

TECHNICAL CONDITIONS OF CONTRACT

TENDER NO. BHEL/ NR /SCT/ RAMGARH-IV/ HRSG & MH/ 915

FOR

**Erection, Testing, Commissioning and Trial Operation of 1 x 182 TPH
HRSG (including 70 M high steel chimney) with related Auxiliaries
and Material Handling Combined Cycle Power Plant of
M/s Rajasthan Rajya Vidyut Utpadan Ltd.
(RRVUNL) at RAMGARH, Rajasthan**

PART – I OF TCC



**Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northren Region,
Plot No. 25 , Sector - 16A ,
Distt.Gautam Budh Nagar, NOIDA – 201 301 (INDIA)**

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TENDER SPECIFICATION

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PART I – TECHNICAL BID



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)



ISO 9001, ISO 14001 and
OHSAS 18001 certified
company
SubContracts Deptt.

Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)
Phone: 0091-0120-2416273 / 2416296
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TENDER NO. BHEL/ NR/ SCT/ RAMGARH-IV/ HRSG&MH/ 915

IMPORTANT NOTE

PURCHASER OF THIS TENDER DOCUMENT IS ADVISED TO CHECK AND ENSURE COMPLETION OF ALL PAGES OF TENDER DOCUMENT AND REPORT ANY DISCREPANCY TIMELY FOR CORRECTIVE ACTION, IF ANY, TO THE ISSUING AUTHORITY BEFORE THE BIDS ARE SUBMITTED. ORIGINAL COPY OF TENDER DOCUMENT COMPLETE IN ALL RESPECTS MUST BE SUBMITTED BACK AS PART OF THE BID WITHOUT WHICH THE SAME IS LIABLE TO BE REJECTED BY BHEL.

THIS TENDER SPECIFICATION ISSUED TO:

M/S-----

Rev 01
1st Jun
2012

NOTICE INVITING TENDER

(Document No PS:MSX:NIT)

Bharat Heavy Electricals Limited



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

To

Dear Sir/Madam

Sub : NOTICE INVITING TENDER

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

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	BHEL/ NR /SCT/ RAMGARH-IV/ HRSG & MH/ 915
ii	Broad Scope of job	ETC and Trial Operation of 1 x 182 TPH HRSG (including 70 M high steel chimney) with related Auxiliaries and Material Handling Combined Cycle Power Plant of M/s Rajasthan Rajya Vidyut Utpadan Ltd. (RRVUNL) at RAMGARH, Rajasthan.
iii	DETAILS OF TENDER DOCUMENT	
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i> Applicable
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i> Applicable
c	Volume-IC	<i>General Conditions of Contract (GCC)</i> Applicable
d	Volume-ID	<i>Forms and Procedures</i> Applicable
e	Volume-II	<i>Price Schedule (Absolute value).</i> Applicable
iv	Issue of Tender Documents	1. <u>Sale from BHEL PS Regional office at :</u> Start: 04.04.2013, Time: 10.00 HRS. (IST) Closes: 25.04.2013 , Time : 12.00 HRS (IST) 2. From BHEL website (www.bhel.com) Tender documents will be available for downloading from website till due date of submission Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	Date: 25.04.2013, Time: 15.00 HRS. (IST) Place : NOIDA(UP)--INDIA Applicable
vi	OPENING OF TENDER	Date: 25.04.2013 <i>(within 2 hours of the latest due date and time of offer submission).</i> Notes: <i>(1) In case the due date of opening of tender becomes a non-working day, then the due date &</i> Applicable

		<i>time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may depute representative to witness the opening of tender</i>	
vii	EMD AMOUNT	Rs 2,00,000/-.	Applicable
viii	COST OF TENDER	Rs 2000/-.	Applicable/Not Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	Date: 20.04.2013 Along with soft version also, addressing to undersigned & to others as per contact address given below	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)		Applicable/ Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)		Applicable/ Not-Applicable
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications → View Corrigendums) and not in the newspapers . Bidders to keep themselves updated with all such information	

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

Sl no	Description	Remarks
	Part-I A	
	ENVELOPE – I superscribed 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.	
ii.	Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above. Note: - 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. - BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding. - In case of acceptance of the deviations, appropriate loading shall be done by BHEL - In case of unacceptable deviations, BHEL reserves the right to reject the tender	
iii.	Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria. 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.	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	If Applicable
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	Volume – I A : <u>Technical</u> Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	
ix.	Volume – I B : Special Conditions of Contract (SCC)	
x.	Volume – I C : General Conditions of Contract (GCC)	
xi.	Volume – I D : Forms & Procedures	
xii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii.	Any other details preferred by bidder with proper indexing.	

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

i.	1. Earnest Money Deposit (EMD) in the form as indicated in this Tender OR Documentary evidence for 'One Time EMD' with the Power Sector Region of BHEL floating the Tender 2. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)	
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	PART-II	
	PRICE BID consisting of the following shall be enclosed	
	ENVELOPE-III superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING	
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I	
ii	Volume II – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)	

	OUTER COVER	
	ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING:	
i	○ Envelopes I ○ Envelopes II ○ Envelopes III	

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

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

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

9.0 **Assessment of Capacity of Bidders:**

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

- I. **LOAD:** Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The 'Load' is the sum of

the unit wise identified packages (refer Table-1) for contracts with BHEL Regions. The cut off month for reckoning 'Load' shall be the month, two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(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.

ii). Weightage "A" assigned to bidders based on Total number of Packages 'P':

- If 'P' = 0-9, : "A" will be equal to '4'
- If 'P' = 10-18, : "A" will be equal to '3'
- If 'P' = 19-36, : "A" will be equal to '2'
- If 'P' = 37-60, : "A" will be equal to '1'
- If 'P' is above 60 : "A" will be equal to '0'

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

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

i). Calculation of Overall 'Performance Rating' for 'similar Package/Packages' for the tendered scope under execution at Power Sector Regions:

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:

- $P_1, P_2, P_3, P_4, P_5, \dots, P_N$ etc be the packages (**under execution/** executed during the 'Period of Assessment' in all Regions) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions = P_T (i.e $P_T = P_1 + P_2 + P_3 + P_4 + \dots P_N$)
- 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 $T_T = T_1 + T_2 + T_3 + T_4 + \dots T_N$)
- 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**

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

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

- ii) Weightage "B" assigned to bidders based on Overall Performance Rating (R_{BHEL}) at Power Sector Regions, for the respective Package:

- a) If $R_{BHEL} \geq 80\%$, "B" will be equal to '6'
- b) If $R_{BHEL} \geq 75\% < 80\%$, "B" will be equal to '5'
- c) If $R_{BHEL} \geq 70\% < 75\%$, "B" will be equal to '4'
- d) If $R_{BHEL} \geq 65\% < 70\%$, "B" will be equal to '3'
- e) If $R_{BHEL} \geq 60\% < 65\%$, "B" will be equal to '2'
- f) If $R_{BHEL} < 60\%$, "B" will be equal to '0'

III. 'Assessment of Capacity of Bidder' to be Qualified for the tender:

Shall be based on the sum of the weightages obtained in 'LOAD' (A) and 'PERFORMANCE' (B) as below:

- a) If the sum (A+B) is 6 or above for each of the applicable Package, then the Bidder is considered 'Qualified' for the tender
- b) If the sum (A+B) is less than 6 for any of the applicable Package, then the Bidder is considered 'NOT Qualified' for the tender

IV. Explanatory note:

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

Table-1

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

- c) Vendors who are first timers to any BHEL Region, may be considered subject to satisfying other tender conditions. Eligibility of the party for the next tender of any package in that Region, shall be

subject to the bidder satisfying the 'Assessment of Capacity of Bidder' for a period of first **nine months** after commencement of work or contract duration whatever is lesser.

In case the first timer is executing any other packages in any BHEL Region, then the performance evaluation will be based on the data available for the other packages though not similar, for the 'Period of assessment', for the purpose of 'Assessment of Capacity of Bidder'

- d) Vendors who are not first timers and who have not been executing any package or packages similar to the packages under the tender in the 'Period of assessment', shall be considered qualified subject to them satisfying all other tender conditions.
- e) 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', 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.
- f) 'Under execution' shall mean works in progress as per the following:
 - i. upto Boiler Steam Blowing in case of Steam Generator and Auxilliaries
 - ii. upto Synchronisation in case of all other works excepting sl no (i) and (iii)
 - iii. upto execution of at least 75% of anticipated contract value (unit wise), in case of Enabling works or Civil & Structures.

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.

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

- 10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.
- 11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 12.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.
- 13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.

- 14.0 Unless specifically mentioned otherwise, bidder's quoted price shall be deemed to be in compliance with tender including PBD.
- 15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**
- 16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 19.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .
- However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.
- 20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0 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.
- 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.
- 23.12 In case the prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.
- 23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of two similar works with the same consortium partner or partners under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'stand alone' bidder for similar works, subject to certification from BHEL about the active involvement of the Prime Bidder for satisfactory execution of the works.
- 23.14 The consortium partner shall submit SD equivalent to 2% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value. In case there are two consortium partners, then each partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value.
- 23.15 In case of a Technical Tie up, all the clauses applicable for the Consortium partner shall be applicable for the Technical Tie up partner also.
- 24.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self-certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
- 25.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 26.0 Order of Precedence

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

- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
- b. Notice Inviting Tender (NIT)
- c. Price Bid
- d. Technical Conditions of Contract (TCC)—Volume-1A

- e. Special Conditions of Contract (SCC) —Volume-1B
- f. General Conditions of Contract (GCC) —Volume-1C
- g. Forms and Procedures —Volume-1D

for BHARAT HEAVY ELECTRICALS LTD

(SCT)

Enclosure

- I. Annexure-1 Pre-Qualifying criteria
- II. Annexure-2 Check List.
- III. Annexure-3 General Terms And Conditions Of Reverse Auction (Ra)
- IV. Annexure-4 RA Details
- V. Other Tender documents as per this NIT.

ANNEXURE - 1

PRE QUALIFYING REQUIREMENTS

JOB	ETC and Trial Operation of 1 x 182 TPH HRSG (including 70 M high steel chimney) with related Aux. and Material Handling Combined Cycle Power Plant of M/s Rajasthan Rajya Vidyut Utpadan Ltd. (RRVUNL) at RAMGARH, Rajasthan
TENDER NO.	BHEL/ NR/ SCT/ RAMGARH-IV/ HRSG & MH/ 915

Sl. No.	Pre-Qualification Criteria	Name and Description of qualifying criteria
A	Submission of Integrity Pact duly signed	Not Applicable
B	<u>Technical</u> Bidder who wish to participate should have executed in last 7 years. 1) At least one Boiler (Consisting of Pressure parts, ESP and Power Cycle piping of the same unit) of a unit of rating 100 TPH or above OR 2) One job of Steam Generator of rating of 100 TPH or above comprising of Pressure Parts (200 MT)/ Power Cycle Piping (IBR) of 200 MT and Structures of 400 MT with his own T&Ps and consumables OR 3) Two jobs of Renovation and modernisation or Capital Overhaul of a Boiler of rating 200 TPH or higher, each of value Rs. 150 lacs or above under direct order of BHEL. Note:- i) Boiler means HRSG or WHRB or any other type of Steam Generator. ii) Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass, LP Bypass Lines iii) For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5 TPH where ever rating of HRSG/ Boiler is mentioned in MW.	Applicable
C C-1	<u>Financial TURNOVER</u> Bidders must have achieved an average annual financial turnover (Audited) of Rs 2.22 Crore or more over last three Financial Years (FY) i.e 2009-2010, 2010-2011 & 2011-2012.	Applicable

C-2	<u>NETWORTH</u> Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive.	Applicable
C-3	<u>PROFIT</u> Bidder must have earned cash profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'C-1' above based on latest Audited Accounts.	Applicable
D	Assessment of Capacity of Bidder to execute the work as per sl. no. 9 of NIT.	Applicable
E	<u>Price Bid Opening</u> Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to D.	Applicable
F	Consortium criteria	Not Applicable

Explanatory Notes for QR'B':-

- Executed means the Vendor should have achieved the criteria specified in the Common QRs even if the Contract has not been completed or closed. Further Executed shall be defined as:-
 - Boiler Light Up** in respect of Boiler & Aux and ESP
 - Safety valve floating** in respect of HRSG
- If the Qualifying work is executed in the 7 years period as specified above, even if it has been started earlier, the same will also be considered meeting the qualifying requirements.

ANNEXURE - 2

CHECK LIST

NOTE:- Tenderers are required to fill in the following details and no column should be left blank

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

16	Bank Account Details for E-Payment	Applicable/Not Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable/Not Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/Not Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable/Not Applicable	YES/NO
20	Analysis of Unit rates	Applicable/Not Applicable	YES/NO

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

DATE :
SIGNATORY

AUTHORISED
(With Name, Designation and Company seal)

ANNEXURE - 3

GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION (RA)

Against this enquiry for the subject item / system with detailed scope of supply as per our tender specification, BHEL-PSNR, NOIDA may resort to “REVERSE AUCTION PROCEDURE” i.e. ONLINE BIDDING on INTERNET.

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on Internet.
3. In case BHEL decides to conduct reverse auction, BHEL's service provider shall contact the vendor directly and impart them the training.
4. Business rules like event date, time, start price, bid decrement, extensions, etc. also will be communicated through service provider for compliance.
5. Vendors have to fax the compliance form in the prescribed (provided by service provider) before start of Reverse auction. Without this the vendor will not be eligible to participate in the event.
6. Total Price quoted shall be inclusive of all taxes except service tax in line with the NIT conditions for the subject work in Indian Rupees (INR), which is to be worked out as per the BOQ (Rate Schedule) given in tender enquiry and subsequent changes made, if any. EXCEL Sheet shall be provided, if applicable.
7. Reverse auction will be conducted on schedule date & time.
8. At the end of reverse auction event, the lowest bidder value will be known on the network.
9. The lowest bidder has to fax the duly signed filled-in prescribed format as provided on case-to-case basis to BHEL through service provider after completion of event on the same day preferably.
10. Any variation between the on-line bid value and signed document will be considered as sabotaging the tender process and may invite disqualification of vender to conduct business with BHEL as per prevailing procedure.
11. In case BHEL decides not to go for Reverse auction procedure for this tender enquiry, the price bids and price impacts, if any already submitted and available with BHEL shall be opened as per BHEL standard practice.

ANNEXURE – 4

**Authorization of representative who will participate in the on- line
Reverse Auction Process;**

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

TECHNICAL CONDITIONS OF CONTRACT

TENDER NO. BHEL/ NR /SCT/ RAMGARH-IV/ HRSG & MH/ 915

FOR

**Erection, Testing, Commissioning and Trial Operation of 1 x 182 TPH
HRSG (including 70 M high steel chimney) with related Auxiliaries
and Material Handling Combined Cycle Power Plant of
M/s Rajasthan Rajya Vidyut Utpadan Ltd.
(RRVUNL) at RAMGARH, Rajasthan**

PART – I OF TCC



**Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northren Region,
Plot No. 25 , Sector - 16A ,
Distt.Gautam Budh Nagar, NOIDA – 201 301 (INDIA)**

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Chapter - I: Project Information

Name of the Owner : Rajasthan Vidyut Utpadan Nigam Limited (RRVUNL)

Project Name : Ramgarh Stage IV 160 MW CCPP

Address : Ramgarh Stage IV

New Installation : 1 x 160 MW

Nearest Railway station : Jaisalmer (Approx. 60 Km from site)
(No Railway siding available at site)

Nearest Airport : Jaisalmer – 60 Kms

Nearest Road : Jaisalmer Railway Road

Nearest City : Jaisalmer Railway Station (60Kms from site)

Highest Temperature : 52°C

Lowest Temperature : 2°C

Average Altitude : 160 Mtrs

Seismic Zone : II

Max. Wind Velocity : 47 m/s

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Chapter -II: SCOPE OF WORKS

TECHNICAL CONDITIONS OF CONTRACT

2.0 SCOPE OF WORK

BHEL has been entrusted the work of– Design, Engineering, Manufacturing, Fabrication, and supply of Main plant and equipment for 160 MW RAMGARH CCPP at Combined Cycle Power Plant of M/s Rajasthan Rajya Vidyut Utpadan Ltd (RRVUNL) at RAMGARH, Rajasthan comprising of 110 MW Gas Turbine Generator set, 50 MW steam generator set, Heat Recovery Steam Generator (HRSG) & associated auxiliaries and Power cycle Piping, valves including C&I etc.

SCOPE OF WORK IN THIS TENDER

- A) Material handling work for the entire plant packages: Receiving, Unloading, verification, properly stacking, Storage at site, their preservation, safe keeping, watch & ward, record-keeping and issuing, collection/ delivery of materials from various locations from transporters delivery points etc and as specified in the tender specification.
- B) This tender Scope of work also covers Erection, testing, commissioning and trial operation of 1 x 182 TPH HRSG (including 70 M high steel chimney) with related auxiliaries for HRSG: Checking, dressing, chipping, and levelling of foundations, pre-assembly, erection, alignment, welding, radiography and other non-destructive testing, heat treatment, touch-up and finish painting including supply of paints etc., hydraulic testing, air leak test, chemical cleaning, alkali boil out, steam blowing and safety valve floating including erection & dismantling of all temporary piping, valves, pumps, tanks etc. required for above operations and other commissioning activities including post commissioning, Unit trial operation and handing over of above as per specifications/ drawings/ data sheets.

NOTES:

Base date for PVC,

- a) Material Handling Part (A) - as per clause no. 2.17.5 of GCC
- b) HRSG Erection Part (B) - 01.12.2013

2.1 Part (A) Material Handling for entire 160 MW GTG package

- 2.1.1** Scope of Material Handling for entire 160 MW Combined Cycle Power Plant: The details of major items to be handled at site are as per Annexure-1(A) and Annexure-1(B). Total tentative tonnage is about 7000 MT. But the contractor is required to handle actual tonnage (irrespective of any variation plus or minus) which may be necessary to complete the work in all respects as detailed in tender specifications, for which payments shall be released on finally accepted tonnage rates.

