

TENDER SPECIFICATION

NO: BHE/PW/PUR/HONGI-STR/1572

For Structural Works of Entire Plant including Fabrication, Erection, Alignment & Welding and Shot blasting/Painting of Steel Structures within the battery limits of plant area up to final painting and handing over to civil/mechanical/electrical agencies

AT

Combined Cycle Captive Power Plant, ONGC Hazira Site, Gujarat

TECHNICAL BID SPECIFICATION - 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**
- **Volume 1 E – Technical Specifications & Drawings**



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

Registered Office : BHEL House, Siri Fort, New Delhi – 110 049, India
Website : www.bhel.com

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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:

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Volume No	Description	Hosted in website bhel.com as files titled
NIL	Tender Specification Issue Details	(Part of <u>Vol-IA-1572</u>)
NIL	Notice Inviting Tender	(Part of <u>Vol-IA-1572</u>)
I-A	Technical Conditions of Contract	Vol-IA-1572
I-B	Special Conditions of Contract	Vol-IBCD-1572
I-C	General Conditions of Contract	(Part of <u>Vol-IBCD-1572</u>)
I-D	Forms & Procedures	(Part of <u>Vol-IBCD-1572</u>)
I-E	Volume 1 E – Technical Specifications & Drawings	Vol-IE-1572
II	Price Bid Specification	Vol-II-1572

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1572

NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



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Ref: BHE/PW/PUR/HONGI-STR/1572

Date: 11/12/2015

NOTICE INVITING TENDER (NIT)

NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES OR PURCHASE TENDERS FROM THIS OFFICE ALSO.

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To

Dear Sir/Madam

Sub: NOTICE INVITING TENDER

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

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION	
i	TENDER NUMBER	BHE/PW/PUR/HONGI-STR/1572	
ii	Broad Scope of job	Structural Works of Entire Plant including Fabrication, Erection, Alignment & Welding and Shot blasting/Painting of Steel Structures within the battery limits of plant area up to final painting and handing over to civil/mechanical/electrical agencies AT Combined Cycle Captive Power Plant, ONGC Hazira Site, Gujarat.	
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>

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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-IE	<i>Technical Specifications and Plot Plan</i>	<i>Applicable</i>
f	Volume-II	<i>Price Schedule</i>	<i>Applicable</i>
iv	Issue of Tender Documents	<p>1. <u>Sale from BHEL PS Regional office at :</u> Start : 11/12/2015 , Closes: 25/12/2015 , Time : 16.00 Hrs</p> <p>2. From BHEL website (www.bhel.com) Tender documents will be available for downloading from website till due date of submission</p>	<i>Applicable</i>
v	DUE DATE & TIME OF OFFER SUBMISSION	<p>Date : 28/12/2015, Time 15.00 Hrs Place : <u>BHEL PS Regional office at :Nagpur</u></p> <p>Tenders being submitted through representative shall be submitted at dispatch section of PSWR HQ Office after making entry/registration at the reception. For any assistance on the matter kindly contact following officials:</p> <ul style="list-style-type: none"> • Pratih Gee Varghese / Sr Engineer (Purchase) • Neeraj Tiwari / Sr Engineer (Purchase) • Shivkesh Meena / Engineer (Purchase) 	<i>Applicable</i>
vi	OPENING OF TENDER	<p>1 hours after the latest due date and time of Offer submission</p> <p>Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next</p>	<i>Applicable</i>

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		<i>working day. (2) Bidder may depute representative to witness the opening of tender</i>	
vii	EMD AMOUNT	<i>Rs 2,00,000/- (Rupees Two Lakhs Only)</i>	<i>Applicable</i>
viii	COST OF TENDER	<i>Rs 2000/- (Rupees Two Thousand Only)</i>	<i>Applicable</i>
ix	LAST DATE FOR SEEKING CLARIFICATION	<i>Five days before the due date of offer submission. Along with soft version also, addressing to undersigned & to others as per contact address given below</i>	<i>Applicable</i>
x	SCHEDULE OF Pre Bid Discussion (PBD)		<i>Not Applicable.</i>
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)		<i>Not Applicable</i>
xii	Latest updates	<u>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</u>	

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

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the techno-commercial offer other than the Price Bid and 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 super scribed envelopes (ENVELOPE-I & ENVELOPE-II)
 - PART-II (Price Bid) - in sealed and super scribed 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	
	ENVELOPE – I super scribed as : PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING:-	
i.	Covering letter/Offer forwarding letter of Tenderer.	

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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 style="padding-left: 40px;">i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p style="padding-left: 40px;">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.	<i>Volume-IE: Technical Specification Section-C, Section D and Plot Plan</i>	

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xiii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only ‘QUOTED’ or ‘UNQUOTED’ against each item	
xiv.	Any other details preferred by bidder with proper indexing.	

PART-I B		
	<p>ENVELOPE – II super scribed 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 align="center">OR</p> <p>Documentary evidence for ‘One Time EMD’ with the Power Sector Region of BHEL floating the Tender</p> <p>2. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)</p>	

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

OUTER COVER		

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

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

7.0 Deviation with respect to tender clauses and additional clauses/suggestions in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.

8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).

9.0 Assessment of Capacity of 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,

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two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

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

i). Total number of Packages

Total number of Packages in hand = P

Where

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

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

(Note: For example if 'latest date of bid submission' is in Aug 2011, then the 'performance' shall be assessed for a 6 month period upto and inclusive of June 2011, for the entire 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:

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- 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 (ie $P_T = P_1 + P_2 + P_3 + P_4 + \dots + P_N$)
- 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:**

Aggregate of Performance scores for all similar packages in all the Regions

= -----
Aggregate of months for each of the similar package for which performance should have been evaluated in all the Regions

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

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

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

Sl o n o	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 ₂₋₁ , S ₂₋₂ , S ₂₋₃ , S ₂₋₄ , ...	S ₃₋₁ , S ₃₋₂ , S ₃₋₃ , S ₃₋₄ , ...	S ₄₋₁ , S ₄₋₂ , S ₄₋₃ , S ₄₋₄ , ...	S ₅₋₁ , S ₅₋₂ , S ₅₋₃ , S ₅₋₄ ,	S _{N-1} , S _{N-2} , S _{N-3} , S _{N-4} , ...	-----
4	Sum of Monthly Performance scores of the	S ₁	S ₂	S ₃	S ₄	S ₅	...	S _N	Sum (Σ) of columns (iii) to (ix)

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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	i). Electrical	i). Boiler & Aux (All types including CW Piping if applicable)
	ii). Pile and Pile Caps	ii). CI	ii). Power Cycle Piping/Critical Piping
	iii). Civil Works including foundations	iii). Others (Elect & CI)	iii). LP Piping
	iv). Structural Steel Fabrication & Erection		iv). ESP
			v). Steam Turbine Generator set & Aux

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	<ul style="list-style-type: none"> v). Chimney vi). Cooling Tower ii). Others (Civil) 		<ul style="list-style-type: none"> vi). Gas Turbine Generator set & Aux vii). Hydro Turbine Generator set & Aux iii). Turbo Blower (including Steam Turbine) ix). Material Handling x). Material Management xi). Material Handling & Material Management 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, w.e.f 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

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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 Synchronization in case of all other works excepting sl no (i) and (iii)
- iii. Upto execution of at least 90% of anticipated contract value in case of Civil & Structures (unit wise), Enabling works and upto 90% of material unloading (in tonnage) as per the original contract in case of MM Package.

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

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

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

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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 are 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.

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- 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 authorized representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 19.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .

However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.

- 20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0 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:
- 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.

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- 23.2 **'Standalone' 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.

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- 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 'standalone' 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

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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

01. Annexure-1: Pre Qualifying criteria.
02. Annexure-2: Check List.
03. Annexure-3: Integrity Pact
04. Annexure-4: Important Information.
05. Other Tender documents as per this NIT.

