4 PROCUREMENT OF MATERIALS BY SUCCESSFUL CONTRACTORS AND TESTING:

Material required for the entire job (other than issued by BHEL as explained above) like cement, steel, sand, aggregates, windows, doors, ventilators, rolling shutter, sanitary fixtures, painting & finishing material, stop-log gates, travelling screen, electrical fittings and wiring material and all other material required for the completion of entire scope, bolts & nuts, HSFHG/HT bolts have to be arranged by the contractor, except those specifically indicated as BHEL scope of supply. BHEL reserves the right to reject any material not found satisfactory. Contractor shall produce manufacturer's test certificate (*MTC*) for cement for every batch of manufacturing along with each consignment brought to the site. Cement shall be procured from fresh stock only. Apart from the above, it shall be the responsibility of contractor to get the testing of cement, or any other materials procured from outside laboratory approved by BHEL/KHARGONE to ascertain the quality if insisted by BHEL/BHEL'S customer.

Bidders are requested to have pre-bid visit/ inspection of site to make them fully acquainted with the site situation & nature of job. No claim shall be entertained at later date on account of non-familiarization of site condition. Bidders may fix up their site visit in consultation with Commercial BHEL PSWR.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl. No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1	PART I ESTABLISHMENT			
3.1.1	FOR CONSTRUCTION PURPOSE:			
a	Open space for office (as per availability)	Yes		Location will be finalized after joint survey with owner
b	Open space for storage (as per availability)	Yes		Location will be finalized after joint survey with owner
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	Only PEB office is allowed.
d	Bidder's all office equipments, office / store / canteen consumables		Yes	
e	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
f	Fire fighting equipments like buckets, extinguishers etc		Yes	
g	Fencing of storage area, office, canteen etc of the bidder		Yes	
3.1.2	FOR LIVING PURPOSES OF THE BIDDER			
a	Open space for labour colony (as per availability)		Yes	Contractor has to make his own arrangements for space, shelter and transportation of labors as per their requirement. Only PEB/PRE-FAB Labour colony with all basic amenities will be allowed. Bidders to take prior approval of Labour colony plan and construction methodology approval from customer.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl. No.	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	
3.2.0	ELECTRICITY			
3.2.1	Electricity for construction purposes 3 Phase 415/440 V (To be specified whether chargeable or free)			
a	Single point source		Yes	Chargeable
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	Electricity for the office, stores, canteen etc of the bidder (to be specified whether chargeable or free)			Chargeable
a	Single point source		Yes	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.3	Electricity for living accommodation of the bidder's staff, engineers, supervisors etc		Yes	Contractor has to make his own arrangement.
a	Single point source		Yes	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.3.0	WATER SUPPLY			
3.3.1	For construction purposes: (to be specified whether chargeable or free)			
a	Making the water available at single point		Yes	Construction water is in bidders scope

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl. No.	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.2	<u>Water supply for bidder's office, stores, canteen etc</u>			
a	Making the water available at single point		Yes	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.3	<u>Water supply for Living Purpose</u>			Contractor has to make his own arrangement.
a	Making the water available at single point		Yes	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.4.0	LIGHTING			
a	For construction work (supply of all the necessary materials) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
b	For construction work (execution of the lighting work/ arrangements) 1. At office/storage area 2. At the preassembly area 3 At the construction site /area		Yes	
c	Providing the necessary consumables like bulbs, switches, etc during the course of project work		Yes	
d	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
3.5.0	COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER			
a	Téléphone, fax, internet, intranet, e-mail etc.		Yes	
3.6.0	COMPRESSED AIR wherever required for the work		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl. No.	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.7.0	Demobilization of all the above facilities		YES	
3.8.0	TRANSPORTATION			
a	For site personnel of the bidder		Yes	
b	For bidder's equipments and consumables (T&P, Consumables etc)		Yes	