2.1.2 MAJOR PACKAGES TO BE HANDLED ARE AS UNDER:

Entire material being supplied by BHEL or its vendors for the project under the scope of various packages awarded to BHEL for Ramgarh CCPP shall be under the scope of material handling work however, some major packages to be handled are as under:

- HRSG and its auxiliaries
- Gas Turbine, Steam Turbine, turbo-generator and their auxiliaries
- HRSG controls & instrumentation and accessories.
- GTG controls and instrumentation and accessories.
- Electrical and C&I package

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- Power cycle and TG cycle piping, tanks, vessels etc.
 - Thermal insulation package
 - Other BHEL supplied (Manufactured /Bought out items) packages.
 - Construction & Testing equipment of BHEL and other items received from other sites/locations.
 - Oil, gases, chemicals etc
- 2.1.3** The intent of specification is to provide material handling and materials management services according to the most modern and proven techniques and codes. The omission of specific reference to any method, equipment or materials necessary for proper and efficient unloading, transportation, verification, stacking & preservation etc shall not relieve the contractor of the responsibility of providing such facilities to complete the work without any extra compensation.
- 2.1.4** The work shall be executed under usual conditions not affecting major thermal power projects in an existing power plant and in conjunction with numerous other operations at site. The contractor and his personnel shall cooperate with personnel of customer's contractor, coordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.
- 2.1.5** The contractor has to handle whatever actual materials are dispatched for the project irrespective of any variations and payments shall be released for the actual gross tonnage handled. Though most of the material is being planned to be made available at site well in time for erection requiring proper handling, verification and storage, however certain items may be delayed, requiring direct delivery at site for erection. In such cases where material is received, unloaded and verified by erection agency, contractor for subject work will not be eligible for any payment. Besides above, BHEL, entirely at its discretion may get unloaded / handled items like, BOILER DRUM, Generator, Generator stator, Generator rotor, any other materials. Quantities mentioned in the rate schedules are approximate only and liable for variation due to change of scope of work / variation in schedule of quantities, changes in design etc.
- 2.1.6** The weights and dimensions of material shown are approximate and are liable to vary. No increase in quoted / accepted rates /prices shall be allowed due to change in weights and dimensions of the equipment / materials.
- 2.1.7** The HP & LP Boiler Drums will be transported to site by road. It is to be unloaded at the site near boiler area as directed by BHEL.
- 2.1.8** The Generator Stator shall be transported to site by road and are to be unloaded near respective area as directed by BHEL.
- 2.1.9** Some consignments mainly smalls / parcels may also be received at Ramgarh town. The contractor shall have to handle such consignments also as per rates quoted / accepted.
- 2.1.10** The contractor shall perform all required services for the materials handling which may not be specified herein but nevertheless required for the completion of work within quoted rates. All necessary certificates and licenses required to carry out this work are to be arranged by the contractor expeditiously.
- 2.1.11** Receipt of materials dispatched by road transport on door delivery basis at the bhel stores and unloading thereof.
- 2.1.12** Collection of materials dispatched by road transport/ rail on godown delivery basis from transporters'/railway godowns, loading at transporters/ railway godown, local transport up to bhel stores/ storage yard and unloading thereof.
- 2.1.13** Preliminary verification of materials at the time of unloading from road transport vehicle or while receiving consignments from railway/ trasporters'godown - as the case may be, reporting immediately the discrepancies like damages and shortages noticed.

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- 2.1.14** Detailed verification of materials with reference to packing list / Loading advise slip etc., after unpacking of boxes & crates; repacking where called for, after detailed verification; preparation of receipt inspection reports etc. shall be carried out within the quoted rate within 30 days of the unloading. If the verification is not carried out within 30 days for reasons attributable to the contractor, then BHEL is having right to carry out the verification at the risk and cost of the contractor.
- 2.1.15** Stacking and storing at bhel open storage yard/ covered stores/ closed & semiclosed sheds, submission of stacking/storing records.
- 2.1.16** Preservation of the materials in accordance with BHEL's preservation manual and/or as per BHEL's instructions.
- 2.1.17** General cleaning, grass cutting and upkeep of storage yard, covered and semi closed stores sheds within the quoted rates for unloading, verification and stacking.
- 2.1.18** Rehandling and restacking of materials as and when called for by BHEL. This also includes excess/redundant/ scrap materials returned to stores by BHEL's construction & erection contractors.
- 2.1.19** Handling and loading of outgoing materials those are to be sent to other destinations.
- 2.1.20** Handling of materials pertaining to bunker bay structure
- 2.1.21** Handling of other equipment like cranes (in dismantled condition), tools, furnitures etc. being brought to/sent from site to facilitate site activities as per rate of clause 2.1 of rate schedule.
- 2.1.22** The contractor is to use his own equipment like suitable cranes / trucks / tractor trailers and other material handling equipment including all necessary small / major T&Ps required for the above work for 1X160 MW RAMGARH STAGE IV at RAMGARH (RAJASTHAN)
- 2.1.23** It will be responsibility of the contractor to keep in touch with M/s RVUNL Ltd. and BHEL site to find out the arrival of consignments, and release of truck/trailers after unloading.
- 2.1.24** Unloading of heavy or OD consignments like but not limited to HP & LP Boiler Drums, Generator Stator) directly from trailers by suitable crane or by jack and sleeper method (all to be arranged by the contractor), including levelling of the unloading area and attendant work at the location decided by BHEL engineer shall be carried out by the contractor within the quoted rate. All T&Ps including hydraulic jacks and wooden sleepers required for sleeper/jack method of unloading shall be arranged by the contractor.
- 2.1.25** BHEL will provide free of cost all necessary preservatives, paints, thinners, rust preventives, grease, lubricants and end caps to contractor for preservation of components. All tools & tackles and other consumables required for preservation of components including supervision shall however be provided by contractor at his own cost. Preservation of components includes applying preservatives, paints, rust preventives, greasing of threaded portions, fixing of end caps in position for pressure parts, repainting of work order / DU numbers, component codes etc. After preservation wherever necessary, components will be stacked properly as per original stacking for which no additional payment shall be made.
- 2.1.26** After the stacking/verification, the materials may need to be restacked / shifted within the storage area as per the instructions of the Engineer. The material after verification need to be shifted and restacked to different location with the help of trailer, crane as per the instruction of BHEL Engineer. This also includes excess/redundant/ scrap materials returned to stores by BHEL's construction & erection contractors.

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- 2.1.27** It shall be the responsibility of the contractor to keep in touch with Engineer at site and find out arrival of road consignments. The Contractor shall collect all the parcel way bills / lorry waybills from BHEL site office either personally or through an authorized representative. The contractor or his authorized representative shall, for the purpose, visit the said office every day and collect available GR, RR, LWB, and PWB etc. While collecting the GR, RR, LWB, PWB, contractor or his authorized representative will sign the register maintained for the purpose indicating date and time of collection. The contractor shall keep in touch with carriers and arrange to effect delivery of consignments immediately on their receipts. Delay may cause deterioration of goods apart from attracting demurrage charges. Contractor shall also maintain a register indicating date of RR, LWB, PWB, date of collection of the materials from road transport agencies / Lorries and date of stacking them at storage yard of BHEL.
- 2.1.28** It is possible that in certain cases, dispatch documents may not be received in time but BHEL may receive Photostat copies of the same. It is, therefore, the responsibility of the contractor to collect these Photostat copies while obtaining indemnity bond from BHEL authorities at site.
- 2.1.29** Payment of all demurrage / wharfages that are due to contractor's fault, would be the responsibility of contractor and to his account. If BHEL has to make payment of demurrage / wharfages along with freight, the amount so paid as demurrage / wharfages, for the reasons stated above, shall be paid by the contractor forthwith or would be recovered from bills of the contractor
- 2.1.30** In any case contractor will pursue with **concerned Carrier authorities** at all level (local/HQ etc.) for waiver / reduction to the minimum of such demurrage charges. Whenever such demurrages become payables due to reasons not attributable to contractor, contractor will immediately bring it to the notice of BHEL with specific request to bear such charges. The decision of the Engineer in such case will be final and binding on the contractor.
- 2.1.31** Any discrepancy / shortage / damage found in the consignment after taking delivery from the carriers after giving clear receipt would be the responsibility of the contractor and the amount liable to be lost by BHEL on such accounts is recoverable from the contractor.
- 2.1.32** In case of apparent damages / shortages in consignments /packing noticed by the contractor, such cases shall be brought to the notice of BHEL and cleared only with their consent/approval.
- 2.1.33** It would be the responsibility of the contractor to examine the packages, consignments, etc. on arrival and bring to the notice of carriers and BHEL Authorities regarding loss / damages, if any, observed in the consignments proposed to be taken delivery. Before taking delivery, particularly of consignments in 'smalls', the weight of the package shall be checked with the invoiced weight / contents of the packages and any discrepancy shall be reported immediately to BHEL/ carriers. In all the cases of loss / damages the contractor will take open delivery from the carriers. They shall forward such Open Delivery Certificates (ODC) to the Engineer within 7 days of retiring such consignments. All expenses connected therewith shall be to the account of contractor. BHEL reserves right to claim losses, if any, accrued to BHEL in the event of contractor's non-compliance to above.
- 2.1.34** In case of short delivery and non-delivery, immediate notice of loss shall be filed with the carriers at places of dispatch and destination as also at any intermediate station, if it is a different one, under intimation to BHEL authorities at site.
- 2.1.35** BHEL reserves the right to recover from the contractor any loss which arises out of undue delay / discrepancy / shortage / damage or any other cause during transit and stacking (between the Road / carriers godowns / weigh bridges and BHEL storage yards / store sheds / project site), when the custody of the equipment is with the contractor.
- 2.1.36** Unloading from trailer at storage area / work site stacking and re-stacking of heavy sophisticated equipment like water wall panels, heavy motors, heavy bearings, generators, rotors, C&I panels,

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turbine components, pumps, panels etc. shall be done in the presence of or as per the directions of BHEL representative.

- 2.1.37** Certain items may be dispatched with tie rods/ strips welded with frame carrying items and with trailer. These tie rods / strips are required to cut by using Gas flame or by other method as directed by Engineer for unloading of materials.
- 2.1.38** Since, the trucks / trailers are expected to arrive during any time of the day / night, the contractor shall have his workmen round the clock at site as well as other places as required to unload the materials.
- 2.1.39** Consignments coming on Sundays and Holidays are also required to be handled by the contractor promptly. It will be the responsibility of the contractor to contact the site Engineer / his authorized representative of BHEL at their residence, if required, and obtain instructions to make suitable arrangements. The detention charges, if any, in the event of delay in unloading from the carrier, will be to contractor's account.
- 2.1.40** It shall be the responsibility of the contractor, to provide all necessary facilities and tools to open the packages, in the presence of the Engineer, verifying their contents, re-packing wherever and whenever necessary, properly stacking them as may be directed by the Engineer. These works should be so done so as to facilitate proper handling, periodical verification of materials, receipt position, stock taking etc.
- 2.1.41** The contractor shall have experienced persons at site who can maintain the records of dispatch / receipt/ stacking / verification / shortage / damage / missing items etc.
- 2.1.42** All materials shall be stored at least 6" above ground level by use of wooden sleepers or on steel frames. No material shall be left to remain on ground at any time. Materials shall not be stacked in low-lying areas, where they are likely to get flooded during rains. Wooden sleepers / steel frames shall be in scope of contractor however tarpaulins for this purpose wherever deemed necessary shall be issued by BHEL free of charges. However these items shall be stacked / stored properly at a location(s) specified by BHEL when not in use. The contractor is expected to use these most judiciously. In case it is observed that the contractor is not utilizing these optimally, he could be asked to re-stack the same at his cost.
- 2.1.43** It is possible that certain heavy items / consignments will require fabrication of a suitable shed over it. These sheds will be covered with suitable sheets or tarpaulin. The contractor will be required to fabricate & erect such sheds. All materials required for this will be provided by BHEL. However all expenses towards manpower, T&P, consumables etc will be borne by the contractor. After the completion of the work the contractor will dismantle the same and return these materials back to the stores. The contractor will be paid @ Rs. 5000/- per MT for such works in the ratio of 80:20 (80% for Fabrication and 20% for Dismantle of temporary shed)
NO ADDITIONAL PAYMENT SHALL BE MADE IN CASE THE STRUCTURE IS FABRICATED OF SCAFFOLDING PIPES, CLAMPS & GI SHEETS. IN SUCH CASES THE MATERIAL SHALL BE ISSUED BY BHEL FREE OF CHARGE TO THE CONTRACTOR. HE SHALL ENSURE THAT THE SAME ARE TO BE RETURNED TO THE STORE AFTER THE EQUIPMENT HAS BEEN ISSUED.
- 2.1.44** The material / equipment requiring indoor storage will be handled and stacked inside the storage shed (provided by BHEL) by the contractor using own material handling equipments.
- 2.1.45** **For checking / verification of the components / packages with packing slips GR/ LWB etc., sufficient experienced persons and other facilities shall be provided by the contractor as and when required by the Engineer.**
- 2.1.46** Stacking of the material shall be done as per the instructions and to the satisfaction of the Engineer. The materials shall be so stacked that the same should facilitate easy handling. In the event of any improper stacking BHEL may ask the contractor to re-stack the material properly or

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failing which BHEL may get the job done by any other agency at the risk and cost of the Contractor.

- 2.1.47** The contractor shall execute the work in the most substantial and workman like manner. The stores shall be handled with care and diligence. Any loss to BHEL due to contractor's lapse / negligence shall have to be made good by the contractor.
- 2.1.48** In case contractor is not able to unload, transport, stack the material at a pre-determined area, as per direction of the Engineer for any reason whatsoever (including non-availability of crane, tractor trailer and other T&P etc.), BHEL shall be at liberty to get the work done by engaging other agency / equipment / T&P etc. at the risk and cost of the contractor.
- 2.1.49** If the contractor or his workmen shall break, deface injure or destroy any part of a building, road, Serbs, fenced enclosures, water pipes, cables, drains, electric or telephone posts or wires, trees, stored components or any other property or to any part of erected equipment etc., the contractor shall make the same good at his cost or in default the Engineer may cause the same to be made good by other workmen/agency or by other means and deduct the expense (of which the BHEL Engineer's decision is final) from any sum that may be then or at any time thereafter become due to the contractor or from his security deposit or any other money due.
- 2.1.50** **It shall be the responsibility of the contractor to keep the storage areas (closed / semi-closed / open) in neat and tidy conditions. Any vegetation like grass, bushes, Sarkandas etc. shall be cut periodically in open storage area & removed as per requirement & instructions of BHEL Engineer within the contractual value.** All surplus / unusable packing materials shall be removed and deposited at location(s) specified by BHEL within the project premises (including weighing of the same within the project premises if required).
- 2.1.51** Normally the consignments from BHEL's manufacturing units / their sub-suppliers are sent on freight paid basis. In case any consignment is received at any place on freight to pay basis, it will be the responsibility of the contractor to pay the freight and take delivery of such consignments. The amount of freight paid by the contractor at any point of time in such cases will be limited to Rs. 5,000/-. However, the freight paid by the Contractor will be reimbursed by BHEL within a week's time on production of relevant receipts. In case of freight amounts exceeds Rs. 5,000/- contractor may request BHEL well in time to issue cheque /draft for such amounts in favor of carriers towards freight charges. Delay in issuance of cheque/ drafts as above shall not in any case be taken as a cause of delay in taking delivery of consignment resulting in demurrage leviable by carriers. Receipt of payment and proof of taking delivery of consignment shall be submitted to BHEL by the contractor.
- 2.1.52** Normally the consignments are expected to be received inside the Project area. But in case any consignment is booked to any other place in and around Ramgarh site, it will be the responsibility of the contractor, if necessary and desired by BHEL, takes delivery as desired by BHEL Engineer. The reimbursement of freight paid, as envisaged in clause 2.48 will be made to the contractor.
- 2.1.53** In case some materials are required to be dispatched from Ramgarh to manufacturing units, other sites or any other place, the contractor may be asked by the Engineer to get the same packed, transport it to nearest Railway Station / Carrier's godowns and get the same booked.
- 2.1.54** In case of material is required to be booked as freight paid the freight for the consignment limited to **Rs.5,000/-** shall be paid by the contractor. However, it shall be reimbursed by BHEL on submission of receipt within a week's time. The funds for freight charges exceeding Rs. 5,000/- shall be arranged by BHEL. Packing material required shall be provided by BHEL free of cost.
- 2.1.55** In case some of the consignments are to be dispatched on full truck /trailer load basis, where the carriers will place their fleet inside the plant for loading, the contractor may be asked to collect them from different locations of store sheds/yard and load by using his crane and labour.
- 2.1.56** The contractor will arrange for gate passes and any other permits required for carrying out his work from the respective agencies at his own cost. He will also comply with regulations of the customer within the project area, any of the State Government and other Government agencies.

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- 2.1.57** The owner / employer or his authorized agents may inspect stores, storage yard etc. during the currency of the contract awarded to him. The contractor shall make necessary arrangements for such inspection and carry out the rectification pointed out by the owner/employer without any extra cost to the owner / employer. No cost whatsoever such duplication of inspection of work be entertained.
- 2.1.58** For any exigencies during execution of the contract, the contractor shall have to depute his personnel for collection/delivery of any material meant for site from/to out station if desired and instructed by the Engineer. The contractor will however be reimbursed expenses incurred for such work for person deputed, as below:-
- Second class train fare with reservation / supplementary charges/bus fare subject to furnishing details regarding ticket numbers, journey details, amount of fare etc.
 - Local conveyance charges (Actual bus / cycle rickshaw/ auto rickshaw fare for local journeys at out station) as permitted by the Engineer.
 - Daily allowances @ Rs.100/- per day and @ Rs.150/- per day for lodging.
 - Postal / telegraphic / telephones charges, if any, subject to production of proof of having incurred such expenditure.
 - Freight and other charges, if any, paid on production of actual receipts,
Payment for the above will be made by BHEL within a month from the date of submission of bill along with details / desired documents by the contractor subject to completion of work assigned to contractor personnel and to the entire satisfaction of the Engineer
- 2.1.59** **The contractor under this contract shall also provide free of cost services of following manpower exclusively for use by BHEL** The contractor under this contract shall also provide free of cost services of skilled persons for a total period of **165 Man-months** exclusively for use by BHEL. This manpower will be required for following services
- Qualified persons experienced in computer working for secretarial work.(19 manmonths)
 - Skilled workers for working office and colony. (60 manmonths)
 - Unskilled workers for working in office and colony. (90 manmonths)
- Persons so deployed shall have to work in extended hours whenever required. Workmen provided as per the above provisions shall be fully trained and experienced in the nature of work for which they are deployed.
- 2.1.60** In case contractor fails to provide above-mentioned manpower as desired by BHEL, the latter shall have the right to hire such services from other agencies at the risk and cost of the contractor. However, if BHEL does not utilize the manmonths as per above provision, fully or partly, recovery at the rate of the prevailing minimum wages at Site for the categories given plus 10% will be made from the final bill of the contractor.
- 2.1.61** Contractor shall prepare, maintain and update various MM records, associated with materials management operation of BHEL at project site. Two systems of record keeping/capturing information & data at various stages are in vogue viz.
- Manual ledgers & records.
 - Computerized database application
- 2.1.62** BHEL has developed a software application named e-stores that Captures all the data in the entire chain of transactions starting with Master list of project materials, records of dispatch, receipt, Inspection, issue, return, consumption etc.