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ANNEXURE - 1

PRE QUALIFYING CRITERIA

JOB	Job: All Civil and Architectural work for raw water reservoir & Pump House, Pipe Line from Raw water pump house PT plant etc for Unit # 01 to Unit # 04 AT 4X270 MW Thermal Power Station, Manuguru, Distt- Khammam, Telangana
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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 shall essentially meet all the Qualifying Requirements (i.e. B.1 & B.2) as under, in last seven years as on latest date of bid submission in <u>industrial Projects</u>: <u>B.1:</u> The bidder should have executed Minimum structural steel fabrication and erection of 800 MT each within a period of twelve consecutive months in one contract or cumulative of two concurrently running contracts in Power/ Industrial Projects. <u>Note:</u> For QR B.1 , experience of Fabrication should be in One Span of 12 Consecutive Months and Erection should be in One Span	APPLICABLE	

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	<p>of 12 Consecutive Months.</p> <p align="center">AND</p> <p>B.2: Bidder should have Executed Structural Steel works (Fabrication Or Erection Or Fabrication & Erection (Each)) in any Industrial projects as below:</p> <p>B.2.1) Executed One similar work <u>of value not less than Rs. 200 Lakhs</u> against single work order.</p> <p align="center">OR</p> <p>B.2.2) Executed Two similar works <u>each of value not less than Rs. 125 Lakhs</u> against maximum two work orders.</p> <p align="center">OR</p> <p>B.2.3) Executed Three similar works <u>each of value not less than Rs. 100 Lakhs</u> against maximum three work orders.</p> <p>Note: Industrial projects shall mean projects in sectors like Power /Petro / Chemical/Refinery / Oil and Gas/ Cement /Aviation / Ports /any other sector involving civil works for setting-up factory.</p>		
<p>C- 1</p>	<p><u>Financial</u> <u>TURNOVER</u> Bidders must have achieved an average annual financial turnover (audited) of Rs 75 Lakhs or more over last three Financial Years (FY) i.e. 2012-2013, 2013-14, 2014-15</p>	<p align="center">APPLICABLE</p>	
<p>C- 2</p>	<p><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.</p>	<p align="center">APPLICABLE</p>	

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C-3	<p><u>PROFIT</u></p> <p>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.</p>	APPLICABLE	
D	<p>Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT (if applicable).</p>	APPLICABLE	By BHEL
E	<p>Price Bid Opening</p> <p>Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to D.</p>		BY BHEL
F	<p>Approval of Customer (if applicable)</p> <p>Note: Name and Credentials of L-1 "Accepted" bidder shall be sent to customer for their approval.</p>	APPLICABLE	BY BHEL
G	<p>Technical Tie up criteria (if applicable)</p>	Not applicable	
<p><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></p> <ol style="list-style-type: none"> 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. If financial statements are not required to be audited statutorily, then instead of audited financial statements, financial statements are required to be certified by Chartered Accountant. 4. 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) 5. 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 6. 'Additional' Criteria in respect of 'Technical' criteria of PQR (as in 'B' above) for Civil, 			

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<p>Electrical, CI, unless otherwise specified :-</p> <ol style="list-style-type: none">1. _____ Bidder should have executed similar work of any one of the following:<ol style="list-style-type: none">a. _____ One (1) work of value not less than Rs XXX _____ ORb. _____ Two (2) works of not less than Rs YYY _____ ORc. _____ Three (3) works of not less than Rs ZZZ (Value XXX, YYY, ZZZ shall be as indicated by BHEL2. _____ 'Similar' work for criteria 5 above means<ol style="list-style-type: none">a. _____ Civil or Structures or Civil & Structures or Chimney respectively as applicable to the tendered scope in respect of 'CIVIL' Worksb. _____ Electrical works in respect of 'ELECTRICAL'c. _____ CI works in respect of 'CI' Worksd. _____ Material Handling and/or Management works in respect of 'MM' works <p>7. 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</p> <p>8. '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</p> <p>9. Unless otherwise specified, for the purpose of 'Technical' criteria of PQR (as in 'B' above), the word 'EXECUTED' means:</p> <ol style="list-style-type: none">1. _____ "BOILER LIGHT UP" in respect of Boiler & Aux and ESP2. _____ "SYNCHRONISATION" in respect of STG/GTG and 'SPINNING' in case of HTG3. _____ "STEAM BLOWING COMPLETION" in respect of at least Main Steam Line of Power Cycle Piping4. _____ "HYDRAULIC TEST" of the system in respect of Structures, Pressure parts/IBR Piping5. _____ "CHARGING" in respect of power Transformers, Bus ducts, HT/LT switchgears6. _____ "Completion of RCG Shell and liner (steel or brick as per tendered scope) up to the HEIGHT specified using slip form" in case of RCG Chimney.7. _____ Achievement of physical Quantities as per respective PQRs in respect of Civil & Structures and Piling Works8. _____ 'Readiness for coal Filling" in respect of Bunker Structure Work. <p>10. _____ Boiler means HRSG or WHRB or any other types of Steam Generator</p> <p>11. _____ Critical/Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass, LP Bypass lines</p> <p>12. _____ 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>13. _____ 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</p>
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	<p>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>14. 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>15. In case the tendered scope is not a Pulverized Fuel Boiler, experience of Oil/Gas Fired Boilers also can be considered unless otherwise specifically indicated in the PQR.</p> <p>16. 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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Bidder's Response to BHEL TECHNICAL PQR (WHICHEVER IS APPLICABLE)

PQR No	Pre-Qualifying Requirement	Credentials (Detailed Work Order, Completion Certificate and TDS Certificates) based on which bidder is claiming PQR	Reference of the documents	Page No
B.1	<p>The bidder should have executed Minimum structural steel fabrication and erection of 800 MT each within a period of twelve consecutive months in one contract or cumulative of two concurrently running contracts in Power/ Industrial Projects.</p> <p>Note: For QR B.1, experience of Fabrication should be in One Span of 12 Consecutive Months and Erection should be in One Span of 12 Consecutive Months.</p>			
B.2:	Bidder should have Executed Structural Steel works (Fabrication Or Erection Or Fabrication & Erection (Each)) in any Industrial projects as below:			
B.2.1	Executed One similar work <u>of value not less than Rs. 200 Lakhs</u> against single work order.			
B.2.2	Executed Two similar works <u>each of value not less than Rs. 125 Lakhs</u> against maximum two work orders.			
B.2.3	Executed Three similar works <u>each of value not less than Rs. 100 Lakhs</u> against maximum three work orders.			

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NOTE:

BIDDERS MUST CLEARLY INDICATE IN THE TABLE ABOVE, HOW THEY ARE SATISFYING TECHNICAL PQR ALONG WITH THE REFERENCE OF THE SUPPORTING DOCUMENTS AND THE PAGE NUMBER IN WHICH THE REFERRED DOCUMENTS ARE ANNEXED IN THE BID DOCUMENT.

BHEL WILL NOT CONSIDER ANY OTHER DOCUMENT OTHER THAN THOSE SPECIFIED BY THE BIDDERS IN THE TABLE ABOVE FOR EVALUATION OF TECHNICAL PQR.
BIDDER MAY ATTACH SEPERATE SHEET IF NECESSARY

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	documents referenced in the specified format		
7	Audited profit and Loss Account for the last three years	Applicable /Not Applicable	YES/NO
8	Copy of PAN Card	Applicable /Not Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable /Not Applicable	YES/NO
10	Integrity Pact	Not Applicable	YES/NO
11	Declaration by Authorized Signatory	Applicable /Not Applicable	YES/NO
12	No Deviation Certificate	Applicable /Not Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable /Not Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable /Not Applicable	YES/NO
15	Non-Disclosure Certificate	Applicable /Not Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable /Not Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable /Not Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable /Not Applicable	-----
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable /Not Applicable	YES/NO
20	Analysis of Unit rates	Applicable /Not Applicable	YES/NO

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

DATE:

AUTHORISED SIGNATORY

(With Name, Designation and Company seal)

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Annexure-3

IMPORTANT INFORMATION

Sealed Tenders shall be submitted at following address to AGM /Purchase BHEL PSWR NAGPUR:

BHEL PSWR, SRIMOHINI COMPLEX, 345 KINGSWAY, NAGPUR 440001, INDIA

All correspondences regarding this tender shall be addressed to AGM / PURCHASE BHEL PSWR at above address. Bidders may also opt to correspond with following BHEL officials regarding this tender through email at following email ids. However please be informed that sealed tenders shall necessarily be submitted in original at above address:

AGM Purchase, Email id: rajeebc@bhhelpswr.co.in. Ph: +91 – 712 – 3048633

Sr Engineer Purchase, Email: pgv@bhhelpswr.co.in, Ph: +91 – 712 – 3048713

Sr Engineer Purchase, Email: nktiwari@bhhelpswr.co.in Ph: +91-712-3048651

Engineer Purchase, Email id: svm@bhhelpswr.co.in , Ph: +91 – 712 – 3048715

- 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. Refer Chapter XII of Volume IB Special Conditions of Contract regarding Suspension of Business Dealings: The abridged version of extant 'Guidelines for suspension of business dealings with suppliers/contractors' has now been uploaded on www.bhel.com on "supplier registration page" at the following link: http://www.bhel.com/vender_registration/pdf/Suspension-of-Business-Dealings-with-Supplier-issued-Sept13_abridged.pdf**
- 3. All Statutory Requirements as applicable for this project shall be complied with.**
- 4. BHEL Fraud Prevention Policy, "The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice."**

5. Following clause shall form part of the HSE documents issued under Chapter IX of Volume IB ‘Special Conditions of Contract’

“In case of any financial deduction made by Customer for lapses of safety other than what is provided elsewhere in the contract, the same shall be charged on back-to-back basis on the defaulting contractor without prejudice to any other right spelt anywhere in the tender /contract”

6. Please take note of following Revised Tender Clauses:

- i. Notice Inviting Tender: Sl No 9
 - ii. General conditions of Contract: Clause 2.12, 2.14, 2.17, Clause No 1.15.13 (New), Clause No 2.8.3, 2.8.4 and 2.8.5
 - iii. Special Conditions of Contract: Clause No 4.2.1.7
7. Following Notes are added to Form F- 15 of Volume I D ‘Forms & procedures’
- i. It is only indicative and shall be as per the online format issued by BHEL time to time.
 - ii. No request will be entertained after specified date of the current month w.r.t the changes requested in the scores of immediate previous month.