Sl. No.	Description PART II 3.9.0 ERECTION FACILITIES	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.9.1	Engineering works for construction:			NOT APPLICABLE
a	Providing the erection/constructions drawings for all the equipment covered under this scope		Yes	For Details Pl refer Chapter-IX-
b	Drawings for construction methods		Yes	In consultation with BHEL
c	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	Changes are to be marked in drawing & handover to BHEL on completion of work.
d	Shipping lists etc for reference and planning the activities			NOT APPLICABLE
e	Preparation of site erection schedules and other input requirements		Yes	In consultation with BHEL
f	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	In consultation with BHEL
g	Weekly erection schedules based on Sl No. e		Yes	In consultation with BHEL
h	Daily erection / work plan based on Sl No. g		Yes	In consultation with BHEL

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl. No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
	PART II 3.9.0 ERECTION FACILITIES			
i	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.		Yes	
j	Preparation of preassembly bay			NOT APPLICABLE
k	Laying of racks for gantry crane if provided by BHEL or brought by the contractor/bidder himself			NOT APPLICABLE
L	Arranging the materials required for preassembly		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – IV: T&Ps and MMDs to be deployed by Contractor

A: TOOL & PLANTS

Bidders to submit T&P list and deploy all T&P desired/required for construction of river water intake system. No claim in name of T&P will be entertained and bidder shall plan accordingly.

B: MEASURING AND MONITORING DEVICES (MMD):

AS PER REQUIREMENT TO BE FINALIZED AT SITE.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – V: T&Ps to be deployed by BHEL free of hire charges on
sharing basis

BHEL WILL NOT PROVIDE ANY T & P's FOR THIS WORK

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: TIME SCHEDULE & MOBILISATION

6.1 TIME SCHEDULE & MOBILIZATION

6.1.1 INITIAL MOBILIZATION AND TENTATIVE SCHEDULE

Contractor shall reach site, make his site establishment and be ready to commence the work within two weeks from the date of fax Letter of Intent or as per directions of Construction Manager/ Project Manager of BHEL.

All bidders are requested to note that works fronts are available in all the areas specified in scope of work in parallel and hence successful bidder must mobilize their resources for working in all parallel fronts so as complete the entire work within the stipulated contract period.

The contractor has to subsequently augment his resources in such a manner that the entire works are completed within the contract period of **27 (Twenty Seven) months** in a manner required by BHEL to match with the project completion and handing schedule.

THE OVERALL CONTRACT PERIOD SHALL OF 27 (Twenty Seven) months.

6.1.2

In order to meet above schedule and other intermediate targets/activities as set by BHEL Engineer In charge at site, to meet customer requirements/project schedule, contractor shall arrange all necessary resources and work force in consultation with BHEL Construction Manager at site to undertake works concurrently in all possible parallel work fronts as already available.

Contractor shall note that individual milestones as above shall be achieved as per schedule furnished above. **The date of start of should be reckoned after 15 days from LOI.**

The contractor shall reach site and establish his site office and mobilize necessary resources well in advance of actual commencement of the contract time schedule as per directions of BHEL engineer Incharge.

DATE OF START OF WORK SHALL BE AFTER 15 DAYS FROM LOI.

The contractor shall complete all the work in the scope of this contract within the contract period.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VII: TERMS OF PAYMENT

7.00 TERMS OF PAYMENT.

7.0.1

The contractor shall submit his monthly on account bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas from the 25th of previous calendar month to 24th of the current month.

7.0.2

General conditions of contract shall be referred to as regards mode of payment, and measurement of the work completed.

7.0.3

Release of payment in each running bill will be restricted to **95% of the value of work admitted**, 5% will be retained towards workmanship guarantee. Percentage break-up for the stage of work completion stipulated vide clauses mentioned below.

DETAILED TERMS OF PAYMENT

Clause No	Sub Section	Weightage Percentage	Remarks
7.0.3.1	Design, Engineering, submission of drawing, Construction methodology and approval	4	
7.0.3.2	Site mobilization: - Construction of site office, store, workshop, PEB Labour colony, deployment of T&P for enabling start of construction activities, construction power and construction water arrangement, Start of activities related to construction of intake well like well sinking or completion of island formation etc	4	
7.0.3.3	Supply of construction material like Cement and steel. Payment shall be released on actual receipt of materials, storage etc and after due verification of physical as well as documents jointly by BHEL	30	Pro rata basis
7.0.3.4	Construction of intake well system as specified in scope of work.	60	Pro rata basis on approval of BBU
7.0.3.5	Commissioning or intake well system.	2	
	Grand Total	100	

Supply of construction material should be in consultation with and approval from BHEL.