- 2.1.63** Some of these records are master shipping/packing list, LR/RR register, Daybook register, stock register, records of issues to & return of materials in respect of various erection subcontractors, insurance claim records, periodical status reports in various formats covering desired aspects and output information as per BHEL/Client's requirement.
- 2.1.64** Contractor will provide necessary hardware, software & stationary etc. and shall take utmost care to ensure that these properties and records are protected from any damage or loss.
- 2.1.65** Contractor shall engage skilled & qualified personnel for material management in the area of material receipt & its unloading, verification of materials, preservation of materials, record keeping of materials & for dealing with insurance claims. For some of the above important area of works minimum deployment of workers shall be as follows:

SL NO	ACTIVITY/DESCRIPTION	Minimum No. of Persons	REMARKS
1	Material Receipt/Unloading, Collection/ Bookings	4	To be deployed tentatively from start of contract period
2	Detailed Verification	3	To be deployed tentatively from start of contract period
3	Material issue (Boiler TG, T&P, C&I and Elect)	2	Tentatively 1st no from start of contract period and 2nd from 6th month onwards
4	Preservation	3	Gang of 3 labours lead by 1 qualified person from 6 th month onwards of contract period
5	Record Keeping (Boiler Stock, TG & C&I, MRC, Structural Steel, Assistance in insurance Claims & Purchase Etc.)	3	Tentatively 2 nos from start of contract period 1 nos from the start of tg erection i.e. after 12 months of contract period

NOTE: THE NO. OF PERSONS INDICATED ABOVE IS TENTATIVE AND ACTUAL DEPLOYMENT MAY VARY BASED ON WORK LOAD AND SITE REQUIREMENT, AND THE DEPLOYMENT SHALL NOT ABSOLVE THE CONTRACTOR FROM HIS RESPONSIBILITY TOWARDS THE SATISFACTORY EXECUTION OF THE JOB.

- 2.1.66** Following shall be the responsibility of contractor and have to be provided within finally accepted rates / prices:
- a. Provision of all types of labour, supervisors, Engineers, watch and ward as required, tools & tackles, calibrated inspection, measuring and test equipment as specified and otherwise required for the work and consumables for erection, testing and commissioning including material handling.
 - b. Proper out-turn as per BHEL plan and commitment.
 - c. Completion of work as per BHEL Schedule.
 - d. Good quality and accurate workmanship for proper performances of equipment.
 - e. Repair and rectification.
 - f. Re-conservation / preservation of all components during storage / erection till handing over.
 - g. Keeping all the erection area neat and clean.

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2.1.67 In order to meet the environmental concerns it is expected that the contractor shall plant, protect and maintain at least 300 trees or equivalent in the vicinity of the project as per the available space and as per the advice of Engineers.

2.1.68 Contractor shall ensure daily housekeeping and keep proper cleanliness of work place and do the disposal of wastes to certified area.

2.2.0 PART (B) Erection & Commissioning of HRSG, its auxiliaries and Power Cycle Piping

2.2.1 The intent of this specification is to provide services for execution of project according to most modern and proven techniques and codes. The omission of specific reference to any method, equipment or material necessary for the proper and efficient services towards installation of the plant shall not relieve the contractor of the responsibility of providing such services / facilities to complete the work or portion of work awarded to him. The quoted / accepted rates / lump sum price shall deem to be inclusive of all such contingencies.

2.2.2 The contractor shall carry out the work in accordance with standard practices / codes/ instructions /drawings/ documents/ specification supplied by BHEL from time to time to the satisfaction of owner of the project.

2.2.3 The work shall conform to dimensions and tolerances given in various drawings and documents that will be provided during erection. If any portion of work is found to be defective in workmanship, not conforming to drawings or other stipulations, the contractor shall dismantle and redo the work duly replacing the defective materials at his cost failing which the job will be carried out by BHEL by engaging other agencies/ departmentally and recoveries will be effected from contractor's bills towards expenditure incurred including BHEL's applicable overhead charges.

2.2.4 Following shall be the responsibility of contractor and have to be provided within finally accepted rates / prices:

- a) Provision of all types of labour, supervisors, Engineers, watch and ward as required, tools & tackles, calibrated inspection, measuring and test equipment as specified and otherwise required for the work and consumables for erection, testing and commissioning including material handling.
- b) Proper out-turn as per BHEL plan and commitment.
- c) Completion of work as per BHEL Schedule.
- d) Good quality and accurate workmanship for proper performances of equipment.
- e) Repair and rectification.
- f) Re-conservation / preservation of all components during storage / erection till handing over.
- g) Keeping all the erection area neat and clean.

2.2.5 Further, the contractor is required to provide proper Safety Net System wherever the hazard of fall from height is present as per instructions of BHEL Engineer at site. The safety net shall be fire resistant, duly tested and shall be of ISI mark and the nets shall be located as per site requirement to arrest or to reduce the consequences of a possible fall of persons working at different heights.

2.2.6 The customer M/s. RRVUNL may depute their representative for checking and supervision of important stages of work. The contractor shall be required to provide all facilities for inspection of works at no extra cost to BHEL. Any defect in quality of work or deviations from drawings / specifications pointed out during such inspection shall be made good by the contractor in the same way as if pointed out by the BHEL Engineer, without any cost implication to BHEL.

2.2.7 Tenderer may note that as the place of work is inside RRVUNL premises, being manned by their Security all necessary system related to entry of men, vehicle & material, safety & security systems, work permit system etc. as applicable will have to be followed by the contractor.

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2.2.8 Brief equipments / salient points for HRSG and associated equipment

- HP and LP steam drums with internals.
- Spiral finned HP and LP super heaters
- Spiral finned
- with necessary expansion joints and insulation from HRSG inlet expansion joint up to stack inlet as shown in GA drawing.
- Boiler integral piping, fitting, valves, drains, and vents as required by boiler code.
- HP steam attenuator with control valves.
- Safety valves with silencers HP and LP evaporators
- Spiral finned HP economizer.
- Spiral finned HP condensate preheated (CPH).
- Sample cooler (as part of SWAS system).
- Complete gas duct work on drum, safety valve with silencer on super heater, and direct water level gauges and electronic water level indicators on drum , for HP and LP circuits.
- Start-up vent with silencer for both HP & LP system.
- Feed control station for HP & LP circuits.
- Complete boiler supporting structural steel, foundation bolts and anchor channels.
- Platform at bottom access door level, staircases for both HP & LP system.
- Inside insulation with required fixing components.
- CBD, IBD tanks.
- Dedicated steel chimney of 70 M height for HRSG
- Electrical & pneumatic actuators. & Lighting protection and aviation lamp for main stack.
- The complete HRSG ducting from inlet to outlet is internally insulated in accordance with drawings / data sheet with required thickness such that the averaged surface temperature of the outer casing is maintained.
- During pre-commissioning of HRSG, chemical cleaning will be done by alkali boil out or as per standard procedure of BHEL.

HRSG Main Chimney:

The steel chimney is of self-supported, straight cylindrical type. The chimney shell will be made of mild steel to IS 2062. Cage Ladder & platforms to approach aviation lamps and sampling ports are to be done. The handrails, cage ladder, platform etc. will be of painted. Aviation lamps (Neon type) including its cables and junction box up to bottom of chimney along with Lightning arrestor will be installed.

An access door at the bottom region of chimney is provided. Thermal insulation shall be carried out externally for full height of the chimney as per specifications. The insulation shall be of lightly resin bonded mineral wool covered with plain aluminum cladding sheet.

Valves and Fittings:

The boiler is provided with necessary stop valves, non-return valves, control valves, safety valves, level gauges, blow down cocks, drain and vent valves as shown in the P & I scheme to facilitate smooth operation, safe start-up and shutdown. All regular valves (gate, globe, non-return, regulating, blow down, safety valves and test pressure gauge valves) , Control valves, drains, vent valves etc. will be carried out as per drawings / data sheets.

Insulation and Lagging

The inside insulation material would be ceramic/mineral wool mattress of suitable density and designed for a suitable averaged surface temperature for a reference ambient temperature with a wind velocity as furnished in the data sheet. The HRSG is internally insulated. The internal insulation of the inlet /boiler/outlet duct will be covered by internal liner of suitable thickness and material as indicated in the data sheet. The steam drum and all external piping will be externally insulated with mineral wool with outer plain aluminium cladding .All the internal insulation of the HRSG will be carried out. The steam drum and boiler integral piping will be externally insulated and covered with aluminium cladding of suitable thickness as per spec.

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HRSG casings are required to be internally insulated at site within the scope of contract and the insulation may be LRB Wool and Ceramic Wool as per design / data sheet.

Outlet Ductwork

Outlet ductwork with support steel will be erected to connect between the HRSG outlet and the Chimney as per spec / data sheets.

2.2.9 CIVIL WORKS, FOUNDATIONS AND GROUTING

2.2.12.1 Foundation for all equipment and steel structure and necessary civil works shall be provided by Customer. The dimensions and locations of the foundations, pockets, and anchor bolt pitch shall be checked by the contractor for their correctness as per drawings. The top elevation of foundations shall be checked with respect to bench mark etc. All minor adjustments of foundation level, dressing and chipping of foundation surfaces up to 40mm, enlarging the pockets in foundations etc., increasing the existing floor opening for cable entry, fixing panels and repair of same as may be required for the erection of equipment / panels shall be carried out by the contractor within the tonnage rate.

2.2.12.2 Chipping and dressing of foundations up to a 40 mm thickness is in the scope of contract. While on the job, care is essential to avoid too much chipping and resultant lowering of level. In case of excess chipping, contractor has to arrange additional packing plates as per requirements provided BHEL Engineer allows it. When required by manufacturers, the embedded sub-sole plates shall be scraped and checked with Prussian blue to get the required contact with frames.

2.2.12.3 The contractor shall ensure perfect matching of structure/ equipment, packer plates including machining, scraping and blue matching with foundation by dressing the foundation, as well as perfect matching between the packer plates and the base plate of structural column and equipment to the satisfaction of BHEL Engineer. BHEL at its discretion can accept rough chipping of foundations, embedding packer plates in cement mortar etc. If required the packer plates may have to be aligned and fixed on the foundations using approved quality special high strength, non-shrinking and quick-setting grouts. The minimum thickness below the packer plate should be 25 mm. The material required for this has to be arranged for by the contractor at his cost.

2.2.12.4 The contractor shall arrange for grouting of foundation bolt holes of structure / equipment including complete encasing of equipment bases as specified in the drawings / specification or as advised by Engineer after preparing foundation top surface for grouting. Rotating auxiliaries foundation bolts / bases to be grouted by Convextra GP 2 / Pedigrout M10 or equivalent as specified by BHEL. Static equipment foundation bolt and base to be grouted by Portland cement. All the arrangement required for grouting including supply of convextra GP2/ Pedigrout M10/ portland cement, sand, pea gravel and any other material required for grouting, shuttering, nails, wires etc., shall be arranged by the contractor at his cost. The grouting material shall be got approved by the contractor from BHEL Engineer.

2.2.12.5 Besides grouting as above, any civil works required for safe and efficient operation of tools and tackles like grouting / excavation / casting of foundation / anchor points for derricks, winches, guy ropes fastening, etc. any other temporary supports shall also be the contractor's responsibility. For these civil works all materials including cement and required facilities will have to be arranged by contractor at his own cost.

2.2.12.6 All the matching joints which are not to be grouted shall be kept free from the grouting mixture by applying tape or any other alternative method approved by Engineer.

2.2.12.7 The contractor shall prepare the required test pieces / cubes to ensure the strength of the grout and get the same tested in laboratory at his cost as directed by BHEL Engineer before grouting. Test cubes shall also be taken during grouting for testing in the laboratory and shall be tested at Contractor's cost.

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2.2.12.8 After the grouting, the foundations are to be cure by contractor to the satisfaction of Engineer. The contractor shall check and verify the alignment of equipment, alignment of shafts of rotating machinery, the slopes of all bearing pedestals, centering of rotors with respect to their sealing bores, couplings etc. as applicable and the like items to ensure that no displacement had taken place during grouting. The values recorded prior to grouting shall be used during post grouting checkup and verifications. Such pre and post grout records of alignment details shall be maintained by the contractor in a manner acceptable to the Engineer.

2.2.12.9 The contractor shall check and verify the alignment of equipment, alignment of shafts of rotating machinery, the slopes of all bearing pedestals, centring of rotors with respect to their sealing bores, couplings etc. as applicable and the like items to ensure that no displacement had taken place during grouting. The values recorded prior to grouting shall be used during post grouting check up and verifications. Such pre and post grout records of alignment details shall be maintained by the contractor in a manner acceptable to the Engineer.

2.2.13 CONSUMABLES

2.2.13.1 The contractor shall provide within finally accepted price / rates, all consumables like all welding electrodes (including alloy steel and stainless steel), gaskets for temporary work, gland packing, filler wires, all gases (inert gases, welding gases and cutting gases), soldering material, dye penetrants, radiography films. Other erection consumables such as tapes, jointing compound, grease, mobile oil, M-seal, Araldite, petrol, CTC / other cleaning agents, grinding and cutting wheels are to be provided by the contractor. Steel, H&S, packers, shims, wooden planks, scaffolding materials hardware items etc required for temporary works such as supports, scaffoldings are to be arranged by him. Sealing compounds, gaskets, gland packing, wooden sleepers, for temporary work, required for completion of work except those which are specifically supplied by manufacturing unit are also to be arranged by him. TIG filler wires as supplied by the BHEL Manufacturing unit along with plant materials, shall be issued without any charges.

2.2.13.2 All the shims & gaskets which go finally as part of equipment shall be supplied by BHEL free of cost.

2.2.13.3 It shall be the responsibility of the contractor to plan the activities and store sufficient quantity of consumables. Non availability of any consumable materials or equivalent suggested by BHEL cannot be considered as reason for not attaining the required progress or for additional claim.

2.2.13.4 It shall be the responsibility of the contractor to obtain prior approval of BHEL, regarding suppliers, type of electrodes etc. before procurement of welding electrodes / TIG wires. On receipt of electrodes at site these shall be subjected to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch No. date of expiry etc. and produce test certificate for each lot / batch with correlation of batch / lot no. with respective test certificate. No electrode will be allowed to be used without valid test certificate.

2.2.13.5 BHEL reserves the right to reject the use of any consumable including electrodes, gases, lubricants / special consumables if it is not found to be of the required standard / make / purity or when shelf life has expired. Contractor shall ensure display of shelf life on consumable wherever required and records maintained.

2.2.13.6 Storage of all consumables including welding electrodes shall be done as per requirement / instruction of the Engineer by the contractor at his cost including arrangements for the same.

2.2.13.7 In case of improper arrangement for procurement of any consumable, BHEL reserves the right to procure the same from any source and recover the cost from the Contractor's first / subsequent bill at market value plus the departmental charges of BHEL as applicable. Postponement of such recovery is normally not permitted. The decision of Engineer in this regard shall be final and binding on the Contractor.

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2.2.13.8 All lubricant and chemicals required for cleaning, pre-commissioning, commissioning, testing, preservation and lubricants for trial runs of the equipment shall be supplied by BHEL. All services including labor and T&P will be provided by the contractor for handling, filling, emptying, refilling etc. The consumption of lubricants / chemicals shall be properly accounted for and surplus material if any shall be properly stacked and returned to BHEL/ CUSTOMER stores at no extra cost to BHEL. Recoveries shall be affected for wastage by the contractor. Weight of such Chemicals/lubricants shall not be payable and contractor shall take care of such aspects in their offer.

2.2.13.9 Transportation of oil drums, from stores, filling of oil and filling of oil for flushing, first filling of oil and subsequent changeover or topping / making up till the unit is fully commissioned and handed over to customer is included in scope of this contract within the awarded value. Weights for such lubricants shall not be payable and contractor shall take care of such aspects in their offer. The contractor shall have to return all the empty drums to BHEL/ BHEL's client store at no extra cost. Any loss / damage to above drums shall be to contractor's account.

2.2.13.10 All charges on account of Octroi, terminal or sales tax and other duties on materials obtained for the works from any source shall be borne by the contractor.

2.2.14 SUPERVISORY STAFF AND WORKMEN

2.2.14.1 The contractor shall deploy all the skilled workmen like millwright fitters, welders, crane operators, drivers, gas cutters, riggers, sarangs, masons, carpenters, electricians, helpers and instrument technicians to carry out the works as per specifications. In addition to skilled, semi-skilled and unskilled workmen required for all the works, suitable workmen required for handling and transporting of equipment from site storage to erection site, erection, testing and commissioning as contemplated under this specification shall be deployed. Only fully trained and competent men with previous experience on the job shall be employed. They shall hold valid certificates wherever necessary.

2.2.14.2 The contractor shall engage separate stores - Incharge (Preferably Diploma holder or acceptable to BHEL) and other experienced supervisory staff and especially skilled labour e.g. crane operators, heavy-duty vehicle driver, sarangs, riggers, khalasis, etc. under this contract especially for main material handling scope of work. To execute material handling work and to assist Stores-In charge for issue and receipt of HRSG, GTG and other packages material, **minimum two qualified and experienced supervisors** shall have to be deployed **along with a qualified computer operator** for maintaining records. Contractor shall have to deploy other staff as per site requirement for the successful execution of material handling work. The contractor shall not divert the labour and staff deployed for material handling work to erection work area.

2.2.14.3 Contractor shall make necessary arrangements to ensure following :

- Contractor shall ensure deployment of qualified level-2 Engineer for NDT services (1 No.) at site.
- Contractor shall ensure deployment of Qualified & Experienced Safety Engineer / Officer (1 No.) at site.
- Contractor shall ensure deployment of Qualified & Experienced Piping Engineer / Officer (two No) at site.
- It is the responsibility of the contractor to engage his workmen in shifts or on overtime basis for achieving the targets set by BHEL. Deployment of adequate resources (including necessary illumination facilities) for minimum two shift operation (so as to work in all the areas simultaneously and as time warrants three shift working) has to be ensured by the contractor. The contractor's finally accepted rates shall include all these contingencies.
- Contractor shall ensure that all the T & Ps deployed by them, including cranes, (Indicative lists of T&Ps and IMTEs to be arranged by the contractor are given as per Annexure-III & IV) are regularly certified by approved testing agency & the relevant certificates to this effect are to be given to BHEL for records. It may be noted that non-compliance to the above three conditions will result in penal action as may be decided by the competent authority of BHEL.