8. PRICE VARIATION CLAUSE

Revision in Price Variation Compensation Clause no. 2.17 of Vol I C GCC:

Clause No. 2.17 of Vol IC GCC is revised as below:-

2.17 PRICE VARIATION COMPENSATION (During Original Contract Period and Extension if any)

2.17.1 In order to take care of variation in Total Minimum Per Day Wages of all categories of workers/labours, Price Variation Formula as described herein shall be applicable

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2.17.2 20 % component of Contract Value shall be permitted to be adjusted for variation in Total Minimum per Day Wage of 'UNSKILLED LABOUR/WORKERS' during execution of work. The remaining 80% shall be treated as fixed component

2.17.3 Payment/recovery due to variation labour index during execution of work shall be determined on the basis of the following notional formula:

$$P = 20 \% \times R \times \frac{(X_N - X_o)}{X_o}$$

Where

P = Amount to be paid/recovered due to variation in Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS'

R = Value of work done for the billing month (Excluding Taxes and Duties if payable extra)

XN = Revised Total Minimum per Day Wage of 'UNSKILLED LABOUR/WORKERS' for the billing month under consideration

Xo = Total Minimum per Day Wage of 'UNSKILLED LABOUR/WORKERS' as on the Base date.

2.17.4 **Base date shall be calendar month of the latest date of submission of Tender**

2.17.5 Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' applicable for the billing month and the base month shall be as per the authorized notification/circulars issued by the Principle Employer (BHEL's Customer) regarding prevailing (billing Month or base month) minimum total per day labour wage of UNSKILLED LABOUR/WORKERS applicable in the project

2.17.6 PVC shall not be payable for the ORC amount, Supplementary/Additional Items, Extra works

2.17.7 The contractor will be required to raise the bills for price variation payments on a monthly basis along with the running bills irrespective of the fact whether any increase/decrease in the Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' has taken place or not. In case there is delay in publication/issuance of authorized notification/circulars (final figure), the PVC bill shall be deferred till the issuance of the same

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2.17.8 PVC shall be applicable for the entire original contract period plus the extended period. The total amount of PVC shall not exceed 5 % of the cumulatively executed contract value. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works. However the Total Quantum of Price Variation amount payable/recoverable during delayed/extended period shall be regulated as follows

- i) For the portion of backlog attributable to the contractor, the PVC will be based on the average of the Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' for the period of the original contract period
- ii) For the period of Force Majeure, the PVC will be limited to Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' applicable at the beginning of the force majeure period.
- iii) For the portion of backlog attributable to BHEL, the PVC will be as per the Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' applicable for the respective months

2.17.9 **Additional PVC during Contract Extension Period**

- i) In order to take care of variation in cost of execution of work on either side, due to variation in the index of LABOUR, HIGH SPEED DIESEL OIL, WELDING ROD, CEMENT, STEEL, MATERIALS, Additional Price Variation Formula as described herein shall be applicable during contract extension period. **Additional PVC shall be applicable only during the extended period of contract (if any)** after the schedule completion date for the portion of work delayed / backlog for the reasons not attributable to Contractor
- ii) 65 % component of **Executed Value (during extended period)** shall be permitted to be adjusted for variation in various relevant indices during extended contract period. The remaining 35% shall be treated as fixed component.
- iii) The basis for calculation of price variation in each category, their component, Base Index, shall be as under:

<u>Sl No</u>	<u>CATEGORY</u>	<u>Base Index</u>	<u>Component K</u>
<u>01</u>	LABOUR (ALL CATEGORIE S)	MONTHLY AVERAGE CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS' for SURAT CENTRE of GUJARAT State published by Labor Bureau, Ministry	<u>20</u>

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		of Labor and Employment, Government of India. (Website: labourbureau.nic.in)	
02	HIGH SPEED DIESEL OIL	Name of Commodity: HSD OIL. Type : INDIVIDUAL COMMODITY (See Note below)	5
03	MATERIALS (Other than Cement & Steel)	Name of Commodity: ALL COMMODITIES Type: GROUP ITEM (See Note below)	40
Note: As per the 'MONTHLY WHOLE SALE PRICE INDEX' for the respective Commodity and Type, published by Office of Economic Adviser, Ministry of Commerce and Industry, Government of India. (Website: www.eaindustry.nic.in). Revisions in the index or commodity will be re adjusted accordingly			

- iv) Payment/recovery due to variation in index shall be determined on the basis of the following notional formula without any initial absorption, in respect of the identified components viz LABOUR, HIGH SPEED DIESEL OIL, WELDING ROD, CEMENT, STEEL, MATERIALS

$$P = K \times R \times \frac{(X_N - X_0)}{X_0}$$

Where

P = Amount to be paid/recovered due to variation in the Index for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials

K = Percentage component applicable for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials

R = Value of work done for the billing month during extended period (Excluding Taxes and Duties if payable extra)

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XN = Revised Index No for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials for the billing month under consideration

Xo = Index no for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials as on the Base date

- v) Base date shall be the calendar month of the schedule completion date of the contract. Schedule Completion date shall be the actual start date plus contract period as defined in Chapter VI 'Vol IA TCC'
- vi) Additional PVC shall not be payable for the ORC amount, Supplementary/Additional Items, Extra works
- vii) The contractor shall furnish necessary monthly bulletins for the necessary indices from the relevant websites along with his Bills
- viii) The contractor will be required to raise the bills for additional price variation payments on a monthly basis during extended period along with the running bills irrespective of the fact whether any increase/decrease in the index for relevant categories has taken place or not. In case there is delay in publication of bulletins (final figure), the provisional values as published can be considered for payments and arrears shall be paid/recovered on getting the final values
- ix) Total quantum of Additional Price Variation amount payable/recoverable shall be regulated as follows:
 - a) For the portion of backlog attributable to the contractor and for the portion of backlog due to force majeure condition during contract period, Additional PVC shall not be paid.
 - b) For the period of force Majeure during extended contract period, Additional PVC will be as per the indices applicable at the beginning of the force majeure period (during extended period).
 - c) void
 - d) The total amount of additional PVC shall not exceed 20% of the cumulatively executed contract value during the extended contract period. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works.

9. QUANTITY VARIATION

Revision in QUANTITY VARIATION Clause no. 2.14 of Vol I C GCC:

Clause No. 2.14 of Vol IC GCC is revised as below:-

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Rates for individual items shall remain firm for any variation in the respective quantity up to plus (+) 30 % and minus (-) 100 %.

For any variation in individual item quantities beyond plus (+) 30 %, the item rate of that item shall be increased by 5 % i.e. payment for the quantities executed beyond 130 % of the tendered quantity shall be made @ of 105 % of the awarded rate of that particular item. Contractor shall not be eligible for any other compensation on this account

For any variation in individual item quantity on negative side or in case any item is not operated at all, there will be no revision in the item rates during entire contract period and extended period if any.

However In case the finally executed contract value reduces below 85 % of the ordered total value due to quantity variation, the contractor will be eligible for compensation @ 15% of the difference between the 85% of the ordered value and the actual executed value. For this purpose executed contract value shall also include items quantities which are paid @ 105 % of ordered rate due to variation beyond plus (+) 30%.

10. OVER RUN COMPENSATION

Over Run Compensation Clause no. 2.12 of Vol I C GCC shall not be Applicable

11. Acceptance of Bank Guarantee (BG)

Revision in Acceptance of Bank Guarantee (BG) Clause no. 1.10.3 (V) of Vol I C GCC:

Clause No. 1.10.3 (V) of Vol IC GCC is revised as below:-

“Bank Guarantee issued by:

a. Any of the BHEL consortium bank listed below :

State Bank of India
ABN Amro Bank N.V.
Bank of Baroda
Canara Bank
Citi Bank N.A.
Corporation Bank
Deutsche Bank
HDFC Bank Ltd.
The Hongkong and Shanghai Banking Corporation Ltd
ICICI Bank Ltd.
IDBI Ltd.
Punjab National Bank
Standard Chartered Bank

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State Bank of Travancore
State Bank of Hyderabad
Syndicate Bank

- b. Any public sector Bank (other than consortium banks) with a clause in the text of Bank Guarantee that it is enforceable at Nagpur, Maharashtra
- c. Any private sector banks, with a clause in the text of Bank Guarantee that it is enforceable by being presented at any branch of the bank

Note: “Bank Guarantees issued by Co-operative Banks are not acceptable”.

12. 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 are given in Annexure V of NIT:

- 12.1. 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).
- 12.2. 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.
- 12.3. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.