The 5% retention amount shall be released as per GCC clause no. 2.22. The workmanship guarantee period for this contract shall be **12 months from the date of completion** of entire work as certified by BHEL

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VII: TERMS OF PAYMENT

7.0.4

The payment for running bills will normally be released within around 30 days of submission of running bill with measurement sheets. Contractor shall make his own arrangement for making payment of impending labour wages and other dues in the meanwhile.

7.0.5

BHEL will release payment through **Electronic Fund Transfer (EFT)/RTGS**. In order to implement this system, the following details are to be furnished by the contractor pertaining to his bank accounts where proceeds will be transferred through **BHEL's banker**:

Name of the Company

Name of Bank

Name of Bank Branch

City/Place

Account Number

Account type

IFSC code of the Bank Branch

MICR Code of the Bank Branch

BHEL May Also Choose To Release Payment By Other Alternative Modes As Suitable.

The RA bill payment shall be made as per Cl no 10.0 of Chapter –X of SCC and as per CL NO: 2.6 of GCC

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

8.0 TAXES, DUTIES, LEVIES (Consolidated Rev 03 dated 09/04/2013)

8.1. For All types of works excepting works covered under sl no 8.2

8.1.1

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.

8.1.2 Service Tax & Cess on Service Tax

Contractor's price/rates shall be exclusive of Service Tax and Cess on Services. In case, it becomes mandatory for the contractor under provisions of relevant act/law to collect the Service Tax & Cess from BHEL and pay the same to the concerned tax authorities, such applicable amount will be paid by BHEL at the prevailing Service Tax Rate on the admitted bill value.

Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract. Contractor shall submit serially numbered Service Tax and Cess Invoice, 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 the registration number of the contractor,
2. The name and address of the party receiving taxable service,
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 before release of service tax payment.

Since the present work is of Works Contract in nature, it will fall under "works contract Service" under Service tax law, and more than one route/option are available for discharge of service tax liability, therefore, contractor shall obtain prior written consent from BHEL before billing the amount towards Service Tax.

8.1.3 VAT (Sales Tax /WCT)

As regards Value Added Tax (VAT)/CST on transfer of property in goods involved in Works Contract (previously known as Works Contract Tax) applicable as per local laws, the price quoted by the contractor shall be inclusive of the same and in no case input or output VAT/CST will be reimbursed extra.

In any case 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. Contractor will submit all the details of VAT/CST paid for the contract in the prescribed format **i.e. FORM 3 under MPVAT ACT on quarterly basis**. Also, the contractor will issue the tax Invoices to BHEL as per the Tax laws of

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

respective state on monthly basis. Contractor shall also be required to furnish to BHEL necessary proof of VAT remittance on monthly basis.

Deduction of tax at source shall be made as per the provisions of law and is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made.

Further, if BHEL, at the instance of customer or otherwise adopts the specific route for discharging output VAT liability itself, benefit of the reduction in liability of the contractor will be passed on to BHEL.

In case, BHEL is forced to pay any VAT liability on behalf of contractor, the same will be recovered from contractor's bill or otherwise as deemed fit.

8.2 'Enabling Works'

~~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. (i.e. rates quoted by bidder shall be inclusive of Service Tax, VAT/WCT and all other taxes and duties)~~

~~However, Since the proposed work is in the nature of 'Works Contract service' as per Service tax law, Hence, For non-corporate contractors being Individual, HUF, Proprietary Firm, Partnership Firm or Association of Persons (AOP), BHEL shall recover the applicable Service Tax under reverse charge mechanism from the contractor and remit the same with the Government as per the provisions of Law. Necessary advice/confirmation of remittance shall be issued to the contractor. The contractor shall not be eligible for any refund/reimbursement of such service tax from BHEL. It shall be the responsibility of the contractor to submit proper invoice giving all the requisite details as per Service Tax Law for the determination of the service tax liability of BHEL under reverse charge mechanism. BHEL reserves the right to determine such liability based on the invoice submitted by the contractor or otherwise independently and remittance of the same with the Government.~~

8.3 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.