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- 2.2.14.4** BHEL reserves the right to decide on the suitability of the workers and other personnel who will be deployed by the contractor. BHEL reserves the right to insist on removal of any employee / workman of the contractor at any time, if they find him unsuitable. The contractor shall remove him forthwith.
- 2.2.14.5** The supervisory staff including qualified Engineers deployed by the contractor shall ensure proper out-turn of work and discipline on the part of the labour put on the job by the contractor and in general see that the works are carried out in a safe and proper manner and in coordination with other labour and staff deployed directly by BHEL or other contractors of BHEL or BHEL's client / other agency.
- 2.2.14.6** The work shall be executed under the usual conditions affecting major power plant construction and in conjunction with numerous other operations / activities at site. The contractor and his personnel shall cooperate with other personnel / contractors, coordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.
- 2.2.14.7** The contractor shall deploy the necessary number of qualified and approved full time electricians at his cost to maintain his temporary electrical installation till the completion of work.
- 2.2.14.8** The work shall be executed under the usual conditions affecting major power plant construction and in conjunction with numerous other operations at site. The contractor and his personnel shall cooperate with other personnel/ contractor, coordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.
- 2.2.14.9** The contractor's supervisory staff shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. The contractor shall be responsible to ensure that assembly and workmanship conform to the dimensions and tolerances given in the drawings/documents/ instructions given by BHEL Engineer from time to time.
- 2.2.14.10** It is the responsibility of the contractor to engage his workmen in shifts (two or three shifts as per the requirement) or on overtime basis for achieving the targets set by BHEL and also during the period of commissioning and testing of unit. The contractor's finally accepted rates / prices shall include all these contingencies.
- 2.2.14.11** During the course of erection,
- if the progress is found unsatisfactory
 - if the target dates fixed from time to time for every mile stones are to be
 - that the skilled workmen like fitters, operators, technicians etc. deployed are advanced / not being met
 - if it is found not sufficient
- 2.2.14.12** BHEL after giving reasonable opportunity to the contractor will induct on the work the required workmen in addition to the contractor's workmen to improve the progress. The expenses so incurred shall be recovered from the contractor's bills with applicable overheads.
- 2.2.14.13** If the contractor or his workmen or employees shall break, deface, injure or destroy any part of a building, road kerb, fence, enclosure, water pipes, cables, drains, electric or telephone posts or wire, trees or any other property or to any part of erected components etc., the contractor shall make the same good at his own expense or in default, BHEL may cause the same to be made good by other workmen or by other means and deduct the expenses (of which BHEL's decision is final) from any money due to the contractor.
- 2.2.14.14** The month wise manpower deployment plan to be submitted as per format (at Annexure-C to general conditions of contract) is only to assess the capability as well as understanding of the contractor to execute the work. It shall be the contractor's responsibility to deploy the required manpower, for timely and successful completion of the job, to any extent over and above those indicated in the above deployment plan (including those which are not covered in the plan submitted) without any compensation on this account. The contractor shall identify separate persons at site for quality control and safety.
- 2.2.14.15** Though every endeavor shall be made to ensure that all plant materials are supplied as per schedule. However in a job of this kind it is possible that some materials may be delayed. In

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order to achieve the ultimate targets, the contractor may have to augment his manpower and resources. No compensation on this account shall be admissible.

2.2.15 Material handling ,storage & preservation of components for etc part shall be as per chapter 6 of SCC.

2.2.16.0 TOUCH-UP & FINISH PAINTING

2.2.16.1 All exposed metal parts of the equipment, structure, auxiliaries, piping, and other items (covered within the scope of this contract) after installations are to be painted. Mostly the equipment / components installed are with one coat each of primer paint and synthetic enamel / heat resistant paint. However, due to storage and handling, the same may have got deteriorated or peeled off. The surfaces are to be thoroughly cleaned of all dirt, rust, scales, grease, oils and other foreign materials by wire brushing, scrapping, any other method as per requirement of BHEL. The same will be inspected and approved by the engineer before painting. These cleaned surfaces are to be touch up painted with suitable approved primer matching with shop paint approved final colour. Bare surfaces / unpainted surfaces shall be provided with two coats of suitable primer after cleaning as above.

- After applying primer as above, all the structure, equipment / items and piping (covered under the scope of this contract) are to be finished painted with approved quality synthetic enamel paints (as specified by BHEL engineer) to achieve proper finish and film thickness as per drawings / specifications. The minimum thickness of painting as specified has to be checked by Alchometer (to be arranged by contractor) duly calibrated / suitable means as per advice of BHEL Engineer. Chimney is required to be painted outside in full length using heat resistant and acid resistant aluminum paint silencers and un-insulated steam lines have to be painted with Heat Resistant Aluminum paint
- Certain equipment like control panels, valves etc. shall require spray painting. The contractor shall make arrangements of the required equipment for spray painting of such equipment at his own cost. Spray painting at the job site shall be permitted only at times and locations approved by the owner / Engineer.

2.2.16.2 Contractor at no extra cost to BHEL shall supply all paints, primers, tools and other consumables including scaffolding materials required for Touch-up / finish painting. Paint is to be BHEL approved make only and painting should be as per colour scheme and quality approved / specified by Engineer. Valid Test Certificate for the paint so supplied shall be made available before use of the same on work. The contractor may be required to fill up dents / marks by applying putty before final painting of equipment. All materials and arrangements have to be made within the finally accepted rates. All paints should be stored in well-ventilated store. The painters and other personnel deployed should use proper protective equipment to avoid inhalation of fumes. No paint whose shelf life has expired should be used for painting. The contractor shall ensure availability of

- 1) Ford Cup-4 to measure consistency of paint,
- 2) Automatic magnetic gauge to measure the dry film thickness and
- 3) SSPC Visual standards to assess degree of cleanliness of surfaces to be painted.

2.2.16.3 The contractor shall provide legends with direction of flow / colour banding on equipment and piping in size specified by Engineer. Letter writing shall be done in Hindi / English or in both languages.

2.2.16.4 The painters have to undergo test and only qualified painters will be allowed to work. The contractor shall make all arrangements including materials for testing of painters at his cost

2.2.16.5 A separate gang of minimum two persons with all the necessary paints (Primer) / preservatives, scaffoldings and other arrangements shall be provided by the contractor within the finally accepted rate.

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2.2.16.6 The contractor shall effectively protect the finished work from action of weather and from damage or defacement and shall cover the finished parts then and there for their protection.

2.2.16.7 Any failure on the part of contractor to carry out works according to above clauses will entail BHEL to carry out the job from any other party and recover the cost from contractor.

2.2.17 ERECTION

2.2.17.2 All the Fixtures including omega lugs etc., scaffolding materials, concrete block supports, steel structures required for temporary supporting, preassembly, installation, welding, lifting and handling or checking etc during pre-assembly and erection shall be arranged by contractor at his cost.

2.2.17.3 It shall be contractor's responsibility to check the various equipment foundations for correctness with respect to level, orientation, dimensions etc. and ascertained dimensions shall be measured and submitted to BHEL for approval before erection.

2.2.17.4 All works such as cleaning, checking, leveling, blue matching, aligning, assembling, welding, temporary erection for alignment, dismantling of certain equipment for checking / cleaning, surface preparation, fabrication at site, cutting, grinding, straightening chamfering, filing, chipping, drilling, reaming, scrapping, machining, surface grinding, shaping, fitting up including NDT & PWHT etc. as may be applicable in such erection works are to be treated as incidental to erection and necessary to complete the work satisfactorily and shall be carried out by the contractor as part of the work.

2.2.17.5 HRSG supporting structure includes ACC sheets, monitor-roofs of drum & burner operating level including drains to canal. Contractor has to install these roofs as per drawings. The cement required for jointing of the ACC materials will be issued by BHEL free of cost.

2.2.17.6 It shall be the responsibility of the contractor to provide prefabricated ladders including materials at his cost on columns for initial work till such time stairways are completed. No temporary welding on any structural member is permitted except under special circumstances with the approval of BHEL.

2.2.17.7 No members of the ladder/structure/platform should be cut without specific approval of BHEL. In case it is necessary to cut, the contractor shall rectify / repair in a manner acceptable to BHEL/ customer without any additional cost.

2.2.17.8 The contractor is strictly prohibited in using the HRSG / BOILER components like angles, channels, hand rails etc. for any temporary supporting or scaffolding works. In case of such misuse a sum as determined by BHEL Engineer will be recovered from contractor's bills.

2.2.17.9 Normally the high-pressure valves will have prepared edges for welding. But, if it becomes necessary, the contractor will prepare new edges or recondition the edges by grinding or chamfering to match the corresponding tubes/ pipes within finally accepted rates.

2.2.17.10 All fittings like 'T' pieces, weld neck flanges, reducers etc. Shall be suitably matched with pipes for welding. The valves will have to be checked, cleaned or overhauled in full or in part before erection/ after chemical cleaning and during commissioning within finally accepted rates.

2.2.17.11 Adjustments like removal of ovalities in pipes and opening or closing the fabricated bends of piping to suit the layout shall be considered part of the work and the contractor is required to carry out such work within the finally accepted price / rates as per instructions of BHEL, which shall include specified heat treatment & NDT procedures etc.

2.2.17.12 Certain adjustment in length may be necessary while erecting pipelines / ducts/ casings/ claddings etc. and the contractor should remove the extra lengths / add extra lengths to suit the

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final layout after preparing edges afresh by adopting specified welding/NDT/ heat treatment procedures, at no extra cost. It is possible that a few flanges may not be matching. The contractor shall be required to cut and re-weld the same as and when required without any additional cost.

2.2.17.13 The contractor shall completely erect & test all the integral piping systems, covered in the specification including sampling lines upto & including sample coolers, hangers & supports, valves & accessories in accordance with the drawings furnished. This includes all necessary bolting, welding, preheating, stress relieving, testing, cleaning & painting. System shall be demonstrated in condition to operate continuously in a manner acceptable to the Engineer. Welding shall be used throughout for joining pipes except where flanged, screwed or other type joints are specified or shown on the drawings. All piping shall be erected true to lines & elevation as indicated in the drawings. All vents and drains for piping equipment covered in the scope whether shown in the drawings or not, shall be terminated at suitable sump-pit (unless otherwise directed) as directed by the engineer. The contractor shall assist BHEL in preparation of as built piping drawings.

2.2.17.14 Steel for suspensions for piping, ducting etc will be supplied in running lengths. These are to be cut to suitable sizes and adjusted as per requirement.

2.2.17.15 Pipes sent in running lengths shall be cut to suit the site conditions and the layouts. Tubes or pipes wherever deemed to be convenient will be sent in running lengths with sufficient bends. Bends up to 80 mm NB will have to be fabricated and tested at site within the finally accepted rates.

2.2.17.16 Economiser / super heater coils/ Reheater coils, burner panels & valves may have to be hydraulically tested individually, if required, before erection as instructed by BHEL engineer within finally accepted rates.

2.2.17.17 Fittings and welding of necessary instrumentation tapping points, thermocouples pads, valves, root valves, condensing vessels, flow nozzles, Orifice plates and control valves etc. will also be the responsibility of the contractor and will be done as per the instructions of BHEL Engineer within finally accepted rates. The erection, welding / NDT of all the above items will be contractor's responsibility even if the:

- Product groups, under which these items are released, are not covered in the scope of this tender.
- Items are supplied by any agency other than BHEL.

2.2.17.18

- a. All the valves including motorized valves, flap valves, dampers, actuators etc. shall be serviced and lubricated to the satisfaction of Engineer before erecting the same and during pre-commissioning also. Welding / jointing of extension spindle for valves to suit the site conditions and operational facility shall be part of erection work within the finally accepted rates.
- b. The contractor shall be responsible for correct orientation of all valves so that seats, stems and hand wheels will be in desired location. It will be the responsibility of the contractor to obtain the information regarding orientation of valves not fully located on drawings before the same are installed.
- c. The contractor shall dismantle the valves & actuator for overhauling, servicing & lubrication wherever required as advised by the Engineer. The contractor shall also lap or grind valve seats for ensuring the satisfactory performance of valves at no extra cost. All parts such as gaskets, gland packing which form the permanent part of equipment shall be supplied by BHEL free of cost.

2.2.17.19 No temporary supports should be welded on the pressure parts or piping. Welding of temporary supports / cleats etc., on main HRSG / BOILER columns should be avoided. Incase of absolute necessity prior approval from BHEL Engineer will be obtained by contractor.

2.2.17.20 All hangers, supports and anchors shall be installed as per drawing to obtain safe and reliable and complete pipe installation as per instructions of Engineer. Any additional support as called for by Engineer shall have to be fabricated and erected by the contractor. The raw materials required

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for fabricating such supports shall be supplied by BHEL free of cost and contractor shall be eligible for payment of such additional supports as per applicable item of rate schedule.

2.2.17.21 The contractor shall ensure that all supporting elements, anchors & restraint have been installed and adjusted in accordance with the drawings / sketches & other written instructions of the Engineer. The contractor shall inspect the hangers associated with the piping systems as follows:

- a) After hydraulic test, with the piping in the cold position, with all travel stops removed, with the pipe completely insulated and complete in all respect ready for startup.
- b) Piping in the hot position with the unit operating at the maximum load.
- c) Piping in the cold position during the first complete shutdown.

2.2.17.22 Spring suspensions/ constant load hangers have to be pre-assembled for required load and erection carried out as per instructions of BHEL. Any adjustments, removal of temporary arrestors / lockers etc., have to be carried out as and when required.

2.2.17.23 The hanger assemblies shall not be used for attachment of rigging to hoist the pipes into position. Separate temporary supports shall be used to securely hold the pipe in position till pipe supports are completely assembled and attached to the building structure.

2.2.17.24 All attachments welding including those for insulation works coming on pressure parts / non-pressure parts which the contractor has erected shall have to be done by the contractor within finally accepted rates only.

2.2.17.25 The calibration of skid mounted instruments shall be arranged by BHEL through other agency engaged for C&I. Contractor will be informed by BHEL engineer about the details of C&I agency. The contractor shall coordinate with the C&I agency for removal, calibration and re-installation of the instruments. Though C&I agency will remove and reinstall the instruments after calibration, the contractor for this package will maintain the list of all the instruments removed & reinstalled. Instruments prior to removal and after reinstallation shall be considered in custody of the contractor for this package. All instruments such as pressure gauges / temperature gauges, switches etc. forming part of product group (PG) are under the erection scope of this contract and shall be installed and commissioned by the contractor of this package at no extra cost to BHEL, however the calibration of these instruments shall be done by C&I agency as above

2.2.17.26 Layout of small bore piping in HRSG / BOILER and fuel systems etc. as required shall be done as per site requirement. Necessary sketch for routing these lines should be got approved from BHEL by the contractor. There is a possibility of slight change in routing the above pipe lines even after completion of erection or from aesthetic point of view. Contractor at no extra cost to BHEL should carry this out. Bends up to 80 mm NB will have to be fabricated and tested at site within the finally accepted rates. As built drawings shall also be made by the contractor and submitted to BHEL after final execution of respective small bore piping work with in the final accepted tonnage rate.

2.2.17.27 Additional platforms and ladders of permanent nature for approaching different equipment, as per site requirement which may not be indicated in drawings shall be fabricated and installed by the contractor. However, the contractor will be paid for this work on accepted tonnage rate for erection irrespective of number of platforms. The materials required for platforms excluding consumables and T&P will be provided by BHEL, some materials for such work may have to be taken from packing materials, the contractor will be required to retrieve the same from packing materials by using gas cutting etc. at no additional cost to BHEL.

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- 2.2.17.28** Erection of power cylinders, motorised valves, valve actuators etc. Coming under various groups is covered under the scope of this specification. However C&I calibration for pneumatic valves & power cylinders shall be arranged by BHEL through C&I agency at no cost to the contractor for this package. The alignment and any mechanical adjustments including link adjustment, opening & reconnection of links, replacement of valve / actuator or any mechanical part, air filter & regulator cleaning etc. required during calibration and operation, the same shall be carried by the contractor for this package. However, if re-calibration is required till handing over of the equipment the same shall be organised by the contractor for this package as detailed above with in the final accepted rates. The valves & electrical operated actuators covered under this package shall be erected, tested & commissioned by the vendor for this package.
- 2.2.17.29** Hanger rods are shown in the pressure parts arrangement drawings for HRSG / BOILER. Any cutting / welding of these hanger rods will be done by the contractor. The hangers for pressure parts will be tested for even distribution of load with the help of torque wrench, which is to be arranged by the contractor.
- 2.2.17.30** All rotating machines and equipment shall be cleaned, lubricated, checked for their smooth rotation, if necessary, by dismantling and re-fitting before erection. If, in the opinion of the BHEL engineer, the equipment is to be checked for clearances, tolerances at any stage of the work or during commissioning period, the contractor at his cost shall carry the dismantling, cleaning, lubricating and re-fitting. All rotating machines shall be rotated periodically during storage, erection and log maintained to avoid bowing of shafts.
- 2.2.17.31** All the shafts of rotating equipment should be properly aligned to those of the matching equipment to as perfect and as accurately as practicable. The equipment shall be free from excessive vibrations so as to avoid over heating of bearings or the conditions which may tend to shorten the life of equipment. All bearings, shafts and other rotating parts shall be thoroughly cleaned and suitably lubricated before starting.
- 2.2.17.32** The contractor shall carry out trial run of all motors including checking the direction of rotation in the uncoupled condition, Checking alignment and re-coupling the motor to the driven equipment as per instructions of BHEL engineer and to their satisfaction.
- 2.2.17.33** Forced lub oil system of motors or rotating equipment form parts of the work under this specification.
- 2.2.17.34** All the motors and equipment shall be suitably doweled after alignment of shafts with taper / parallel machined dowels as per the direction of the Engineer. Dowel pins required are be machined by the contractor at his own cost. However the materials for dowel pins shall be issued by BHEL free of cost.
- 2.2.17.35** The contractor, at no extra cost to BHEL, shall carry out servicing and realignment of skid mounted equipment, if required by BHEL.
- 2.2.17.36** All electrical panels, control gears, motors and such other devices shall be properly dried by heating to improve IR valve, before they are energized. Bearings, slip rings commutators and other exposed parts shall be protected against moisture ingress and corrosion during storage and periodically inspected.
- 2.2.17.37** Contractor shall carry out kerosene testing of all bearing housing of various rotating equipment like pumps, fans etc. as per BHEL engineer's instructions. Performance of hydro test of oil

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coolers of rotating machines and other equipment as per BHEL engineer's instructions is included in the scope of work.

2.2.17.38 Certain rotating machinery after, initial runs and commissioning of the equipment, have to be hot aligned as per the instructions of BHEL engineer. Cleaning fans, ducting etc., free of extraneous steel, scaffolding materials, electrodes, all foreign materials etc. before trial run of rotating machinery, and at various stages of pre-commissioning activities as per BHEL engineer's instruction, is within the scope of work.

2.2.17.39 All the bearings, gear boxes, shaft and other rotating parts etc. of the equipment and electrical motors to be erected are provided with protective greases only. Contractor shall arrange as and when required by the engineer, for cleaning the bearing, gears etc. with kerosene or some other reagent, if necessary, by dismantling some of the parts of the equipment during erection and shall arrange for re-greasing / lubricating them with recommended lubricants and for assembling back the dismantled parts, within the finally accepted rates. Lubricants will, however, be supplied free of cost by BHEL.

2.2.17.40 After initial trial of rotating equipment, control and power cabling for motors and other equipment / instrumentation shall have to be disconnected for checking alignment and re-setting / re-alignment / hot alignment. Contractor shall have to arrange for disconnecting control and power cabling as per BHEL engineer's instructions and clearance and reconnect the control and power cabling after realignment. Quoted tonnage rate shall be inclusive of the above.

2.2.17.41 Packer plates should not only be blue matched with the foundations but also interpacker contact surfaces, contact surfaces between packer and equipment, contact surfaces between packer and foundation frame etc. shall also be blue matched by Prussian blue match checks and percentage contact shall be achieved by chipping, machining, scrapping as per BHEL engineer's instructions.