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- 12.4. 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.
- 12.5. 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.
- 12.6. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
- 12.7. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
- 12.8. 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.
- 12.9. 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.
- 12.10. Reverse auction will be conducted on scheduled date & time.
- 12.11. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
- 12.12. 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.
- 12.13. 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.
- 12.14. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs

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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.

- 12.15. 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.
- 12.16. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
- 12.17. 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.

Rev 00
6th
JULY

TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



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SL. No	DESCRIPTION	Chapter
Volume-IA	Part-I: Contract specific details	
1	Project Information	Chapter-I
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5	T&Ps and MMEs to be deployed by BHEL on sharing basis	Chapter-V
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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I: PROJECT INFORMATION

1.0	Project Information: ONGC is setting up combined cycle captive power plant at its existing facility at Hazira.	
1.1	INTRODUCTION	
	<i>Approach to site</i>	
	1.0	Location
		ONGC Limited, Hazira
	2.0	Elevation above mean sea level
		RL 6.0 above, MSL
	3.0	Nearest Railway Station
		Surat, 20 KM
	4.0	Nearest Airport
		Surat, 10 KM
	5.0	Nearest Harbour
		Magdalla, 20 KM
	6.0	Access Road
		NH-8 (30 KM)
	7.0	Atmospheric pressure at MSL
		1.013 bar
	8.0	Ambient Temperature
	a)	Max. average dry bulb temperature
		45.6°C
	b)	Min. average dry bulb temperature
		4.4°C
	c)	Design temperature for electrical equipment / device
		50°C
	9.0	Relative Humidity
	a)	Max.
		70%
	b)	Min.
		18%
	c)	Average
		64%
	10.0	Seismic Zone
		III (IS 1893)
	11.0	Rainfall
	a)	Max. intensity of rainfall in 24 hrs.
		459.2 mm
	b)	Period – Monsoon showers
		June to September
	c)	Average rainfall per annum
		1203.5 mm
	12.0	Wind data

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter - I: PROJECT INFORMATION

		Max. wind speed (as per IS:875) 20-61 kmph for 20 days in a year < 20 kmph for remaining period	62 kmph
		Most predominant wind direction	South -West
<p>Above information furnished are for general guidance of Contractor. However Contractor is advised to visit the site and appraise himself about the conditions of site and infrastructure available in the area for fulfilling their commitments under the contract.</p>			

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

2.1 SCOPE OF WORK

2.0 SCOPE OF WORK

2.1 Micro Grading: After the completion of structural work the entire fabrication area shall be fairly levelled by the contractor to achieve the ground profile at no extra cost. The extra material/wastage including contractor's own site office/storage yard etc debris, so generated shall be disposed outside of plant premises at approved location without any extra cost.

2.2.1 List of Building/Structure Covered under this package but not limited to:

2.2.2 Structural Works of Entire Plant including Fabrication, Erection, Alignment & Welding and Shot blasting/Painting of Steel Structures within the battery limits of plant area up to final painting and handing over to civil/mechanical/electrical agencies.

2.2.3 Mono-Rail Beams: All structural works of mono beams in plant area.

2.3 Structural Works Related to Following Services:-

The work involves:

- a. Taking delivery from BHEL stores fabrication and erection of structural steel work including all interfacing work and miscellaneous work. **Supply of steel will be made by BHEL free of cost.** The nature of work shall include columns, beams, splicing of steel works as needed, bracings, purling, sheeting runners, sag rods, ties, struts walkways, galleries, stairs, ladders, handrails, floor gratings, chequered plate work, M.S, pipes, equipment supporting platforms and all other structures required for successful completion of project.
- b. Connection design & preparation of fabrication drawings as per agreed schedule before starting fabrication work for any structural GA drawing including appointment of a separate agency, approved

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

by BHEL, for review and approval of fabrication drawings in consultation with BHEL.

- c. Fixing of floor gratings as per Specifications.
- d. Payments for painting or galvanization shall be made as per respective items.
- e. Supply and fixing of high tensile bolts, mild steel bolts, nuts, plain/taper and spring washers, all electrodes required for shop and field work.
- f. Shop and final painting as per Technical Specification after properly cleaning the steel surfaces.

2.4 The work will involve:

All works required to complete structural works including Fabrication and erection of structural steel work involving rolled section, semi-rolled sections, sections fabricated out of plates, chequered plates, grating, hand rails, shot blasting, primer and final painting for all steel structural works including supply of HSFG Bolts if any, low hydrogen quality electrodes for welding, non-destructive testing etc complete as per Field Quality Plan/Customer requirements. All field quality checks for welds like radiography, NDT, etc are in the scope of work and bidder should quote accordingly. Supply of all consumables required for fabrication and supply of all bolts, nuts, washers, electrodes etc.

2.5 Scope: Structural Works

The scope covers all structural works within the battery limits of this Package.

The important works covered under this package are as below:

- 2.5.1 Preparation of complete fabrication detailed drawings and erection marking drawings** required for all the structures covered under the scope of this contract based on design drawings furnished by BHEL.

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Chapter – II : SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

- 2.5.2** Submission of **revised fabrication drawings** with calculation in case any substitution of designed sections is made. The scope would also include **submission of calculations of joints & calculations.**
- 2.5.3 Preparation and submission of detailed bill of materials**, drawing office despatch lists, bolts lists etc. required in connection with the fabrication and erection structural works as directed by the Engineer for his checking and approval.
- 2.5.4** The fabrication/erection work would include **straightening** of material by mechanical means or localized heating with temperature not exceeding 600° C; cutting by all means; **planning of edges; making holes; assembly at shop or erection site; getting welding sequence** approved; **peening** by suitable tools; **lacing bars; separators; bearing plates;** providing **architectural clearances; shop connections and shop painting** etc.
- 2.5.5** All Steel structures shall be cleaned to **near white metal surface conforming to SA 2-1/2** standard before application of shop primer. All arrangements for **shot blasting** such as compressor of required capacities, Diesel/electric generator, GI Sheets, support frames for structural members, Scaffolding pipes for construction of semi closed shed, hose pipe, shed for storage of abrasive materials/paints etc and spray guns/brushes etc shall in the scope of contractor. Any other arrangements that may have to be done to ensure smooth operations of shot blasting shall be in the scope of contractor. The work shall be done as per BHEL specifications/ONGC Specifications/applicable standards.
- 2.5.6** All fabricated steel work shall be **shop painted** complete as per customer specifications.
- 2.5.7 Transportation of fabricated steel structures from fabrication yard to storage yard/erection site** including handling, rigging, assembling, bolting, welding and satisfactory installation of all fabricated steel materials in proper location according to approved erection drawings. If necessary suitable approaches may have to be built for transportation of steel structures. The item rate quoted shall be inclusive of such incidental works.
- 2.5.8 Checking centre lines**, level of all foundation pedestals, position of all bolts/pockets and aligning, plumbing, levelling, bolting, welding and securely fixing the erected steel structures in accordance with drawings. The members erected shall be tied with each other using

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

suitable tie beams/bracing etc or using guys as per directions of engineer in charge.

2.5.9 Removal of bends, kinks and twists etc of parts damaged during transportation/handling etc shall be made good by the contractor at no extra cost.

2.5.10 Cutting, chipping, filling, grinding, reaming of holes, re-fabrication of parts damaged beyond repair during transportation/handling and drilling holes which have either not been drilled or wrongly drilled are all included in the scope of works without any extra cost.

2.5.11 Fabrication/erection tolerances shall be as per approved FQP/ONGC specifications.

2.5.12 All welding works shall be done through qualified welders. Such welders shall be duly qualified by BHEL/ONGC engineer based on welder test conducted at site as per IS-817. Process Qualification (if required) shall be arranged by contractor through their qualified quality engineer. All samples for the Welder qualification test shall be arranged by contractor. Quoted rates shall be inclusive of all costs towards testing of welders for destructive/non-destructive tests, testing and approval of welders. All welded joints shall be subject to the acceptance of BHEL/ONGC engineer. All the welded joints shall be cleaned of slag etc. by way of PEENING complete as per BHEL/ONGC specifications.

2.5.13 The type of electrode, welding sequence, and pre heat and post heat requirements (if required) shall be approved by BHEL/ONGC engineer.

2.5.14 All the welds shall be visually checked for size, length of weldment and external defects. Weld gauges shall be used for checking of welds. **Non Destructive tests** shall be conducted as per approved FQP/ONGC Specifications. In case of defects observed during such NDT tests, the joints shall be again back gauged, joints re prepared and re welded. The contractor shall do such repair works at no extra costs.

2.5.15 The fabrication of structural steel members shall be such that the sequence of welding will avoid distortion and minimize shrinkage stresses in the closing welds of rigid assembly. All multiple layers of weld shall be peened with light blows from hammer/round nose tool after the weld has cooled to room temperatures. Care shall be taken to prevent scaling/flaking of weld and base metal from peening.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

2.5.16 All fillet welds shall be brought practically closer as far as possible and in no case shall be more than 4 mm. **All butt welds** shall be carefully aligned and mis-alignments greater than 3 mm shall be corrected. All works shall be positioned for flat welding wherever practicable.