2.2.17.42 Contractor shall arrange changing of preservative oil in the gear boxes, journal and other bearing assemblies of rotating equipment when in storage areas or after erection of equipment as the case may be as per the instructions of BHEL engineer. Necessary lubricants / oil will be supplied by BHEL and the same will be drawn by contractor from BHEL / customer's stores and transporting to site. No additional payment will be made for such works even though supply of lub oil might have been made under regular despatchable unit no. against product group main assembly (PGMA) and appearing in the shipping list. Prior to the commissioning of the equipment, oil to be drained and collected in drums provided by BHEL and returned to BHEL /customer's stores.

2.2.17.43 The HT motor bearings shall be blue matched at site and checked for bearing clearances. The contractor shall carry out scraping of bearing housing if required. Check for air gap and adjustment of stator/ rotor for magnetic center of HT motor shall be carried out as part of erection.

2.2.17.44 The contractor shall be responsible for obtaining necessary approval and making whatever additions / modifications considered necessary by the Electrical Inspector, Boiler inspector or other authorities to bring the installation in conformity with the applicable rules and regulations. The liaison with the inspectors, arrangement for inspection / inspector's visit, preparation of documents, furnishing clarifications, information etc. as and when required will have to be done by the contractor with in the final agreed price.

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2.2.17.45 Contractor shall take all safety measures and ensure that adequate precautions are enforced for area safety and good housekeeping is maintained in their work area in line with BHEL and its client's safety policy. All packing material and scrap steel etc. shall be cleared from work site both inside 'plant courtyard' and area so allotted for site fabrication, on regular basis and transported to identified disposal yard as allocated by BHEL / its client.

2.2.17.46 The temporary wiring used for construction power supply in fabrication area shall be taken through PVC pipes / conduit or overhead on temporary poles.

2.2.17.47 The entire work is being executed as per the specifications, drawing and documents furnished by BHEL manufacturing units and as directed by BHEL Engineers at site to the entire satisfaction of BHEL's client. BHEL's client / client's consultant has full authority to check / recheck / inspect any work, T&P, procedure, process etc. at any point of time jointly with BHEL or independently. It shall be responsibility of the contractor to cooperate in every respect and provide the necessary assistance within the final accepted rates.

2.2.17.48 The fans and other rotating machines shall be checked for clearances & other vital tolerances. The IGV unit shall be serviced. Necessary assistance for balancing of equipment during trial run, if required, shall be provided by the contractor free of cost.

2.2.18 DRUM LIFTING & PRESSURE PARTS MODULE ASSEMBLIES ERECTION

2.2.18.1 Boiler drum shall be unloaded either in storage area or near the erection site / boiler / HRSG depending upon site conditions. Shifting / dragging of the same to erection site for erection shall be within the scope of this contract and will be erected as per site conditions and instructions of BHEL Engineer.

2.2.18.2 The boiler drum of HRSG has to be lifted with 200/ 250 MT crane after the pressure part modules are positioned & secured. Being self-supporting the drum will not have any suspension arrangement. Fabrication & installation of the temporary structure for supporting & final alignment is in the scope of contractor. The structural material will be supplied by BHEL free of cost. This temporary structure is to be removed after the completion of welding of connecting piping.

2.2.18.3 The pressure parts (modules) are received at site with temporary transportation arrangement. The contractor has to remove these structures at defined stages of material handling / erection at no extra cost to BHEL. The temporary structures has to be accounted / returned to BHEL stores within the quoted rates.

2.2.18.4 Structural steel will be provided for handling of single module of HRSG and for up- righting them. Fabrication of this structure will be in the scope of the contractor. After erection of the modules this structure has to be accounted for / returned to BHEL stores. The contractor will be paid as per the quoted tonnage rate.

2.2.19 WELDING, HEAT TREATMENT, RADIOGRAPHY and NDT:

2.2.19.1 The pressure parts & IBR pipe lines shall be erected in conformity with the provision of Indian Boiler Regulations and as may be directed as per any other standards/ specification in practice, in BHEL. The method of welding (ARC, GAS, TIG or other method) may be indicated in the detailed drawings/ schedules. BHEL Engineer will have the option of changing the method of welding as per site requirements. **Semi-automatic welding (GMAW) process shall be used for non-pressure parts / ducting / structures etc to the maximum possible, considering its cost efficiency, better quality and time saving features.**

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2.2.19.2 Welding of pressure parts / equipment / piping / high tensile structural steel shall be done by certified high pressure welders who possesses valid certificate of CIB of the state in which the equipment is erected as per provision of IBR. The HP welder who possesses necessary certificate shall appear well in advance before the expiry of the validity of his certificate for re-qualification test as per relevant provision of IBR and keep the certificate valid till the completion of work. The services of such welders, the validity of whose certificates have expired, shall have to be terminated forthwith.

- a. All welders including tack welder, structural and high pressure welder shall be tested as per ASME section IX and approved by BHEL Engineer before they are actually engaged on work though they may possess the IBR certificate. BHEL reserves the right to reject any welder if the welder's performance is not found to be satisfactory. The records of qualification and performance of each HP welder shall be maintained by the contractor in Performa given by BHEL Engineer. All the welders qualified for the work will be issued an identity card by the contractor with the approval of BHEL Engineer and welder will keep the same with him at work place. The record of joints, consumables & equipments along with welders identity shall be maintained by the vendor as per BHEL Engineer's instructions.
- b. The root run welding of all butt welds of tubes/ pipes (HP or LP), instrumentation tapping points etc. will be done by TIG welding process only. Subsequent welding will be done as per welding schedule / Instructions of the engineer including full TIG welding of butt weld joints of tubes / pipes of lesser thickness if required. The contractor within the finally accepted rates shall arrange purging with inert gas in case of stainless steel joints as per requirement.
- c. Complete penetration of welding shall be achieved and all welded joints shall be subject to acceptance by the Engineer.

2.2.19.3 Engineer may stop any welder from the work if his work is unsatisfactory for any technical reason or if there is a high percentage of rejection of joints welded by a particular welder which, in the opinion of the Engineer, will adversely affect the quality of the welding though the welder has earlier passed the tests prescribed by Engineer. The welders having passed qualification tests does not relieve the contractor of contractual obligation to continuously check the welder's performance.

2.2.19.4 Faulty welds caused by the poor workmanship or lack of supervision of lack of supervision on the part of the contractor shall be cut and re-welded at the contractors expenses. The procedure for the repair of defective welds shall be approved by the Engineer prior to any repair being made. For each batch of approved brassed certified showing compliance with the specification shall be secured and shall be submitted to the BHEL Engineer.

2.2.19.5 All charges for testing of contractor's welders including destructive and non-destructive tests conducted by BHEL at site or at any laboratory shall have to be borne by the contractor only. The materials for plate test pieces and for pipe and tube will be given by BHEL.

2.2.19.6 All welds shall be painted with anticorrosive paint, once Radiography and stress relieving works are over. Necessary consumables and scaffolding etc. Including paints shall be provided by contractor at his own cost. Daily welding reports in the proforma suggested by BHEL should be submitted without fail.

2.2.19.7 Only BHEL approved **electrodes and filler wires** as accepted by principal owner of plant will be arranged and used by the contractor, within the finally quoted price. BHEL reserves the right to test any approved electrode being used by the contractor. Testing charges for the same shall be borne by the contractor. All electrodes shall be baked and dried in the electric electrode drying oven to the required temperature for the period specified by the Engineer before these are used in erection work. All welders shall have electrodes drying portable oven at the work spot. The electrodes brought to the site will have valid manufacturing test certificate. The test certificate will have co-relation with the lot No. / batch No given on electrode packets. No electrodes will be allowed to be used in the absence of above requirement. The thermostat and thermometer of electrode drying oven should also be calibrated and test certificate from Govt. approved / accredited test house traceable to

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National / International standards shall be submitted to BHEL before putting the oven in use. Periodical calibration for the same shall also be arranged by the contractor within the finally accepted rates.

2.2.19.8 The regulators used on welding machines shall be calibrated before putting these into use for work. Periodic calibration for the same shall also be arranged by the contractor at his cost and records shall be maintained. The regulators used with the gas cylinders should be of reputed make and preferably ISI marked.

2.2.19.9 Preheating, radiography and other ND tests, post-heating and stress relieving after welding of tubes, pipes, including attachment welding wherever necessary, are part of erection work and shall be carried out by the contractor in accordance with the instructions of the Engineer. All equipment's and consumables essential for carrying out the above process have to be arranged by the contractor at his cost.

2.2.19.10 Contractor shall arrange all necessary heating equipment with automatic recording devices. Also the contractor shall have to arrange for labour, heating elements, thermocouples, etc. insulating materials like asbestos cloth, ceramic beads, asbestos ropes etc. required for heat treatment/ stress relieve operations. Temperature shall be measured at least at two different points for pipes above 200 mm dia. by thermocouple, and recorded on a continuous printing type recorder. All the recorded graphs for heat treatment works shall be the property of BHEL. The contractor has to provide thermo-chalks, temperature recorders, thermocouple attachment units, graphs, sheets, etc. for checking within the finally accepted rates. All stress relieving equipment will be used after due calibration and submission of test certificate to BHEL. Periodic calibration from Govt. approved / accredited Test Houses traceable to National / International standards will also be arranged by the contractor for such equipment at his cost. The contractor shall obtain the signature of Engineer or his representative on the strip chart of the recorder after setting up the weld joints for heat treatment operation prior to the starting.

2.2.19.11 The technical particulars, specification and other general details for radiography work shall be in accordance with ASME, IBR, DIN or ISO as specified by BHEL.

2.2.19.12 Iridium-192 shall be used by contractor for radiography work. The geometric unsharpness shall not exceed 1.5 mm. Taking adequate safety precautions shall be the responsibility of the contractor while carrying out radiography. Necessary safe guards required for radiography (including personnel from BARC) shall be arranged by contractor at his cost. All related documents issued by BARC shall be submitted by the contractor to BHEL.

2.2.19.13 Low speed high contrast, fine grain films (D-7 or equivalent) in 10 cm. width only be used for weld joint radiography. Film density shall be between 1.5 to 2.0.

2.2.19.14 All radiographs shall be free from mechanical, chemical or process marks, to the extent they should not confuse the radiographic image and defect finding. Penetra meter as per ASME, DIN, and ISO and as specified by BHEL must be used for each exposure.

2.2.19.15 Lead numbers and letters are to be used (generally 6 mm size) for identification of radiographs. Contract no., joint identification, source used, welder's identification and SFD are to be noted down on paper cover of radiograph.

2.2.19.16 Lead intensifying screens for front and back of the film should be used as per the above referred ASME specification.

2.2.19.17 The joint is to be marked with permanent mark A,B,C, etc., to identify the segments. For this a low stress stamp shall be used to stamp the pipe on the down stream side of the weld.

2.2.19.18 For multiple exposure on pipes, an overlap of about 25 mm of film should be provided.

2.2.19.19 The contractor shall have a dark room fully equipped with radiography equipment, film (un-exposed), chemicals and any other dark room accessories ie all the facilities including air conditioners for storing and processing radiography films. There should be adequate number of radiography personnel with sufficient experience and certified by M/s BARC as Radiographer for

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conducting radiography test in accordance with safety rules laid down by Division of Radiological protection. These personnel should also be registered with DRP / BARC for film badge service. The proof of having sufficient film / chemicals to complete the entire work should be shown to BHEL.

2.2.19.20 All arrangements for carrying out radiography work including dark room and air conditioner and other accessories shall be provided by contractor within the space allotted for office at his cost. As an alternative the contractor may deploy an agency having all above facilities and who are duly approved / accredited by BARC and/or other Regulatory authorities. Detailed particulars of such agencies will be submitted and got approved by BHEL Engineer before the actual deployment of agency for radiography work.

2.2.19.21 Contractor shall note that 100% radiography will be done at the initial stages on all the HP welding joints. Subsequently, radiographic inspection will be done on the basis of quality of welding. However minimum percentage of joints to be radiographed shall not be less than the requirement of IBR or as specified by BHEL. The percentage may be increased depending upon the quality of joints and at the discretion of BHEL. Every rejection shall be penalised with further two no of additional weld joints to be radiographed in case of percentage radiography.

2.2.19.22 If the contractor does not carry out radiography work due to non-availability of source/ film/ chemical/ operator etc., BHEL will get the work done departmentally or through some other agency at the risk and cost of the contractor.

2.2.19.23 All the radiographs shall be properly preserved and shall become the property of BHEL.

2.2.19.24 Since radio-isotopes are being used, all precautions and safety rules as prescribed by BHEL/BARC/Customer shall be strictly followed. BARC/ DRP Certificates to be provided before taking up the work.

2.2.19.25 The defects as pointed out by the engineer shall be rectified and re-radiographed immediately to the satisfaction of BHEL Engineer. The decision of the engineer regarding acceptance or otherwise of the joint will be final and binding on the contractor.

2.2.19.26 Radiography of joints shall be so planned after welding that the same is done either on the same day or next day of the welding to assess the performance of HP welders. If the performance of welder is unsatisfactory, he shall be replaced immediately.

- a. Wherever radiographs are not accepted, on account of bad shot, joints shall be re-radiographed and re-shots submitted for evaluation. Radiographs shall be taken on joints after carrying out repairs. However, if the defect persists after first repair, as per radiograph, carrying out radiography shall be repeated till the joints is made acceptable. In case the joint is not repairable, the same shall be cut, re-welded and re-radiographed at contractor's cost.
- b. The contractor shall also be equipped for carrying out other NDT like LPI / MPI/ UT etc. as required as per welding schedule/ drawings within the finally accepted rates/ prices.
- c. Heat treatment and radiography may be required to be carried out at any time (day and night) to ensure the continuity of the progress. The contractor shall make all necessary arrangements including labour, supervisor/ Engineer required for the work as per directions of BHEL.
- d. The contractor shall maintain a record in the form as prescribed by BHEL of all operations carried out on each weld and maintain a record indicating the number of welds, the names of welders who welded the same, date and time of start and completion, preheat temperature, radiographic results, rejection if any, percentage of rejection, heat treatment (if any) etc. and submit copies of the same to the BHEL Engineer as required. Interpretation of the BHEL Engineer regarding acceptability or other wise of the welds shall be final. All site welding joints shall be subject to acceptance by BHEL Engineer.

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- e. All butt / fillet welds shall be subject to dye penetration test as per the instructions of the Engineer at no additional cost.

2.2.19.27 The contractor shall carry out the edge preparation of weld joints at site in accordance with the details acceptable to BHEL Engineer. Wherever possible machining or automatic flame cutting will be allowed only wherever edge preparation otherwise is impractical. All slags / burrs shall be removed from cuts and all the hand cuts shall be ground smooth to the satisfaction of engineer.

2.2.19.28 The contractor's Engineer shall prepare as per direction of BHEL Engineer the complete field welding schedule for all the field welding activities to be carried out in respect of piping and equipment erected by him involving high pressure welding at least 30 days prior to the scheduled start of erection work at site and submit the same to BHEL Engineer for approval. Such schedules shall be strictly adhered to by the contractor after approval.

2.2.20 APPLICATION OF INSULATION

The application of insulation materials & sheet casing work include but not limited to the following.

2.2.20.1 All attachment welding including welding of hooks / supports as per pitch both on equipment & piping shall have to be done by the contractor as per drawings or as directed by Engineer. Attachment welding shall have to be done by certified welders. If necessary contractor may have to cut the hooks without any extra cost. The HRSG / BOILER ducting / casings shall be internally insulated with ceramic wool and clad with stainless steel sheet on stainless steel hooks & retainers. Plasma cutting machine required is to be arranged by the contractor.

2.2.20.2 Applying of red oxide paint including supply of paint on welded portions as directed by Engineer.

2.2.20.3 The mineral wool mattresses (bonded / unbounded) are received at site in standard sizes. These are to be dressed / cut to suit site requirements by the contractor.

2.2.20.4 The no. of layers / thickness of mineral / ceramic wool shall be as per various drawing / insulation schedule and as directed by Engineer. After applying the mineral / ceramic wool mattress, the required holding materials if necessary (by fabrication of rings/ hooks at no extra cost) shall be fixed as directed and as per drawings and specifications. Required material for fabrication of rings / hooks shall be supplied by BHEL free of cost.

2.2.20.5 Application of two coats of anti-corrosive black bituminous paint (corresponding to relevant IS code) on inner surfaces of sheet cladding and bitumen sealing compound on cladding joints, if necessary, is included in the scope of this work and will be carried out within the finally accepted rates. The sealing compound and the anti-corrosive black bituminous paint required for this work is to be arranged by the contractor at his cost

2.2.20.6 To ensure that the finished surface of the insulation conform to the dimensions and tolerances given in the drawing. Aesthetic finish and accuracy of work are most important.

2.2.20.7 It is the responsibility of the contractor to ensure that the insulation materials and sheet metal covering issued to him for application are well protected against loss or damage from weather conditions tending to affect its quality by the provision of closed / semi closed sheds at his cost. If any damage occur to the material due to improper storage or due to any causes attributable to the contractor except for normal breakages or damages allowed in such cases, the cost of such damaged material shall be to the account of the contractor.

- a. Contractor is liable for the accounting of the material issued to him and any unaccountable losses shall be made good by him.

- b. All the surplus, unused materials etc., supplied by BHEL shall be returned to BHEL after the work is over. Materials like gunny bags and packing materials, empty containers may be returned at periodical intervals.
- c. Contractor shall mix & apply the refractory / insulation as per the instructions of BHEL Engineer. Castable refractory / insulation after application shall be cured as per the instructions of BHEL Engineer.
- d. Application of Castable refractory between tubes, around burners, on ceiling is to be done as directed by Engineer and as per detailed drawings & specifications.
- e. Dressing of insulation brick to suit site conditions, curing refractory concrete applied / sheet cladding over insulation form part of this work.
- f. Contractor shall observe all precautions for laying / curing of Castable refractory. Any defective works found shall be rectified by contractor at his own cost including materials.
- g. Making structural supporting work for pour able insulation, laying pour able insulation, adhering to all specifications and instructions during application form part of this work.
- h. The contractor shall provide the required quantity of wire, nails, planks for formwork and other material for centering and grouting works.
- i. The contractor shall leave certain gaps and opening while doing the work as per instructions of BHEL engineer to facilitate inspection during commissioning and to fix gauges, fittings and instruments. The gaps will have to be finished as per drawings at a later date by the contractor at his cost.

2.2.20.8 Plates, bars and rods and other materials shall be cut and rewelded from the fabricated pieces to suit erection requirements for which no extra payment shall be made to the contractor.

2.2.20.9 Aluminium / stainless steel sheet metal cladding over insulation will consists of plain / ribbed / corrugated sheets. The sheets will be supplied in standard sizes. Their application shall be carried out by fabrication to the sizes and shapes specified in drawings, beading, swaging, bevelling of sheets, crowning the sheets if necessary, application of two coats of anti-corrosive black bituminous paint on inner surfaces, fixing the same to supports over wool insulation with screws as specified in BHEL drawings or as instructed by BHEL Engineer.

2.2.20.10A logbook shall be maintained by the contractor for the clearance of the area for application of insulation. If the contractor does the work on his own accord without prior permission the area shall be redone at his cost. Wastage allowance for insulation materials issued are as follows:

- a) Wool / LBM mattresses and cladding sheets :2%
- b) Castable refractory :2%
- c) Insulation bricks & mortar :2%

2.2.20.11 If during erection and commissioning any of the parts are to be temporarily fixed and then replaced by permanent ones at a later date or if any of the parts are to be removed for modification, rectification, adjustment and then refitted or if some parts are to be opened for inspection and checking and for measurement of metal surface temperature the same may necessitate removal and reapplication of insulation and sheet metal cladding, which shall be done by the contractor at no extra cost and the erection rate quoted shall be inclusive of such contingencies.

2.2.20.12 Insulation of all expansion joints, dampers etc. Shall be carried out after NDT / gas tightness test is completed.

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2.2.20.13 Removable type of insulations to be provided for valves, fittings, expansion joints etc. as per the drawings or as directed by BHEL Engineer.

2.2.21 TESTING, PRE-COMMISSIONING, COMMISSIONING AND POST-COMMISSIONING.

2.2.21.1 The contractor shall carry out the required test on the HRSG / BOILER, ducts and pipelines such as gas / air leak test, hydraulic test etc. as instructed by BHEL using contractors own consumables, labour and scaffoldings. Air leak test on pressure parts preliminary to Hydraulic test by compressed air shall also be carried out to check and rectify the various leakage / defects etc.

2.2.21.2 The contractor shall carry out all the tests as desired by BHEL Engineer/ Manufacturer on erected equipment covered under scope of this contract during testing and commissioning to demonstrate the physical completion of any part or parts of the work performed by the contractor.

2.2.21.3 All the above tests should be repeated till all the equipment satisfy the requirement / obligation of BHEL and BOILER Inspectorate, if required at various stages. The contractor shall do the entire repair for site-welded joints arising out of the failures during testing as part of work within finally accepted rates.

2.2.21.4 Contractor shall lay out all necessary temporary piping, install the pumps, blowers, tanks etc., with access platforms, valves, pressure gauges, electric cables, switches, cutting of some of existing valve, placing of rubber wedges in the valves etc., required for hydro test, air /gas leak tests, alkali boil out, chemical cleaning and steam blow off, oil flushing or for any other tests as the case may be required for system completion will carry out above activities under this scope of work as per instructions of BHEL. The scope also covers the off site disposal of effluents, site clean-up and removal of temporary piping, pumps etc. and returning same to stores.

2.2.21.5 Items required for conducting hydraulic test, air/gas leak test, alkali boil out, chemical cleaning of pipe lines and equipments, steam blowing etc., will be supplied by BHEL/ its Customer. However, servicing, erection and dismantling and returning of the same to Stores is the responsibility of the contractor at no extra cost to BHEL and no weights shall be payable for such temporary works the contractor should take care of this aspect while submitting his offer.

2.2.21.6 It shall be the responsibility of the contractor to preserve the HRSG / BOILER as per BHEL's requirement.

2.2.21.7 Drum may be dispatched without fixing internals and internals may be sent separately in loose. The internals have to be fixed as and when required. Dismantling and re-assembly to be done to suit various commissioning requirements at no extra cost to BHEL

2.2.21.8 Commissioning of the HRSG / BOILER will involve trial run of all the equipment erected, alkali flushing, alkali boil out, acid cleaning, passivation, preservation, steam blowing, floating of safety valves, flushing of all the lines by air, oil or steam as the case may be, trial run of the HRSG / BOILER, servicing of valves and any other works incidental to commissioning. Contractor shall provide various category of manpower in sufficient numbers along with supervisors / engineers including necessary consumables, IMTEs, T&P etc and any other assistance required during pre-commissioning, commissioning & post commissioning of equipment & attending any problem in the equipment erected by the contractor till handing over. Association of BHEL's / Client's staff during above period will not absolve contractor from above responsibilities.

2.2.21.9 The valves will have to be checked, cleaned or overhauled in full or in part before erection, after alkali boil out, steam blowing and during commissioning as may be necessary and is the part of erection & commissioning.

2.2.21.10 In case any defect is noticed during tests, trial runs and commissioning such as loose components, undue noise or vibration, strain on connected equipment etc., the contractor shall immediately attend to these defects and take necessary corrective measures. If any readjustment

and realignment are necessary, the contractor within the finally agreed tonnage rate shall do the same as per Engineer's instructions including repair, rectification and replacement work. The parts to be replaced shall be provided by BHEL.

2.2.21.11 During this period though the BHEL's customer's staff will also be associated in the work, the contractor's responsibility will be to arrange for the complete requirement of supervision, men, consumables, T&P and IMTEs till such time the commissioned units are taken over by the BHEL's customer.

2.2.21.12 It shall be specifically noted that the above employees of the contractor may have to work round the clock along with BHEL Engineers and hence overtime payment by the contractor to his employees may be involved. The contractor's finally accepted rates/ price shall be inclusive of all these factors also.

2.2.21.13 In case, any rework is required because of contractor's faulty erection which is noticed during commissioning, the same has to be rectified by the contractor at his cost. If any equipment / part is required to be inspected during commissioning, the contractor will dismantle / open up the equipment / part and reassemble / redo the work without any extra claim.

2.2.21.14 During commissioning, opening / closing of valves, changing of gaskets, realignment of rotating and other equipment, attending to leakage, minor adjustments of erected equipment may arise. The finally accepted price / rates shall include all such works.

- a. All temporary supports shall be removed in such a way that pipe supports are not subjected to any sudden load. During hydro static testing of pipes, all piping having variable spring type supports shall be held securely in place by temporary means while constant spring type support hangers shall be pinned or blocked solid during the test.
- b. The contractor shall carry out cleaning and servicing of valves and valve actuators prior to pre-commissioning tests and / or trial operations of the plant. System for recording of such servicing operations shall be developed and maintained in a manner acceptable to BHEL Engineer and to ensure that no valves and valve actuators are left un-serviced. Wherever necessary as required by BHEL Engineer, the contractor shall arrange to lap/ grind valve seats at no extra cost.
- c. The contractor shall carry out any other test as desired by BHEL Engineer/ Manufacturer on erected equipment covered under scope of this contract during testing and commissioning to demonstrate the physical completion of any part or parts of the work performed by the contractor.

2.2.22 PROGRESS REPORTING

2.2.22.1 Contractor is required to draw mutually agreed monthly erection program in consultation with BHEL Engineer well in advance. Contractor shall ensure achievement of agreed programme and shall also timely arrange additional resources considered necessary at no extra cost to BHEL.

2.2.22.2 Weekly progress review meetings will be held at site during which actual progress during the week vis-a-vis scheduled programme shall be discussed for actions to be taken for achieving targets. Contractor for discussions shall also present the programme for subsequent week. The contractor shall constantly update/ revise his work programme to meet the overall requirement. All quality problems shall also be discussed during above review meetings. Necessary preventive and corrective action shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of non-conformities.

2.2.22.3 The contractor shall submit daily, weekly and monthly progress reports, HP joints welding and radiography reports, manpower reports, materials reports, consumables report and other reports as per proforma considered necessary by the Engineer.

2.2.22.4 The progress report shall indicate the progress achieved against planned, with reasons indicating delays, if any, and shall give the remedial actions which the contractor intends to take to make good the slippage or lost time, so that further works again proceed as per the original programme and the slippages do not accumulate and effect the overall programme.

2.2.22.5 The daily manpower reports shall clearly indicate the manpower deployed, category wise specifying also the activities in which they are engaged.

2.2.23 DRAWING AND DOCUMENTS

2.2.23.1 The detailed drawings, specifications available with BHEL engineers will form part of this tender specification. These documents will be made available to the contractor during execution of work at site. The contractor will also ensure availability of all drawings / documents at work place.

2.2.23.2 Necessary drawings / documents to carry out the erection work will be furnished to the contractor by BHEL on loan which shall be returned to BHEL Engineer at site after completion of work. Contractor shall ensure safe storage and quick retrieval of these documents.

2.2.23.3 The contractor shall maintain a record of all drawings and documents available with him in a register as per format given by BHEL Engineer. Contractor shall ensure use of pertinent drawing/ data/ documents and removal of obsolete ones from work place and returning to BHEL.

2.2.23.4 The data furnished in various annexures enclosed with this tender specification are only approximate and for guidance. However, the change in the design and in the quantity may occur as is usual in any such large scale of work.

2.2.23.5 Should any error or ambiguity be discovered in the specification or information the contractor shall forthwith bring the same to the notice of BHEL before commencement of work? BHEL's interpretation in such cases shall be final and binding on the contractor.

- a. Deviation from design dimensions should not exceed permissible limit. The contractor shall not correct or alter any dimension / details, without specific approval of BHEL.
- b. Any ambiguity found in the drawings should be brought to the notice of engineer prior to start of work.
- c. Certain revisions of drawings are received during the course of execution, if the same have been received prior to start of particular (specific) job then no claim will be admissible on this account.

3.0 Contractor shall ensure following for both Part (A) and Part (B) of Scope of Work covered in this contract.

3.1 Contractor shall ensure following :

- A. Contractor has to maintain contact with local hospital having scanning & other ultra-modern medical facilities required during emergency.
- B. Contractor has to ensure pre-employment medical check for all staff & workers.
- C. Contractor has to ensure that adequate First Aid facilities are available at work site for emergency purpose. This emergency set-up should include, but not limited to, the following
 - Oxygen set up
 - Breathing apparatus
 - Eye wash facility
 - Stretcher
 - Trauma blanket
 - Medicines.

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An ambulance is required to be arranged and maintained at site by the contractor for entire contract period for subject work. This emergency facility set up including ambulance, male nurse etc. will be shared by BHEL and its other contractors working at same project at no cost to BHEL and its Sub contractors.

3.2 BHEL-Power Sector (NR) is ISO 9001, ISO 14001, OHSAS 18001, BS 7799 and SA-8000 certified company. Quality of work, to customer's satisfaction and system requirements is the essence of these certifications. The contractor in all respects will organise his work, systems, environment, process control documentation, T&P, inspection, measuring and testing equipment etc. as per instructions of BHEL engineer. Contractor have also to comply with the applicable legislation and regulations with regard to their scope of work including health, safety and environment (HSE) aspects of minimizing risk arising from occupational health, safety hazards, controlling pollution and wastage's. Besides above the technical clearance from respective statutory bodies for above shall be obtained by contractor at their cost to meet regulatory/ statutory requirements.

3.3 Contractor shall ensure following towards HSE & Social Accountability : Contractor shall ensure **deployment of certified Safety Officer** at site. The Contractor shall be fully responsible for accidents caused due to him or his workmen's negligence or carelessness in regard to the observance of the safety requirements and shall be liable to pay compensation for injuries. **It may be noted that non-compliance to HSE & SA requirements will result in penal action. In case of violations of safety requirements, the Contractor shall be liable for a penalty of Rs. 200/- for the first violation and Rs. 500/- for the subsequent violations. For serious lapses, as decided by BHEL Engineer, fines upto Rs. 5000/- at a time can be imposed.** The amount towards penalties as above will be deducted from running bills of the Contractor. The amount so collected above will be utilized for supporting the safety activities at site. The decision of BHEL on above will be final and binding on the Contractor.

3.4 Some of the common safety rules to be followed during working are as follows :-

- a) No outsider is allowed to enter construction area without permission.
- b) Nobody is allowed to enter at construction site without Safety Shoe.
- c) Never enter work area without Safety helmet & chin strap in place.
- d) No climbing/working allowed without proper safety belt above 2 m. height.
- e) Do not exceed the speed limit 25 Kmph within premises.
- f) No debris obstacles allowed on the roads & passages.
- g) All accidents/incidents to be reported to site Incharge.
- h) Do not walk on pipelines or false ceiling.
- i) Maintain good Housekeeping at work site
- j) All Site supervisors & engineers (including subcontractors) must be imparted structured training on construction safety before start of the job & record to be maintained.
- k) Tools box talk (5-15 minutes) by supervisor prior to commencement of any job.
- l) Monthly safety meeting with Site In-charges.
- m) LPG cylinders not allowed for gas cutting.
- n) Good Housekeeping. Separate waste bins to be used for flammable & non-flammable material.
- o) Safety awareness programs for workers by display of boards, posters, competitions, talks etc.
- p) Deployment of Safety Supervisors for every 250 workers and part thereof at work site.
- q) Display of List of First Aid trained persons.
- r) Testing certificates for lifting tools & tackle.
- s) Provision & maintenance of fire extinguishers at construction site & material stores.
- t) Display of emergency telephone numbers at various locations.
- u) For work in confined space use 24 V lamp fitting & use tools with air motors or electric tools with max. 24 V.

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- 3.5 In case of theft of material (Complete storage area and material in his custody at erection site (Part B)), Contractor has to lodge the FIR and arrange for claiming insurance as per direction given by BHEL Site Engineer.

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

3.0 FACILITIES IN THE SCOPE OF BHEL/CONTRACTOR

S.No.	Description	Scope /to be Taken care by		Remarks
		BHEL	CONTR.	
1.1.0	ESTABLISHMENT			
1.1.1	FOR CONSTRUCTION PURPOSE			
A.	Open space for office	YES		Limited space (free of charge) As and where made Available by customer/BHEL
B.	Open space for storage	YES		Limited space (free of charge) As and where made Available by customer/BHEL
1.1.2	FOR LABOUR COLONY			
A	Open space	YES		Free of charge As and where made Available by customer/BHEL
1.2.0	ELECTRICITY			
1.2.1.	Electricity for construction purposes (chargeable/free)			
1.2.1.1	Single point source	YES		Free of charge
1.2.1.2	Further distribution for the work to be done Which include supply of materials & execution		YES	
1.2.2	Electricity for the office, stores, canteen etc of the bidder which include:		YES	
1.2.2.1	Distribution from single point including supply of materials & service		YES	

1.2.2.2	Supply, Installation & connection of material of energy meter including operation & maintenance		YES	
1.2.2.3	Duties & deposits including statutory clearances for above		YES	
1.2.2.4	Demobilization of the facilities after completion of works		YES	
1.2.2.5	Electricity for living accommodation of the bidder Staff, engineers, supervisors etc. on the above Lines		YES	Chargeable As per prevailing rates Contractor shall install calibrated energy meter for metering electricity consumption.
1.3.0	WATER SUPPLY			
1.3.1	FOR CONSTRUCTION			
1.3.1.1	Making the water available at single point	YES		FREE OF CHARGE As and where made available by Customer /BHEL
1.3.1.2	Further distribution as per the requirement of work including supply of materials & execution		YES	
	FOR LABOUR COLONY			
	Making the water available at single point		YES	Contractor has to arrange on his own.
	Further distribution as per the requirement of work including supply of materials & execution		YES	
1.4.0	LIGHTING			
1.4.1	For Material Handling work (supply of all materials) 1. At office storage area 2. At Yard or any other places where material is unloaded/stored	YES		

1.4.2	For material handling work (execution of lighting work/arrangements) 1. At office storage area 2. At Yard or any other places where material is unloaded/stored	YES		
	Providing the necessary consumables like bulbs, tubelights, Switches, etc. for maintaining the lighting system	YES		
1.5.0	Communications facilities for site operations Of the bidder			
	Telephone, fax, internet, intranet, email etc.		YES	

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

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- d) All electrical connections should be made through connectors, nuts and bolts, switches, plug and sockets. Loose connections or hooking up of wires shall not be permitted.
 - e) Contractor has to make their own earthing arrangement for their equipment / DB earthing.
 - f) All electrical equipment / tools and plants should be properly earthed. DBs to be earthed diagonally opposite at two points.
 - g) Contractor should use “MCCB” and “ELCB” either on incoming or outgoing connections to the DBs.
 - h) Contractor should ensure that all the CBs / TPNs/ Fuses/ MCCB / ELCB cables etc. should be of adequate rating/ capacity.
 - i) For permission of supply connections contractor has to submit a test report of their installations with a single line diagram of connected/ proposed loads.
- 3.5** ELCB will be tested once in a week or as directed by BHEL by actually simulating the earth leakage for all installations and the same shall be recorded in the logbook to be maintained by the contractor.
- 3.6** In case of power cuts / load shedding no compensation for idle labour or extension of time for completion of work will be given to contractor.
- 3.7** On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and leveled and debris shall be removed, as per instructions of BHEL, by the contractor at his cost. In the event of his failure to do so, the Engineer will get it done and expenses incurred shall be recovered from the contractor along with prevailing overheads. The decision of BHEL Engineer in this regard shall be final.
- 3.8** **Contractor should install PCs ALONG WITH MODEM to connect with our server (LAN) at site.**

Chapter - IV: T&Ps & IMTE's to be deployed by Contractor

Sl. No.	Equipment	Capacity	Qty.	Remarks
1	Tyre mounted mobile crane	12/ 15T	1 No.	MM & E&C
2	Tyre mounted mobile crane	18 / 20T	1No.	MM
3	Tractor trailer unit	15 MT	1 No. /APR	MM
4	Welding equipment with access and ovens for welding electrodes baking and holding		15-20 Nos.	1 No. for MM
5	Hydraulic Pipe bending machine	2"	1 No.	Erection
6	Concrete Drilling Machine		1 No.	Erection
7	Plasma cutting machine with air compressor and air storage tank		1 No.	Erection
8	Winches	2,3 & 5 MT	APR	Erection
9	Slings	Different Capacity	APR	Based on the weight of different equipment to be handled.
10	Chain Pulley Block	5T & 10 T	8 No./APR	2 Nos. required for MM
11	Rails		APR	MM & E&C
12	Max Puller		6 No.	2 Nos. required for MM & E&C
13	Jacks		APR	MM
14	Slippers		APR	MM
15	Bolt Tension Calibrator		APR	Erection
16	Electric Winch 2/3/5 MT	3,5/10 MT	APR	Erection

17	Heat Treatment and Stress relieving arrangement		APR	Erection
	<u>IMTE's to be deployed by Contractor</u>			
1	Pressure Gauges	Different Capacity	APR	Capacity as per requirement
2	Tong Tester	Different Capacity	01 No.	
3	Insulation Tester		01 No.	
4	Measuring Tapes		APR	

4.0 T&P DEPLOYED BY CONTRACTOR

- * T&P Deployment date shall be the mutually agreed date between the contractor and BHEL engineer to start the work. In case of discrepancy the decision of BHEL engineer is final.
- ** APR- As per requirement (Contractor shall have to deploy the T&P whenever required at site as decided by BHEL ENGINEER)
- *** Life of crane, at the time of deployment at site, shall be less than **10 years**. The necessary documents like Invoice copy/Bill of lading, Insurance; Test certificates, Third party inspection report by approved agency etc. shall be submitted to BHEL.

- 4.1 The above list specifies only major T&Ps (may not be complete) to be deployed by the contractor and is based on minimum requirement. All additional / other tools and plants including suitable capacity D shackles, slings, rails, sleepers, hydraulic / mechanical jacks etc which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price.