2.5.17 The electrodes shall be stored in properly designed racks, separating different types of electrodes in different compartments. They shall be kept in dry and warm condition by way of heating in mother ovens. A separate room shall be constructed and marked as electrode room manned by dedicated engineer. Complete record shall be made in registers each batch wise complete as per directions of engineer.

2.5.18 Bolts, nuts & washers and other fastening materials shall be stored on racks above ground and suitably covered with **protective oil**.

2.5.19 Suitable marking, bundling, loading/unloading and transport of all fabricated materials to site for further erection works. **The scheme for erection works shall be approved before start of work** by the BHEL Engineer.

2.5.20 Taking delivery of Structural steel incl chequered plate etc from BHEL stores/storage yard for utilisation in construction work under this package.

2.5.21 Supply of all HSEFG bolts, Mild steel bolts, erection bolts, nuts, plain/taper and spring washers, all types of electrodes required for fabrication shop and erection welding etc including instruments and personnel for conducting necessary tests at site as specified/as directed by the Engineer.

2.6: General Scope

2.6.1 Furnishing all labour, materials, supervision, construction plans, equipment, supplies, transport, to and from the site, fuel, compressed air, and all other incidental items and temporary works not shown or specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional

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stipulations as may be provided by the engineer during the course of works.

- 2.6.2 Furnishing samples of all materials** required by the engineers for **testing/inspection and approval** for use in the works. The samples may be retained by the engineer for final incorporation in the works.
- 2.6.3 Furnishing test reports** for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
- 2.6.4** Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that is required for all works including temporary works.
- 2.6.5** Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
- 2.6.6** The contractor shall establish a suitable yard at an approved location for fabrication of steel material and storage of steel material. The yard shall be fenced all around with barbed wire and shall have suitable security arrangement with security guards etc. The Contractor shall also make covered store for storage of connection materials, paints, electrodes, shot blast material etc.
- 2.6.7** The contractor shall cover intermediate floors with planks if so required in case of other works at floors below/ground at no extra cost.
- 2.6.8** Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.
- 2.6.9 Arranging for joint checking** (with BHEL/ONGC/Consultant) of all site construction activities Preparation of joint protocols for each & every activity and maintaining quality records for audit/inspection.
- 2.6.10** The drawings enclosed with this tender are intended to give the tenderer a general idea of the type and extent of work involved. The drawings are as such only indicative and not to be considered as the exact construction drawings. **Further this is to be noted that the drawings and the documents furnished along with this specification are the sole property of B.H.E.L. It must not be used directly or indirectly in any way detrimental to the interest of the company.**

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2.6.11 The scope of work will also include such other related works although they may not be specifically mentioned in the above paragraph and all such incidental items not specified but reasonably imply and necessary for completion of the job as a whole all as desired and as directed by the engineer.

2.6.12 The detail scope of work covered above is not a comprehensive list of items of work involved. The detail scope of work may vary considerably depending on the actual construction requirements as per RFC Drawings.

2.6.13 In case of any discrepancy between item description, relevant drawing and/or specification clarification shall be sought at tender stage itself. Otherwise it shall be assumed that the bidder has quoted for the more stringent requirement.

2.6.14 Any reference in the customer specifications regarding mode of measurements/methodology of measurements shall not be applicable.

2.6.15 The scope shall also include setting up a quality laboratory of suitable size in the field, by the bidder to develop Radiography Test Films (commonly denoted as Dark Room), Pit Room for source storage, RT Film storage cum film interpretation room (AC Room of appropriate size), conducting Welder qualification tests and UT test. The bidder may tie up with approved/registered inspection agencies for setting up test lab on site as described above.

2.6.16 Details of the items in this Schedule shall be read in conjunction with the M/s ONGC's CONSULTANT/ONGC's specifications, drawings, technical specifications and other documents and shall have precedence over any contrary statement mentioned anywhere in this document.

2.7 WORKS BY OTHERS

No work under the specification will be provided by any agency other than the contractor unless specifically mentioned elsewhere in the contract.

2.8 SITE VISIT

Contractor may visit ONGC project site, to acquaint himself with the conditions prevailing at site and in and around the plant premises, together with all the statutory, obligatory, mandatory requirements of various authorities before submission of the bid.

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2.9 Carrying out of Work by BHEL

BHEL reserves the right to withdraw/restrict/alter the quantum of works as per **clause 2.7 of General Conditions of Contract**. BHEL may carry out work through any other agency/purchase Bought Out items as per GCC. In such cases due notice shall be given for a period of 2 (two) weeks.

NOTE:

Contractor should make him well conversant with the Customer specification. In case of ambiguity between BHEL and customer specification, customer specification shall prevail.

HIERARCHY

In case of any conflict/deviations amongst various documents, the order of precedence shall be as follows

- Statutory Regulations
- FICHTNER / ONGC Hazira specification
- Items in Schedule of quantities
- IS/BS standards
- BHEL's standard specification (with prior approval of Engineer-in-charge).

2.2 Construction Power & Water:

- 2.4.1 Construction power (three phase, 415 V/ 440 V) will be provided at one point near the site at a distance of approx. 500M. **The electricity shall be provided on chargeable basis at the rate of Rs 5.00/- per KWH.** Further distribution shall be arranged by the contractor at his own cost. Contractor shall be responsible for fulfillment of all requirements including statutory requirements in this regard. Contractor shall deploy and install required energy meter, cables, fuses, distribution boards, switchboards, bus bars, earthing arrangements, protection devices and any other installation as specified by statutory authority/act. Contractor shall also obtain

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Chapter – II : SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

- approvals of appropriate authority and pay necessary fees, levies etc towards the clearance of such installations, prior to use. Sufficient power factor compensation equipments like capacitor shall be provided by contractor for reactive loads like welding machines etc. In case of any fine/penalty on account of low power factor, same shall be shared by contractor proportionately according to power consumption.
- 2.4.2 Contractor shall make necessary arrangements for onward distribution of construction power taking due care of surrounding construction activities like movement of cranes & vehicles, civil work, fabrication/construction/assembly/ erection etc and safety of personnel. It may become necessary to relocate some of the installations to facilitate work by other agencies or by him.
- 2.4.3 It shall be the responsibility of the Contractor to provide, maintain the complete installation on the load side of the supply with due regard to the safety requirements at site. All cabling and installations shall comply in all respects with the appropriate statutory requirements. The installation and maintenance of this shall be done by licensed and experienced electrician.
- 2.4.4 While reasonable efforts will be made to ensure continuous electric power supply, interruptions cannot be ruled out and no claim from the Contractor shall be entertained on this account such as idle labor, extension of time etc. The Contractor shall adjust his working shift accordingly and deploy additional manpower, if necessary, so as to achieve the target.
- 2.4.5 Contractor shall be well equipped with back-up power supply arrangement like DG set and diesel operated welding machine etc to tackle situations arising due to failure of supplied power, so as to ensure continuity and completion of critical processes that are underway at the time of power failure or important activities planned in immediate future.
- 2.4.6 BHEL is not responsible for any loss or damage to the Contractor's equipment as a result of variations in voltage or frequency or interruptions in power supply.
- 2.4.7 Contractor to note that till construction power is made available by BHEL/ONGC, contractor shall make his own arrangement like DG set etc. The contractor shall also take the approval / permission of Gujarat State statutory authorities for his DG set installation.

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- 2.4.8 Contractor is advised to maintain the calibrated energy measuring instruments and use their system as efficiently as possible to maintain the HT side input energy meter reading and LT side outgoing energy meter reading to sub-contractors as equal.
- 2.4.9 Any taxes, duties, levies, cess, etc as being charged / levied by ONGC / state statutory authority shall be passed on to the sub-contractors proportionately in the respective calendar month bill.
- 2.4.10 **Construction and Potable water shall be made available on chargeable basis at the rate of Rs. 9.00/- per CuM** at a single at a distance of 500M from the site point within battery limit which is to be further distributed by contractor. No additional payment shall be made on account of this.
- 2.4.11 **Space for office and storage area required for execution of work during the contract period will be on chargeable basis @ Rs. 5/- per Sq. M per Month**

2.3 Reconciliation of steel issued by BHEL (free of cost):

2.5.1 General Notes:

- a. All steel like structural steel, reinforcement bars, MS bars, earthing rod / GI flats, MS gratings, foundations bolts, **except GI Handrails and Rails / Guide Rails** as specified in relevant BOQ and shall be issued free of cost by BHEL for use in the work covered in this contract from BHEL stores/storage yard. The contractor shall collect these materials from BHEL stores/store yard at specified places at his own cost and store the same at the work site or in his stores as per standard norms. Materials issued will be used only for construction of permanent works. **Procurement, supply, fabrication erection and painting of GI Handrails and Rails / Guide Rails are in contractor scope.**
- b. BHEL reserves the right to recover from the contractor any loss arising out of damage/ theft or any other causes or during verification/stacking or at any time under the custody of the contractor.
- c. ~~The contractor shall take care of material issued by BHEL and shall protect the same from damage and weathering. Contractor shall construct waterproof cement store (capacity minimum 250 MT / 5000 Bags) for storing and stacking of cement.~~

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- d. The contractor shall in no case be entitled for any compensation on account of any delay in supply or non-supply thereof for all or any such materials. However in case of non-availability of any specific section(s) which delays the completion of work, such cases shall be recorded separately in monthly planning format (F14) and shall be considered for time extension of contract.
- e. Contractor will have to make his own arrangement at his own cost for procurement of any other materials except as mentioned above, as required for the works and of such quality as acceptable to BHEL.
- f. The contractor shall maintain proper store account for all the BHEL issued materials and shall give **Three (03) copies of monthly-computerized reconciliation statement** of such account showing total receipt, consumption and balance at site to the BHEL. BHEL Engineer's certification for the reconciliation of steel shall be final. The detailed reconciliation (dia. Wise or as required) shall be done **at least once in three months (03) or before submission of final bill which comes earlier.**
- g. Contractor shall also carryout in complete association with BHEL, the material management functions and execution like day-to-day update of materials, issued to contractor, accounting for surplus/scrap material returned etc. These functions shall also be carried out through computerized system utilizing suitable software. Contractor shall engage experienced software personnel to associate on dedicated basis for efficient discharge of the same in time.
- h. The contractor shall solely be responsible for the safety & security of material after it is handed over and issued to contractor by the BHEL.
- i. BHEL issued materials, shall not be under any circumstances whatsoever, and shall be taken out of the project site unless otherwise permitted by BHEL for outside job.
- j.

2.4 HANDLING OF MATERIALS ISSUED BY BHEL:

- 2.6.1 Materials shall be issued by BHEL based on the weightment basis/linear measurements & sectional weight. However on specific request of the contractor **“as a special case to expedite the job”** the consignment received at BHEL stores can directly be diverted to the work site following issuance procedure of BHEL. Such direct issues

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shall be as per the Challan /dispatch document /LR received with the consignment. In such cases, Contractor shall do unloading of materials from trucks/lorry at their own cost.

2.6.2 All materials issued by BHEL shall be stacked, stored above ground level **by use of concrete or wooden sleepers. No materials shall remain on ground at any time.** All concrete or wooden sleepers required for stacking the materials shall be arranged by contractor (successful bidder of this package) at his own cost within the quoted rates. All other equipments like winches, D-Shackles, slings of various sizes, max puller, pulley blocks, jacks, trucks, trailers etc. Required for such handling of steel from BHEL stores/storage yard etc. Shall be arranged by contractor within quoted/accepted rates.

2.6.3 The contractor shall take delivery of the materials from the designated place within the project premises at his own cost and store the same at his stores as per standard norms. Open land for such purposes shall be provided by BHEL on free of cost basis. Temporary barbed wire fencing of the open storage yard is to be done by the contractor and is included under the scope of his work. Contractor shall also remove grass, bushes, trees etc. wherever required off the land provided to him and shall make proper continuous up keeping of the open yard /land by removing grass, bushes trees etc. and same is included under the scope of his work & No extra payment shall be made to the contractor in this regard. The bidder shall make complete arrangement of necessary security personnel's to safeguard all such materials in his custody. Materials issued will be used only for construction of permanent works. The contractor shall take care of material issued by BHEL and shall protect the same from theft, damage and weathering. Excessive rusting of steel in custody of agency/contractor must be avoided. **In case, due to any cause attributable to the contractor, such rusting of steel occur rendering the same unusable, then such quantity of steel shall be recovered from the interim payment at the penal rate specified in the tender.**

2.5 ISSUE OF STEEL.

2.7.1 The steel shall be issued to the contractor on the following basis:

- a. **Structural Steel:** Weighment basis (Unit – MT)
- b. ~~**Reinforcement Steel and Earthing Rod:** Weighment basis (Unit – MT)~~
- c. ~~**MS Gratings:** Weighment Basis (Unit – MT / as received from manufacturer)~~

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2.7.2 All the steel (structural, reinforcement, earthing rod / GI flats, MS gratings, foundation belts) issued by BHEL shall be properly accounted for. The total quantity of steel required for the work will be calculated from the approved Bar Bending schedule, fabrication drawings, approved laps, chairs and lugs etc. The measurement for payment as well as for accounting shall be based on the sectional weights as indicated in the following IS/BS/EN specifications.

Sl. No	Name of Standard	Name of Section
1	IS: 808-1964	Beams, Channels and Angles
2	IS: 1730-1961	Plates, Sheets and Strips / Flats
3	BS4-1: 1993	UB / UC sections
4	IS: 12778/equivalence with EN-19-57	For NPB sections
5	IS: 12778/equivalence with EN-53-62	For HE/WPB sections
6	IS: 1786 or grade -1 of IS432 (Part-I)	Rounds including deformed high yield strength bars.

2.7.3 **In case any such sectional weights are not available in the above documents, the manufacturer recommendation shall be binding.**

2.7.4 The steel issued to the contractor shall be mainly in standard length and sections as received from the supplier. However, the contractor shall be bound to accept the steel in length as available in the project stores, no claims for extra payment because of issue of non-standard length will be entertained.

2.7.5 The contractor shall satisfy himself of the quality and quantity of the materials at the time of taking delivery from BHEL stores. No claims whatsoever will be entertained by BHEL because of quality or quantity after the materials are taken by the contractor from BHEL stores.

2.7.6 The contractor shall submit to BHEL, a statement indicating estimated quantity of **steel** required during a quarter. In addition, the contractor shall also furnish the estimated requirement of steel during a month by the third week of the previous month indicating his requirement.

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2.7.7 Following shall be limit for the maximum quantity of BHEL issue materials that would be with the contractor at any point of time when work is in progress (excluding what has already been incorporated in the works).

SL No.	ISSUE OF MATERIALS	MAX QUANTITY IN CONTRACTORS STORE
1	Structural Steel	ONE MONTH

2.7.8 Bidders shall ensure that no lamination material is taken over by them from BHEL.

2.7.9 The contractor must note that cement and steel required for the contractor's enabling job like store/ site office/batching plant/temporary works etc. shall be arranged by the contractor at his own cost.

2.6 RETURN OF MATERIALS

2.8.1 **Return of Structural Steel including Scrap:** All surplus steel and all wastage materials will be taken back on Weighment basis. Surplus, unused and untampered steel shall be sorted section-wise and returned separately at a place directed by BHEL/Engineer within the project area. Return of such materials will not be entitled to any handling and incidental charges. All wastage / scrap (including melting scrap, wastage, and unusable scrap) shall be promptly returned to the stores and a receipt obtained for material accounting purposes. Return of such material will not be entitled to any transportation and incidental charge. Scrap for reinforcement steel and structural steel shall be returned separately.

2.8.2 Scrap and Serviceable Materials:

- a. All structural steel of length above 2 M except M.S Plate shall be considered as serviceable materials provided the materials is in good and acceptable condition. Structural steel in length less than 2 M shall be treated as scrap.
- b. Plates having both side greater than 1 Meter OR if any side is less than 1 M but greater than 0.5 M and the total area is equal or greater than 2 sq. meter shall be considered as serviceable.

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- c. All pipe measuring 2 M and above in length shall be treated serviceable materials provided they are in good and acceptable condition. Pipe in less than 2 M length shall be treated as Scrap.

2.7 Steel Consumption and wastage:

2.9.1 Reinforcement Steel, MS earthing rod and MS gratings Consumption

The theoretical consumption of various sections and/or diameter of reinforcement and earthing rod steel shall be based on approved construction drawing and bar bending schedule. Weight shall be calculated considering the sectional weights as per Indian standards. No extra cost shall be payable to the contractor for any deviation in weights for the different procedures adopted for issue and calculation of the theoretical consumption including rolling tolerances.

- a. Actual consumption = Issue – Surplus.
- b. Surplus = Un-tampered, unused, uncut quantity of steel including serviceable materials returned by the contractor to BHEL store along with relevant documents.
- c. Wastage = Actual consumption – Theoretical consumption.

~~2.9.2 Reinforcement Steel, MS earthing rod and MS gratings Wastage~~

- ~~a. **Allowable Wastage:** (+3%) of the theoretical consumption shall be considered as allowable wastage.~~

Wastage and scrap shall be as per actual weight basis.		
Sl. no.	Reinforcement steel & MS earthing Rod	Basis of issue & penal recovery
R-1	Theoretical consumption (without considering wastage and scrap or loss)	Free
R-2	Wastage limited to plus THREE percent (+3%) of aforesaid theoretical consumption (R-1) towards allowable wastage.	Free
R-3	Wastage beyond THREE percent (+3%) of the theoretical consumption above (R-1).	Penal rate

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2.9.3 **Structural Steel (Rolled Sections and Plates etc.) Consumption**

The theoretical consumption of various sections shall be based on approved drawings. Weights shall be calculated considering the sectional weights as per Indian standard. No extra shall payable to the contractor for any deviation in weights for the two different procedures adopted for issue and calculation of the theoretical consumption including rolling tolerances.