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

5.0T&P MMD DEPLOYED BY BHEL ON SHARING BASIS

LIST OF T&P BEING PROVIDED BY BHEL ON FREE OF HIRE CHARGES AND ON SHARING BASIS			
Sl. No.	Equipment	Capacity	Qty.
1	CRAWLER CRANE for Drum lifting & Erection of last shell of Chimney only	200-250 T	1 No.
	CRAWLER CRANE	100/150T	1 No.
	Hydro Test Pump Set	250/400 kg	1 No.

NOTES:

1. Cl.4.2.2.16 c.)Of SCC shall read as day-to-day upkeep and running maintenance like filling topping up of lubricants, changing filters, etc including repair of self starter, batteries and dynamo of these cranes shall be the responsibility of the contractor. If on checking it is found that the same is not followed, BHEL will exercise its right to get the job/works done at the risk and cost of contractor. BHEL may also provided cranes through crane hiring agencies in which case the day-to-day upkeep and running maintenance shall be excluded from scope of contractor.
2. **Cl.4.2.2.16 e.)Of SCC: The operator for BHEL's cranes for the above capacity being provided by BHEL free of cost. Further, Helpers and fuel for operation of all BHEL cranes shall be provided by contractor within the final accepted rates.**
3. The Crane at Sl No 1 will be provided as per requirement& availability for special package handling (ODC consignment as situation warranted) only at the sole discretion of the BHEL Engineer and the tonnage rate shall be as per tonnage i.e. as per rate of sl. 1.1 of rate schedule.
4. The contractor shall make necessary arrangement like lying of special sleepers beds, assembly & dismantling of heavy lift attachment, boom, jib etc. for movement and operation of crane.
5. Other T&P mention above contractor shall transport from BHEL stores, install, operate, carry out maintenance, dismantle after use and return to BHEL stores.

Chapter - VI: TIME SCHEDULE

6.0 TIME SCHEDULE

The contractor is required to commence the materials handling work (Part A) within 10 days from the date of issue of Letter of Intent and subsequently other works of Part A within 30 days of this LOI unless otherwise BHEL decides to fix any other date however the date of start of work as agreed and certified by BHEL shall be considered as zero date.

- 6.1 Entire work as detailed in tender specification shall be completed within **22 months** from the Zero date of the contract as per the programs / milestones indicated by BHEL from time to time. Contractor has to mobilise adequate resources to meet BHEL commitments to customer as indicated from time to time for which no compensation will be payable. However, in case of contractor discharges his contractual responsibility even before schedule contract period, he will be allowed to wind up his set up without any financial implications on either side.

In case due to reasons not attributable to the contractor, the work gets delayed and additional manpower / resources have to be mobilized so as to expedite the work to meet various milestones, same shall be done within the quoted rates as per Rate Schedule, at no extra cost to BHEL. In the event the contractor fails to respond to these requirements, BHEL shall take appropriate actions to meet customer's commitments in line with the provisions of General Conditions of Contract.

- 6.2 The various tentative milestone dates to be achieved are as below:

MILE STONES	MONTH
Start of Work (MM - Part A)	Zero
Start of HRSG Column Erection (HRSG Erection Work – Part B)	6 months from Zero Date
Drum lifting	within 7 months of Start of Erection Work
HRSG Hydro Test	within 9 months of Start of Erection Work
Gas in & Alkali boil Out completion	within 11 months of Start of Erection Work
Steam Blowing completion, Safety Valve Float and readiness for Trial operation	within 12 months of Start of Erection Work
Module Trial Operation	within 15 months of Start of Erection Work
Completion of all facilities	within 16 months of Start of Erection Work

- 6.3 The work under the scope of this contract specification is deemed to be completed in all respects, only when all the works are carried out and the testing and trial runs including safety valve floating, and clearance from Statutory Authorities are completed including all pending / punch points. *The decision of BHEL on completion date shall be final and binding on the contractor.*

Chapter - VII: TERMS OF PAYMENT

7.0TERMS OF PAYMENT

- 7.1 The 'Engineer' will certify regarding the actual work executed in the measurement books and bills, which shall be accepted by the contractor in measurement book.
- 7.2 Contractor shall submit bills for the work completed under the specification, once in a month detailing work done during the month. The format for billing shall be approved by BHEL before raising invoices.
- 7.3 Contractor shall submit shortage/ damage reports on BHEL,s standard materials management forms. No payment shall be released till the contractor submits these reports and are verified by the Engineer.
- 7.4 Subject to any deduction that BHEL may be authorised to make under the contract, the contractor on the certificate of the Engineer at site be entitled for payment as explained hereunder on prorata basis.

7.4.1 Interest bearing recoverable advance : Applicable as per Clause No. 2.13 of GCC

7.4.2	PROGRESSIVE PAYMENT ON PRO-RATA BASIS.
I	PROGRESSIVE PAYMENT ON PRO-RATA BASIS FOR MATERIAL HANDLING WORKS SHALL BE AS FOLLOWS: (Applicable for items at Sl.No. 1 of rate Schedule)
I.A	FOR SI. No. 1.1 OF RATE SCHEDULE FOR MATERIAL HANDLING WORKS - (85% of unit rates)
1	50 % of the applicable unit rate shall be paid after the materials are unloaded as per RR / LWB / loading advice / box packing slip subject to furnishing of following information along with the bills as per above clause.
	Material transporting vouchers stating work order and quantity of material for each consignment. Shortage report / open delivery taken w.r.t LWB, if any and acceptance thereof by way authorities/ transporters.
	Proof of claim lodged with Roadways/ transporters in respect of above shortage / open delivery. Material management forms duly filled and certified by the Engineer.
2	35 % of the applicable unit rate shall be paid as soon as the materials are duly shifted to desired location, stacked and verified by opening of cases / re-packing, wherever necessary (with contractor's own labour and T&P).
	Payment will be released on submission of the information, as per material management forms by the contractor immediately after verification of materials as certified by the Engineer. The Engineer at site would supply the requisite Performa.
	Contractor must ensure the stacking and verification of materials within 7 (seven) days from the date of unloading the materials in store, otherwise the same shall be done by engaging other agency on the risk and cost of contractor and decision of Engineer in this regard shall be final and binding on the contractor.
I.B	FOR SI. No. 1.2.1, 1.2.2 & 1.2.3 OF RATE SCHEDULE FOR MATERIAL HANDLING WORK – (85% of unit rates)

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	85 % of the applicable unit rate shall be paid after the materials are unloaded, verified and stacked as per RR / LWB / loading advice / box packing slip subject to furnishing of following information along with the bills as per above clause.
	Material transporting vouchers stating work order and quantity of material for each consignment. Shortage report / open delivery taken w.r.t. LWB, if any and acceptance thereof by way authorities/ transporters.
	Proof of claim lodged with ways/ transporters in respect of above shortage / open delivery. Material management forms duly filled and certified by the Engineer.
I.C	FOR SL NO. 1.3, 1.4, 1.5 and 1.6 OF RATE SCHEDULE FOR MATERIAL HANDLING WORK – (85% of unit rates)
	85 % of the applicable unit rate shall be paid on completion of particular item.
II	PROGRESSIVE PAYMENT ON PRO-RATA BASIS FOR ERECTION, TESTING AND COMMISSIONING OF HRSG SHALL BE FOLLOWS (85% OF UNIT RATES): (Applicable for installation of all items work for Sl. No. 2 of rate schedule)
1	15% of the applicable contract unit rate on pro-rata basis on completion of pre assembly wherever required
	15% of the applicable contract unit rate on pro-rata basis on placement in position and rough alignment.
	OR
	30% of the applicable contract unit rate on pro-rata basis on placement in position and rough alignment for the items where pre-assembly is not involved.
2	55% of the applicable contract unit rate on pro-rata basis on completion of final alignment / fastening / welding / grouting along with proper supports including radiography / NDT / stress relieving wherever involved.
III	15 % of the CV shall be paid as follows:
IIIA	Milestone based Payment (8% of CV)
1	2.0% of CV on completion of hydro test of the HRSG
2	2.0% of CV on completion of ABO of the HRSG
3	2.0% of CV on completion of steam blowing and SV Floating of HRSG.
4	2.0 % of CV on completion of trial operation of HRSG.

IIIB	If the commissioning activities could not be carried out due to no fault of contractor, BHEL Site in-charge, at his discretion, after recording reasons for exercising such option, can split and release payment upto 50% of milestone payment on completion of work, to the extent possible, required for carrying out that particular milestone / commissioning activities.
	Activities based Payment (7% of CV)
1	1% of CV on Area cleaning, Temporary structures cutting/removal and return of scrap
2	1% of CV on Liquidation of Pending Points
3	2 % of the CV shall be paid on final reconciliation of material
4	2% of the CV shall be paid on final Painting
5	1 % of the CV shall be paid on completion of Contractual Obligations

NOTES:

Base date for PVC,

- a) Material Handling Part (A) - as per clause no. 2.17.5 of GCC
- b) HRSG Erection Part (B) - 01.12.2013

Chapter - VIII: TAXES, DUTIES & LEVIES

8.0 Taxes, Duties, Levies

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

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

8.1 Service Tax & Cess on Service Tax

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

Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. The Service Tax Rules permit more than one option or methodology for discharging the liability of tax/levy/duty and BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor. Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract. For the purpose of claiming any Service Tax from BHEL, the following procedure shall be adopted :

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

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

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

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

8.2 VAT (Sales Tax /WCT)

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

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

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

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

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

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8.3 Modalities of Tax Incidence on BHEL

Wherever the relevant tax laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with

regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the contractor.

8.4 New Taxes/Levies

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

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

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

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Chapter - IX: Others

9.0 OTHERS

9.1 Performance Guarantee: NA

Irrespective of provisions in tender elsewhere, in view of nature of work, performance guarantee is not required under material handling part of this contract.

However Performance Guarantee is required for Erection & Commissioning Work (Part B) of this contract.

9.2 Price Variation Compensation Clause No. 2.17.5 of GCC Modified as:

- a) **For Part A i.e. work of Material Management – Base date shall be as per clause no. 2.17.5 of GCC i.e. Base date shall be calendar month of the latest date of submission of Tender.**
- b) **For Part B i.e. work of ETC of HRSG – Base date shall be considered as 01.12.2013.**

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Chapter - X

NOT APPLICABLE

Chapter - XI: ANNEXURES

ANNEXURE – I

GENERAL IDEA OF WEIGHTS TO BE HANDLED

The information given below is very tentative and not complete. Only a few of the typical components are listed below to give a general idea to the bidder. The weights and sizes indicated below are only approximate and are liable to vary.

Annexure – 1A

AA) HRSG WEIGHT SCHEDULE

Approximate weights

HRSG	:	2400 MT
CHIMNEY	:	200 MT
PIPING	:	220 MT
INSULATION ON PIPING	:	60 MT

Tentative weights as per PGMA LIST for HRSG

NS	PG	MA	DESCRIPTION	WEIGHT
1	04	118	BOILER DRUM WITH INTERNALS – HP	75000
1	04	144	DRUM SLIDE BEARING PLATES – HP	150
1	04	148	DRUM SLIDE BEARING PLATES – LP	150
1	04	149	FASTENERS FOR DRUM SADDLE – HP	20
1	04	158	FASTENERS FOR DRUM SADDLE – LP	20
1	04	176	BOILER DRUM WITH INTERNALS – LP	17000
1	07	206	RISER PIPES – HP	10000
1	07	208	RISER PIPES – LP	6000
1	07	210	RISER HEADERS & LINKS – HP	6200
1	07	212	RISER HEADERS & LINKS – LP	4000
1	07	411	DOWNCOMER SUSPENSIONS-HP	700
1	07	413	DOWNCOMER SUSPENSIONS-LP	100
1	07	504	DISC SPRING FOR MODULES SUPPORT	1000
1	07	505	EVAP. MODULE SUPPORTS-HP FRONT	1500
1	07	506	EVAP. MODULE SUPPORTS-HP REAR	1500

1	07	508	EVAP. MODULE SUPPORTS-LP FRONT	1500
1	07	510	EVAP. MODULE SUPPORTS-LP REAR	1500
1	07	992	IMPORTED ELECTRODES	25
1	07	993	ERECTION MATERIALS	300
1	08	910	EXPANSION MOVEMENT MEASURING COMPONENT	200
1	12	850	HP SAT. STEAM CONNECTING LINKS	7000
1	12	851	HP MAIN STEAM LINE	8500
1	12	852	DE SUPERHEATER INLET & OUTLET LINKS	12800
1	12	853	LP SAT.LINK	1500
1	12	854	LP MAIN STEAM LINE	2850
1	12	900	DE SUPERHEATER	900
1	12	901	HP SH. SUPPORTS & SUSPENSIONS (SAT LINK & DESH)	2300
1	12	902	HP SH. SUPPORTS & SUSPENSIONS (MS LINE)	1200
1	12	904	LP SH. SUPPORTS & SUSPENSIONS (SAT LINK & MS LINE)	500
1	12	911	LP SH MODULE SUPPORTS(LEFT& RIGHT)	500
1	12	912	HP SH –II MODULE SUPPORTS(LEFT& RIGHT)	1500
1	12	913	HP SH-I MODULE SUPPORTS(LEFT& RIGHT)	1500
1	12	992	IMPORTED ELECTRODES	30
1	12	993	ERECTION MATERIALS	600
1	19	101	CPH INLET LINE	2500
1	19	102	CPH OUTLET LINE	2500
1	19	850	HP ECONOMISER FEED PIPE	2500
1	19	851	ECONOMISER LINK TO DRUM	4500
1	19	852	ECO –I INTER CONNECTING LINKS	800
1	19	853	ECO-II INTER CONNECTING LINKS	2000

1	19	854	LP ECONOMISER FEED PIPE	500
1	19	901	ECONOMISER SUPPORTS & SUSPENSIONS (HP FEED PIPE)	800
1	19	902	ECONOMISER SUPPORTS & SUSPENSIONS (ECO LINK)	2000
1	19	904	ECONOMISER SUPPORTS & SUSPENSIONS (LP FEED PIPE)	500
1	19	908	SUPPORTS FOR CPH LINKS	300
1	19	911	CPH MODULE SUPPORTS	2000
1	19	912	ECO-I MODULE SUPPORTS(LEFT& RIGHT)	1000
1	19	913	ECO-II MODULE SUPPORTS(LEFT& RIGHT)	3500
1	19	992	IMPORTED ELECTRODES	30
1	19	993	ERECTION MATERIALS	700
1	24	200	LP DRAINS,VENTS & FITTINGS	10000
1	24	201	LP BOILER TRIM PIPING-SUPPORTS	1250
1	24	220	LP SAFETY VALVE ESC piping	8500
1	24	225	LP SAFETY VALVE SILENCER SUPPTS	4000
1	24	260	BHEL VALVES FOR LP	6000
1	24	273	LP DWLG	320
1	24	275	LP DRAIN HEADER	450
1	24	280	LP SAFETY VALVES	500
1	24	285	LP SAFETY VALVE SILENCER	2000
1	24	290	LP START-UP VENT SILENCER	700
1	24	400	HP DRAINS,VENTS&FITTINGS	32000
1	24	401	BLR TRIM PIPING SUPPTS	5500
1	24	420	HP SAFETY VALVE ESC PIPING	7000
1	24	425	HP SAFETY VALVE SILENCER SUPPTS	5000
1	24	460	BHEL VALVES FOR HP	14000
1	24	465	BELLOWS& VALVES(SD)	6500
1	24	473	HP DWLG	320

1	24	475	HP DRAIN HEADERS	750
1	24	480	HP SAFETY VALVES	750
1	24	485	HP SAFETY VALVE SILENCER	5500
1	24	490	HP START-UP-VENT SILENCER	2000
1	24	955	LAPPING TOOLS FOR SV	20
1	24	960	LAPPING TOOLS FOR CONV. VALVES	25
1	24	989	COMMISSINING SPARES	80
1	24	992	IMPORTED ELECTRODES	50
1	24	993	ERECTION MATERIALS	1000
1	24	994	NAME PLATES	100
1	28	700	CLADDING SHEET FIXING PINS, NUTS& WASHERS	7800
1	32	010	CLADDING SHEET INLET DUCT	7200
1	32	055	EXTERNAL INSULATION –PIPING	7300
1	32	110	CLADDING SHEET – S1 TO S2	3000
1	32	120	CLADDING SHEET – S2 TO S3	3000
1	32	210	CLADDING SHEET – S3 TO S4	3000
1	32	310	CLADDING SHEET – S4 TO S5	3000
1	32	410	CLADDING SHEET – S5 TO S6	3000
1	32	510	CLADDING SHEET – S6 TO S7	3000
1	32	520	CLADDING SHEET – S7 TO S8	3000
1	32	610	CLADDING SHEET – S8 TO S9	3000
1	32	620	CLADDING SHEET – S9 TO 10	3000
1	32	810	CLADDING SHEET – OUTLET DUCT	2500
1	32	993	ERECTION MATERIALS	400
1	33	021	CERAMIC WOOL	47000

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1	33	621	MINERAL WOOL FOR PIPING	64200
1	33	970	WIRE MESH	550
1	33	975	SEALING COMPONENTS	100
1	35	010	FOUNDATION MATERIALS-BOILER	10000
1	35	110	MAIN COLUMNS LEFT	100000
1	35	120	MAIN COLUMNS RIGHT	100000
1	35	131	INLET DUCT SUPPORT STRUCTURE FOR HRSG	14000
1	35	140	AUXILIARY COLUMNS	13000
1	35	220	PIPING SUPPORT – STRUCTURE	9500
8	35	391	MODULE TRANSPORTING STRUCTURE	72000
8	35	392	SINGLE MODULE LIFTING FRAME	3500
8	35	393	MODULE UPRIGHTING FRAME	6500
1	35	540	AUXILIARY COLUMN BRACING	8000
1	35	591	BOTTOM BRACING BEAM	24000
1	35	592	TOP BRACING BEAM	24000
1	35	593	BASE BEAMS OR MODULE BOTTOM SUPPORT	8000
1	35	594	DUCT STIFFENER BEAMS	28000
1	35	595	LATERAL SUPPORT BEAM FRONT	14000
1	35	596	LATERAL SUPPORT BEAM REAR	35000
1	35	597	MODULE AND DRUM SUPPORT STRUCTURE	19500
1	35	610	BOILER ROOF STRUCTURE	17500
1	35	611	BOILER ROOF SHEETING – METAPOLY SHEET	5000
1	36	250	MAIN FLOOR 5 TH LEVEL	3500
1	36	210	MAIN FLOOR 1 ST LEVEL	3000
1	36	220	MAIN FLOOR 2 ND LEVEL	1500
1	36	230	MAIN FLOOR 3 RD LEVEL	1500