- a. Actual consumption = Issue – Surplus.
- b. Surplus = Un-tampered, unused, uncut quantity of steel including serviceable materials returned by the contractor to BHEL store along-with relevant documents.
- c. Wastage = Actual consumption – Theoretical consumption.

2.9.4 **Structural Steel Wastage**

- a. **Allowable wastage:** 4% (FOUR percent) of the theoretical consumption shall be considered. Wastage shall be considered as cut pieces and scrap material, measured as per actual weightment basis. Invisible wastage, if any, shall be considered to be included in the specified 4 % allowable wastage.

Sl. No.	Structural steel including SS plate	Basis of issue & penal recovery
S-1	Theoretical consumption (without considering any wastage, scrap or loss) as per specification & drawing.	Free
S-2	Wastage limited to plus four percent (+4%) of the aforesaid theoretical consumption (S-1) towards allowable wastage.	Free
S-3	Wastage beyond four percent (4%) of the aforesaid theoretical consumption (S-1).	Penal rate

2.8 Reconciliation of Materials:

- 2.10.1 The contractor shall submit a reconciliation statement of steel issued to the contractor with each RA Bill.
- 2.10.2 At the time of submission of bills, the contractor shall properly account for the material issued to him as specified herein to the

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satisfaction of BHEL certifying that the balance material are available in the contractor custody at site.

- 2.10.3 At the time of submission of bills, if it is noticed by BHEL that the wastage is high and calls recovery at the penal rate, then, BHEL will proceed for recovery for the excess wastage as per penal recovery rates as specified.
- 2.10.4 The reference drawings for actual material consumption to be used for the purpose of reconciliation shall be drawings prepared by the BHEL and drawings approved by BHEL for fabrication works and such other drawings approved by BHEL. This shall also include the bar bending schedule prepared by the contractor and approved by BHEL.

2.9 Recovery of Materials (Penal Rates):

If wastage exceeds the specified limit, the recovery of excess wastage shall be made from monthly RA Bills as per following penal rates:

Sl. No.	Item	Penal rate (Rs)
P-2	Reinforcement steel and MS earthing rod/GI flat / MS Gratings	55,000 per MT
P-3	Chequered Plates and MS plates	60,000 per MT
P-4	MS Flats, beams, channel, angels etc. (Rolled Sections)	60,000 per MT

2.10 Procurement and Testing of Materials by Contractor:

Material required for the entire job (other than issued by BHEL as explained above) like sand, aggregates, windows, doors, ventilators, rolling shutter, sanitary fixtures, painting & finishing material, electrical fittings and wiring material and all other material required for the completion of entire scope 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. Rates quoted shall be inclusive of all such contingencies and no additional payment shall be made on this account. For this purpose, sample shall be collected at site in presence of **BHEL/ONGC** representative.

2.11 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

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requirement of BHEL/BHEL'S customer and as per field quality plan approved by **BHEL/ONGC**. 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.

2.12 PROCUREMENT OF MATERIALS BY SUCCESSFUL CONTRACTORS AND TESTING:

Material required for the entire job (other than issued by BHEL as explained above) like cement, 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, HSFG/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.

Apart from the above, it shall be the responsibility of contractor to get the testing of any other materials procured from outside laboratory approved by **BHEL / ONGC** to ascertain the quality if insisted by **BHEL/BHEL'S customer**.

Rate quoted shall be inclusive of all such contingencies and no additional payment shall be made on this account. For this purpose, sample shall be collected at site in presence of **BHEL / ONGC** representative.

Bidders are requested to specifically note the following:

THE WORK IS TO BE CARRIED OUT INSIDE THE FACTORY PREMISES OF ONGC. STRINGENT SAFETY NORMS ARE TO BE FOLLOWED INSIDE THE PLANT PREMISES. CONTRACTOR SHALL ABIDE BY THE SAFETY / SECURITY RULES AND REGULATIONS AS PER THE REQUIREMENT OF ONGC / BHEL. CONTRACTOR SHALL OBTAIN INFORMATION ABOUT ALL SAFETY / SECURITY NORMS OF THE LAW/AUTHORITY/FACTORY INSPECTORATE /OWNER/OWNER'S REPRESENTATIVE /BHEL WELL IN ADVANCE. BHEL WILL NOT ADMIT ANY CLAIMS WHATSOEVER ON ACCOUNT OF CONTRACTOR'S NON-FAMILIARIZATION OF SITE SAFETY / SECURITY REGULATIONS.

ALL THE VEHICLES ENTERING THE BATTERY LIMIT OF PLANT PREMISES ARE TO BE EQUIPPED WITH FLAME ARRESTORS/ MUFFLER. DURING EXECUTION OF ANY JOB INSIDE THE ONGC PLANT PREMISES IT IS COMPULSORY FOR ALL AGENCIES TO BE WELL EQUIPPED WITH FIREFIGHTING EQUIPMENTS. SO CONTRACTOR HAS TO ARRANGE ALL FIREFIGHTING EQUIPMENTS WITH TRAINED MANPOWER TO OPERATE

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THE SAME. NO SEPARATE PAYMENT SHALL BE MADE BY BHEL FOR ANY SAFETY / SECURITY ARRANGEMENTS.

DAILY WORK PERMIT WILL REQUIRED FOR STARTING OF WORK AND SAME HAS TO BE OBTAINED FROM ONGC BY CONTRACTOR. MEDICAL REPORT AND POLICE VERIFICATION REPORTS ARE MUST FOR OBTAINING GATE PASSES.

CONTRACTOR SHALL OBSERVE NATIONAL AND LOCAL LAWS, ORDINANCES, RULES AND REGULATIONS PERTAINING TO THE WORKS AND SHALL BE RESPONSIBLE FOR EXTRA COSTS ARISING FROM VIOLATIONS OF SAME.

*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 construction manager BHEL site office ONGC, HAZIRA. Name, address & contact point of site is as below:*

Shri Satish Kumar BHEL Site Office: 1x51 MW ONGC Hazira Surat, Gujarat Email: satishk@bhelswr.co.in Ph No: +919979844610	Shri R. P. Das BHEL PSWR Nagpur Email: rpdas@bhelswr.co.in Ph No: +918806007760
Shri Tarak Nath Choudhury BHEL Site Office: 1x51 MW ONGC Hazira Surat, Gujarat Email: tarak@bhelswr.co.in Ph No: +918980048999	Shri Chandan Behera BHEL PSWR Nagpur Email: chandan@bhelswr.co.in Ph No: +917720039488

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Chapter – III: Facilities in the scope of contractor/BHEL (SCOPE MATRIX)

Sl. No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1	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. Chargeable @ Rs. 5/- per Sq. M per month.
b	Open space for storage (as per availability)	Yes		Location will be finalized after joint survey with owner. Chargeable @ Rs. 5/- per Sq. M per month.
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
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			

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

Sl. No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
a	Open space for labour colony (as per availability)		Yes	Contractor has to make his own arrangements for space, shelter and transportation of labours as per their requirement.
b	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	
3.2.0	EL ECTRICITY			
3.2.1	Electricity for construction purposes 3 Phase 415/440 V (To be specified whether chargeable or free)			
a	Single point source	Yes		Shall be provided by BHEL/ONGC Chargeable @ Rs. 5.00/KWH cost. Pl. refer clause no. 2.0.2 in this regard.
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.			
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	

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

Sl. No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
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		Shall be provided by BHEL/ONGC which shall be chargeable at the rate of Rs. 9.00/ CuM..
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.2	Water supply for bidder's office, stores, canteen etc			
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	Water supply for Living Purpose			Contractor has to make his own arrangement.
a	Making the water available at single point		Yes	

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

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	
3.4.0	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	Contractor has to make his own arrangement.
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	Contractor has to make his own arrangement.
c	Providing the necessary consumables like bulbs, switches, etc during the course of project work		Yes	Contractor has to make his own arrangement.
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	
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	

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

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:			
a	Providing the erection/constructions drawings for all the equipments covered under this scope	Yes		For Details Pl refer Chapter-IX-
b	Drawings for construction methods	Yes	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 (SCOPE MATRIX)

Sl. No	Description PART II 3.9.0 ERECTION FACILITIES	Scope / to be taken care by		Remarks
		BHEL	Bidder	
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			NOT APPLICABLE

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

4.1 TOOL & PLANTS

Nos of T&Ps to be deployed at site shall be decided with respect to monthly plan and review formats (F 14) based on site requirement. Below given nos are tentative for planning purposes by the bidder.

(A) T&Ps for Structural Works:

SL. No.	DESCRIPTION OF T&P	QUANTITY
1.	18 T Crawler crane	As per requirement
2.	Hydra (8 / 10 T Cap.)	02 Nos.
3.	Radial drill machine	03 Nos.
4.	Welding Rectifier	03 Nos.
5.	Welding m/c	05 Nos.
6.	Grinding machine	05 Nos.
7.	Portable diesel welding M/C	01 No.
8.	Hand cutting set	06 Nos.
9.	Hydraulic jack of different capacity	08 Nos.
10.	Stationery oven	02 Nos.
11.	Portable oven	04 Nos.
12.	DG set of 250/160KVA	As per requirement
13.	15t/20t tractor & trailer	01 No.
14.	Air compressor of required capacity for shot blasting	01 No.
15.	Ultrasonography testing M/c for str. Steel	As per requirement
16.	Radiography sources	As per requirement
17.	Fabrication Bed	02 Nos.

4.2 MEASURING AND MONITORING DEVICES (MMD):

TO BE FINALIZED AT SITE AS PER REQUIREMENT.

NOTE:

This above list is only indicative and neither exhaustive nor limiting. Quantities indicated above are only the minimum required. Contractor shall deploy all necessary T&P to meet the schedules & as prescribed by BHEL engineer and required for completion of work.

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Chapter – V: T&Ps and MMEs to be deployed by BHEL on sharing basis

5.1 CRANES:

BHEL will provide the following listed crane on sharing basis for the purpose indicated against the respective crane:

SL No.	DESCRIPTION & CAPACITY	QUANTITY	PURPOSE
1.	75 T CAPACITY CRAWLER CRANE	1	Handling at erection site and Erection at higher elevations and heavier objects of structures of power house (TG Hall), De-aerator, Switchgear Building etc.

Bidders shall note that allotment (sharing arrangement) of the above Crane will be done by BHEL with due consideration of priority of the project activity. Contractor shall have to submit to BHEL his requirement of crane well in advance to ensure smooth execution of work.

Contractor shall provide fuel, operating crew, preventive/routine maintenance during his work as a part of the scope. In case BHEL provides the cranes through BHEL's hiring agencies, the aforesaid responsibilities EXCEPT THE FUEL (which will remain in contractor's scope) will be arranged by the hiring agency and BHEL will recover Rs 10000/- (Ten thousand only) per month (30 days x 8 Hrs per day) on pro-rata basis or part thereof towards this services. Contractors shall also provide necessary manpower assistance and T & P for assembly & dismantling of Boom, Jib and any other attachment of the cranes as deemed necessary for the project work. Contractor shall lay necessary sleeper beds, backfilling of approaches wherever necessary for safe movement of the cranes as directed by BHEL.

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Chapter – VI: Time Schedule

6.1 TIME SCHEDULE & MOBILIZATION

6.1.1 INITIAL MOBILIZATION AND TENTATIVE SCHEDULE

After Issue of LOA (through Fax/Courier/ email) the Contractor shall report to the construction manager /site incharge of BHEL at site within one week and make a MOM (Minutes of meeting) for mobilization of manpower, T&Ps, date of start of work and detailed completion program.

The contractor has to subsequently augment his resources in such a manner that the entire works are completed within the contract period of **10 (Ten) months** in a manner required by BHEL to match with the project schedule.

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 ENGINEER AT SITE TO UNDERTAKE WORKS CONCURRENTLY IN ALL POSSIBLE FRONTS AS MADE AVAILABLE TO CONTRACTOR.

6.1.3 CONTRACTOR SHALL NOTE THAT INDIVIDUAL MILESTONES AS ABOVE SHALL BE ACHIEVED AS PER SCHEDULE FURNISHED ABOVE. THE DATE OF FIRST FABRICATION OF STRUSTURAL ITEM WILL BE RECKONED AS DATE OF START OF WORKS FOR THIS CONTRACT.

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Chapter – VII: TERMS OF PAYMENT

7.1 TERMS OF PAYMENT

- 7.1.1 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.
- 7.1.2 General conditions of contract shall be referred to as regards mode of payment, and measurement of the work completed.
- 7.1.3 Release of payment in each running bill will be restricted to **95% of the value of work admitted**, as per the percentage break-up for the stage of work completion stipulated vide clauses hereinafter.

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.

- 7.1.4 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.
- 7.1.5 **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.

7.1.6 Progressive Payment For Civil

Progressive payment/final payment: The payments for works under the scope of this contract shall be as per clause no 2.6; clause 2.22;

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Chapter – VII: TERMS OF PAYMENT

clause 2.23 of General Conditions of Contract and Chapter X of Special Conditions of Contract. Few points of consideration are as below:

- The measurements sheets of work done in a month shall be submitted in triplicate duly agreed/signed by BHEL Engineer. The contractor shall extend all necessary assistance for verification of measurements of works without any extra cost.
- The RA bill payments are interim payments and shall be submitted in prescribed formats.
- Recoveries on account of electricity, water, statutory deductions etc shall be made as per terms of contract.
- 95% of item rate on pro rata basis shall be made monthly as per progress of work. BHEL decision in this regard shall be final and binding on the contractor.
- Final bill shall be submitted after completion of works and upon material reconciliation along with all prescribed formats.

7.1.7 Extra/Additional Items of Work:-

The works shall be regulated as per clause no 2.15 and clause no 2.16 of General Conditions of Contract.

7.1.8 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.

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Chapter-VIII: Taxes and Other Duties

8.0 TAXES, DUTIES, LEVIES (Consolidated Rev 05 dated 13/08/2015)

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 (presently 14 %) 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.

Wherever, more than one route/option are available for discharge of service tax liability under a particular service, (e.g. "works contract Service"), contractor shall obtain prior written consent from BHEL site 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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

first RA bill. Contractor will submit all the details of VAT/CST paid for the contract in the prescribed format of the respective state VAT laws. Also, the contractor will issue the tax Invoices to BHEL as per the Tax laws of 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 including new levies/taxes/duty if any)~~

~~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 - For All types of works excepting works covered under sl no 8.2

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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Taxes and Other Duties

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.

8.4 BOCW Cess - For All types of works excepting works covered under sl no 8.2

The quoted rates shall be exclusive of the BOCW Cess which, if applicable, shall be paid extra by BHEL against Documentary evidence. However, the applicability of the BOCW Cess shall be got confirmed from BHEL in writing, before remitting such Cess/tax.

8.5 GST: For All types of works excepting works covered under sl no 8.2

As and when GST becomes applicable to this contract, the net differential (negative or positive) financial liability of the bidder to the Authorities (as compared to such liability prior to applicability of GST), if any, shall be to the account of BHEL. For this purpose, all available options under the GST shall be explored, and the decision of BHEL in this regard shall be final and binding on the bidder.

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CHAPTER IX –DRAWINGS

TECHNICAL SPECIFICATIONS & DRAWINGS FOR INFORMATION

SECTION – A: LIST OF TECHNICAL SPECIFICATIONS

SL. NO.	DESCRIPTION	SPECIFICATION NUMBER	RE V	PA GE S
5	FABRICATION & STRUCTURAL STEEL WORK.	PEDC/STD.SPEC/005	0	25
6	ERECTION OF STRUCTURAL STEEL WORK.	PEDC/STD.SPEC/006	0	15
7	MISCELLANEOUS STEEL WORK.	PEDC/STD.SPEC/007	0	5
8	MISCELLANEOUS METAL.	PEDC/STD.SPEC/008	0	6
9	PAINTING ON STRUCTURAL STEEL.	PEDC/STD.SPEC/009	0	5
10	ALL RELIVANT FICHTNER SPEC & DRAWINGS.			

TECHNICAL CONDITIONS OF CONTRACT (TCC)

CHAPTER X –APPENDIX

10.1 Tentative Manpower Requirement

1. Project manager – with adequate experience in Industrial Foundation, Building & Structural Works, Power Plant Civil & Structural Works - 1 Head
2. Experienced Civil Engineers – 5 Heads
3. Experienced Foreman / Supervisors - 5 Heads
4. Planning & Billing Engineer – 01 Heads
5. Stores, Gate Pass – 02 Heads
6. Accounts & Administration- 01 No.
7. Quality Control Engineer – 01 Head
8. Safety Engineer – 01 No.
9. Surveyor – 02 Head capable to handle total station
10. Operator, Licensed Electrician, Mechanic - As per requirement
11. Experienced Carpenters & Helpers – lot for similar nature of work
12. Experienced Bar Benders & Helpers – lot for similar nature of work
13. Security Guards (Round The Clock) – As per requirement

TECHNICAL CONDITIONS OF CONTRACT (TCC)
CHAPTER XI –BILL OF QUANTITIES AND % WEIGHTAGE OF
INDIVIDUAL ITEMS

This Chapter consists of Part B of Volume II Price bid:

1. PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price (as quoted by the bidder in Part C of Vol-II-Price Bid Specification)

Note: This Chapter-XI is uploaded as file titled '**Chapter XI BOQ and Percentage Weightage'-1572**