1	36	240	MAIN FLOOR 4 TH LEVEL	10000
1	36	390	MISCELLANEOUS PLATFORMS	3500
1	36	810	FLOOR GRILLS & GUARD – BHEL STD GAL. ELECTROFORGED.	26000
1	36	820	STAIRS & LADDERS – BHEL Std.Galvanised Electroforged	14000
1	36	850	HANDRAILS AND HAND RAIL POST	9000
1	37	810	OUTER CASING SHEET –PIPING	1400
1	48	200	INSTRUMENT TAPPINGS	350
1	48	422	HRSG INLET DUCT	42100
1	48	424	EXP. JOINT – INLET	500
1	48	452	DUCT BOILER OUTLET	8400
1	48	454	EXP.PIECES – OUTLET	500
1	48	482	DISTRIBUTION GRID	4400
1	48	700	BULKED BPS COMPONENTS	100
1	48	993	ERECTION MATERIALS	1300
1	80	145	EXHAUSTS & VENTS – BD TANK	7000
1	80	273	BLOW DOWN SYSTEM VALVES	550
1	80	274	CBD TANK SAFETY VALVE	200
1	80	992	IMPORTED ELECTRODES	15
1	81	411	BDT TUBULAR LEVEL GAUGE	120
1	81	413	BDT CONTROL VALVE(SD)	250
1	81	005	IBD TANK	5200
1	81	011	CBD TANK	5500
1	97	401	GAUGES AND LOCAL GAUGE BOARD	3000

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1	97	402	EWLI	300
1	97	411	TRANSMITTERS AND RACK	3000
1	97	414	TEMPERATURE SENSORS	300
1	97	416	FLOW ELEMENTS	200
1	97	417	CONDENSING POT	100
1	97	444	JUNCTION BOXES	400
1	97	453	CABLE TRAYS	800
1	97	454	INSTRUMENT CABLE	500
1	97	455	TUBINGS AND FITTINGS	500
1	97	457	ANGLES AND CHANNELS	800
1	HL	098	COLUMN-CASING BRIDGING COMPONENTS	13000
1	HL	101	EVAPORATOR MODULE ASSY.- HP FRONT LEFT	28000
1	HL	102	EVAPORATOR MODULE ASSY.- HP FRONT RIGHT	28000
1	HL	103	EVAPORATOR MODULE ASSY.- HP MIDDLE LEFT	84000
1	HL	104	EVAPORATOR MODULE ASSY.- HP MIDDLE RIGHT	84000
1	HL	105	EVAPORATOR MODULE ASSY.- HP REAR LEFT	28000
1	HL	106	EVAPORATOR MODULE ASSY.- HP REAR RIGHT	28000
1	HL	121	EVAPORATOR MODULE ASSY.- LP FRONT LEFT	78000
1	HL	122	EVAPORATOR MODULE ASSY.- LP FRONT RIGHT	78000
1	HL	123	EVAPORATOR MODULE ASSY.- LP REAR LEFT	26000
1	HL	124	EVAPORATOR MODULE ASSY.- LP REAR RIGHT	26000
1	HL	131	HP SH-II MODULE ASSY(LEFT)	22875
1	HL	132	HP SH-II MODULE ASSY(RIGHT)	22875
1	HL	133	HP SH-I MODULE ASSY(LEFT)	22875
1	HL	134	HP SH-I MODULE ASSY(RIGHT)	22875
1	HL	141	LP SH MODULE ASSY(LEFT)	4750
1	HL	142	LP SH MODULE ASSY(RIGHT)	4750
1	HL	151	HP ECO –II MODULE ASSY (LEFT)	88900

1	HL	152	HP ECO-II MODULE ASSY (RIGHT)	88900
1	HL	153	HP ECO-I MODULE ASSY (LEFT)	34200
1	HL	154	HP ECO –I MODULE ASSY (RIGHT)	34200
1	HL	171	CPH MODULE ASSY.- FRONT LEFT	35000
1	HL	172	CPH MODULE ASSY. – FRONT RIGHT	35000
1	HL	173	CPH MODULE ASSY.- REAR LEFT	46800
1	HL	174	CPH MODULE ASSY. – REAR RIGHT	46800
1	HL	201	LINKS FOR EVAP. MODULES- HP FRONT LEFT	500
1	HL	202	LINKS FOR EVAP. MODULES- HP FRONT RIGHT	500
1	HL	203	LINKS FOR EVAP. MODULES- HP MIDDLE LEFT	12000
1	HL	204	LINKS FOR EVAP. MODULES- HP MIDDLE RIGHT	12000
1	HL	205	LINKS FOR EVAP. MODULES- HP REAR LEFT	500
1	HL	206	LINKS FOR EVAP. MODULES- HP REAR RIGHT	500
1	HL	221	LINKS FOR EVAP. MODULES- LP FRONT LEFT	3500
1	HL	222	LINKS FOR EVAP. MODULES- LP FRONT RIGHT	3500
1	HL	223	LINKS FOR EVAP. MODULES- LP REAR LEFT	500
1	HL	224	LINKS FOR EVAP. MODULES- LP REAR RIGHT	500
1	HL	231	HP SH-II MODULE CROSS OVER & LINKS(LEFT)	2000
1	HL	232	HP SH-II MODULE CROSS OVER & LINKS(RIGHT)	2000
1	HL	233	HP SH-I MODULE CROSS OVER & LINKS(LEFT)	2000
1	HL	234	HP SH-I MODULE CROSS OVER & LINKS(RIGHT)	2000
1	HL	251	HP ECO-II MODULE CROSS OVER & LINKS(LEFT)	2000
1	HL	252	HP ECO –II MODULE CROSS OVER & LINKS (RIGHT)	2000
1	HL	253	HP ECO-I MODULE CROSS OVER & LINKS(LEFT)	1000
1	HL	254	HP ECO-I MODULE CROSS OVER & LINKS (RIGHT)	1000
1	HL	271	LINKS FOR CPH MODULES – FRONT LEFT	750
1	HL	272	LINKS FOR CPH MODULES – FRONT RIGHT	750

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1	HL	273	LINKS FOR CPH MODULES – REAR LEFT	750
1	HL	274	LINKS FOR CPH MODULES – REAR RIGHT	750
1	HL	301	EVAPORATOR BAFFLES & SPACERS – HP FRONT LEFT	3500
1	HL	302	EVAPORATOR BAFFLES & SPACERS- HP FRONT RIGHT	3500
1	HL	303	EVAPORATOR BAFFLES & SPACERS- HP REAR LEFT	3000
1	HL	304	EVAPORATOR BAFFLES & SPACERS- HP REAR RIGHT	3000
1	HL	321	EVAPORATOR BAFFLES & SPACERS- LP FRONT LEFT	3000
1	HL	322	EVAPORATOR BAFFLES & SPACERS- LP FRONT RIGHT	3000
1	HL	323	EVAPORATOR BAFFLES & SPACERS- LP REAR LEFT	2500
1	HL	324	EVAPORATOR BAFFLES & SPACERS- LP REAR RIGHT	2500
1	HL	331	HP SH MODULE BAFFLES & SPACER TUBES	2500
1	HL	351	ECO –I BAFFLES & SPACER TUBES	4000
1	HL	352	ECO –II BAFFLES & SPACER TUBES	6000
1	HL	371	WPH BAFFLES & SPACERS – FRONT LEFT	1000
1	HL	372	WPH BAFFLES & SPACERS – FRONT RIGHT	1000
1	HL	373	WPH BAFFLES & SPACERS – REAR LEFT	1250
1	HL	374	WPH BAFFLES & SPACERS – REAR RIGHT	1250
1	HL	501	SIDE CASING S1 – S2	12180
1	HL	502	SIDE CASING S2-S3	12180
1	HL	503	SIDE CASING S3 – S4	11270
1	HL	504	SIDE CASING S4 – S5	11270
1	HL	505	SIDE CASING S5 – S6	11270
1	HL	506	SIDE CASING S6 – S7	11270
1	HL	507	SIDE CASING S7 – S8	6630
1	HL	508	SIDE CASING S8-S9	9440
1	HL	509	SIDE CASING S9 –S10	4800

1	HL	601	TOP & BOTTOM CASING S1 – S2	5750
1	HL	602	TOP & BOTTOM CASING S2- S3	4200
1	HL	603	TOP & BOTTOM CASING S3 – S4	4750
1	HL	604	TOP & BOTTOM CASING S4 – S5	3550
1	HL	605	TOP & BOTTOM CASING S5 – S6	3200
1	HL	606	TOP & BOTTOM CASING S6 – S7	3000
1	HL	607	TOP & BOTTOM CASING S7- S8	3650
1	HL	608	TOP & BOTTOM CASING S8- S9	3000
1	HL	609	TOP & BOTTOM CASING S9- S10	4050
			TOTAL WEIGHT	2373585
			Approx. WEIGHT	2400MT

BB) Details Regarding 70 M High Chimney for HRSG- approx. WT 200 MT

Chimney Inner Diameter: 6.0 M
Chimney L Height: 70 M
Material: Carbon Steel
Each Shell Height: 2.5M, Half Shell
Total no of Half Shell: 56
Maximum weight of half shell: 6.0Mt
Minimum weight of half shell: 2.5Mt
Insulation: 100mm thick Mineral wool for full 70M height

NOTE:

1. Consumables such as welding electrodes, filler wires, lubricants etc. issued free of charge for applications shall not be paid on Tonnage basis. Contractor should take care of such items while submitting their offer.
2. Electrical , C and I items of PG 97 which may be covered in the scope of Electrical and C and I package contract shall be excluded from this contracts scope as per the discretion of BHEL engineer at site. However the welding and heat treatment parts as applicable for Thermowells, and for other instruments shall be under the scope of this contract free of cost. Contractor should take care of such items while submitting their offer.

Annexure 1(B)

AA) Trichy Valves: PCP Valves, CPH System, Safety Relief Valves, Root Valves, HP Bypass System etc.

Approx Qty: 740 nos.

Approx. Size of valves: ½” to 16”

Approx. weight: 39.6 MT

BB) PIPINGS & AUXILIARIES:

SL NO	EVENT	CUST	PGMA	DESCRIPTION	WT BOILER (kgs)	IBR / Non-IBR
1	LU	7083	80345	AUX STEAM TO DEAERATING HEATER	11,500	I
2	LU	7083	80359	STEAM FROM PROCESS BLR	57,000	I
3	LU	7083	80400	CONDENSATE SUCTION	4,700	N
4	LU	7083	80401	CD FROM PUMP TO LPH1/DC INLET TEE&RECIR	2,100	N
5	LU	7083	80403	CD FROM TG TP TO DEAERATING HEATER	32,500	N
6	LU	7083	80407	CONDENSATE FOR SEALING OF VACUUM	1,600	N
7	LU	7083	80408	CONDENSATE DUMP FROM HEADER	2,200	N
8	LU	7083	80417	BOILER FEED DISCHARGE PIPING	17,000	I
9	LU	7083	80420	BOILER FEED PUMP SUCTION	5,200	N
10	LU	7083	80421	BOILER FEED PUMP RECIRCULATION	5,100	I
11	LU	7083	80446	DEAERATING HEATER OVER FLOW AND DRAIN	1,600	N
12	LU	7083	80452	HP PIPING DRAINS – SG SCOPE	4,000	I
13	LU	7083	80453	LP PIPING DRAINS – SG SCOPE	3,600	I
14	LU	7083	80455	DRAIN FROM UNLISTED EQPT/VESSEL-SG SCOPE	3,600	N
15	LU	7083	80463	TG AUX COOLING WATER	23,500	N
16	LU	7083	80473	DEMINERALISED WATER SYSTEM	1,400	N
17	LU	7083	80600	HIGH PRESSURE DOSING PIPING	1,100	N
18	LU	7083	80601	LOW PRESSURE DOSING PIPING	600	N
19	LU	7083	80616	INSTRUMENT AIR FOR INDIVIDUAL UNIT	1,900	N

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20	LU	7083	80922	H&S FOR LIGHT UP – NON STEAM LINES	24,000	N
21	LU	7083	80933	H & S FOR LP PIPING	1,600	N
22	LU	7083	81415	TEST THERMOWELLS	400	N
23	SB	7083	80305	MS DUMP TO CONDENSER	9,600	I
24	SN	7083	80348	AUX STEAM TO GLAND SEALS – SG SCOPE	1,100	I
25	SN	7083	80388	CONDENSER AIR EVACUATION PIPING	1,200	N
26	SN	7083	80392	GS COOLER LEAK OFF TO ATMOSPHERE	700	N
27	SN	7083	80434	UNLISTED SPRAY WATER – SG SCOPE	400	N
28	SN	7083	80438	GLAND COOLER DRAIN TO CONDENSER	200	N
29	SN	7083	80481	SAMPLING PIPE	500	N
30	SN	7083	80496	DRAIN FLASH TANK VENT TO COND.	800	N
				GRAND TOTAL	220,700	

Material Forecast for Critical Piping (Power Cycle Piping)

80 - 305						
S.No	Description	Material	Size		Qty in m	Unit Wt
			OD	Tk		
1	Pipes	SA 106 Gr B	457	12.7	30	139.200
			273	6.35	60	41.770
			355.6	9.53	45	81.330
			406.4	9.53	22	93.270
		SA 335 P22	60.3	11.07	60	13.440
			88.9	20	10	33.980
			660	36	15	554.000
			273	28	30	169.200
			323.9	45	15	310.000

		SA 106 Gr C	88.9	11.13	85	21.350
			660	22	50	346

80 - 417						
S.No	Description	Material	Size		Qty in m	Unit Wt
			OD	Tk		
1	Pipes	SA 106 Gr B	219.1	6.35	104	33.310
		SA 335 P22	88.9	11.13	3	21.350
		SA 106 Gr C	168.3	14.27	132	54.200
			88.9	11.13	110	21.350
			114.3	13.49	85	33.540
			48.3	5.08	60	5.410
			60.3	5.54	125	7.480

80 - 452						
S.No	Description	Material	Size		Qty in m	Unit Wt
			OD	Tk		
1	Pipes	SA 335 P22	33.4	4.55	600	3.240
		SA 312 TP 304H	60.3	3.91	130	5.440
			33.4	3.38	370	2.500
			21.3	2.77	170	1.270
			88.9	3.05	105	6.460

80 - 359						
S.No	Description	Material	Size		Qty in m	Unit Wt
			OD	Tk		

1	Pipes	SA 106 Gr B	406.4	9.53	150	93.270
		SA 335 P22	323.9	28	150	204.300
			273	28	40	169.200

NOTE: Above details are only to give a general idea to the contractor to quote the rates as per rate schedule. Contractor is required to carry out such items also within their applicable tonnage rate. Above system can regrouped / renamed or any addition / deletion can be made to make system complete. No extra claim shall be entertained on this account.

Indicative Weight Schedule for Material Handling
For 1X160 MW RAMGARH CCPP

1)Condenser:

Sl.No	Equipment	Overall Dimensions (in mm)	Quantity	Dry Weight (in kgs)
1	<i>Surface Condenser</i>			(Wt / no.)
a.	Tubes	OD 22 x Thk 1 x L 6500	13100	3.66
b.	Front water box assly	L 1700 x W 3300 x H 4600	2 nos	9500
c.	Rear water box assly	L 1700 x W 3300 x H 4400	2 nos	7600
d.	Front water chamber assly	L 500 x W 3200 x H 5200	2 nos	5600
e.	Rear water chamber assly	L 500 x W 3200 x H 5200	2 nos	5600
f.	Hotwell assly	L 6300 x W 2000 x H 1200	1 no.	5700
g.	Bottom Plate assly	L 4000 x W 6000 x H 800	2 no.	8500
h.	Support plate assly	W 2700 x H 4800 x Thk 12	24 nos.	1150
i.	Side wall assly	L 6500 x H 2600 x Thk 16	4 nos.	5000
j.	Dome assly #1	L 6500 x H 3600	2 nos.	6800
k.	Dome assly #2	L 5000 x H 900	2 nos.	5400
l.	Dome assly #3	L 6300 x H 3900	2 nos.	9000
m.	Dome assly #4	L 4600 x H 2400	2 nos.	7600
n.	Dome stiffeners	Dia 168.3 x Thk 21.97 x L 6000	30 nos.	2900
o.	Dome stiffeners plate	PI 32 x 2500 x 6300	2 nos.	4000

p.	Loose items	-	1 set	18000
2	<i>Vacuum pump (2 x 100%)</i>			
a.	Assly	-	2 nos.	6300
3	<i>Gland Steam Condenser</i>			
a.	Complete Assly.	L 2750 x W 1300 x H 1400	1 no.	1400
b.	Fan & Motor	L 1000 x W 600 x H 800	2 nos.	500
4	<i>Water to Water Heat Exchanger</i>			
a.	Complete Assly.	Ø 600 x L 5000	1 no.	3000
5	<i>GTG Air Cooler</i>			
a.	Per Element	L 3000 x W 700 x H 550	7 nos.	1500
6	<i>ST oil Cooler</i>			
	Per Cooler	Ø 700 x H 3300	2 nos.	3300
7	<i>STG Air Cooler</i>			
	Per Element	L 4200 x W 800 x H 530	9 nos.	1200
8	<i>Spray cum Tray Deaerator</i>			
a.	Header	L 7800 x W 2250 x H 2900	1 no.	12000
b.	Feed Storage Tank	L 12400 x W 3050 x H 3600	1 no.	19000

2) BFP, BP & CEP :

(A) Boiler Feed Pump (BFP)-FK6D30 & Booster Pump (BP)-FA1B56

S.N.	Description of Equipment	Dimensions(mm)	Unit Weight (kg)	Total Qty. (No.)	Total Weight (kg)
		Length x Breadth x Height			
1	BFP Skid (Pump Assly. + Base Plate + tubing + Seal Coolers)	2250 x 1000 x 1050	5770	2	11540
2	BP Skid (Pump Assly. + Base Plate + tubing)	1650 x 1200 x 950	2550	2	5100
3	Gear Box (DD).	1150 x 1000 x 860	1200	2	2400

7	Suction Strainer at BP Suction DD)	900 x 800 x 1400	800	2	1600
8	BFP Recirculation valve (DD)	1800 x 550 x 1400	350	2	700
9	Local Gauge Boards with instruments (DD)	2200 x 300 x 1800	650	2	1300
*10	Loose Items	-----	3000	---	3000
11	Local Instrument Rack (LIR)	2000 x 650 x 2150	250	1 (1 No/Unit)	250

(B) Condensate Extraction Pump (CEP) :

S.N.	Description of Equipment	Dimensions(mm)	Unit Weight (kg)	Total Qty. (Nos.)/Unit	Total Weight (kg)/Unit
		Length x Breadth x Height			
1	CEP Assembly	□ 1100 x 3250	2100	2	4200
2	Canister	□ 900 x 3100	510	2	1020
3	CEP Foundation Ring	1100 x 1100 x 150	185	2	370
4	CEP Suction Strainer	900 x 800 x 1400	800	2	1600
5	Local Gauge Board with Instruments (DD)	2000 x 300 x 1800	500 (per unit)	1	500
6	Loose Items	-----	210	2	420
7	Local Instrument Rack (LIR)	1300 x 900 x 2000	300 (per unit)	1	300
8	Tool and Tackles				

(A) LPBFP

S.N.	Description of Equipment	Dimensions(mm)	Unit Weight	Total Qty.	Total Weight
		Length xBreadth x Height	(kg)	(Nos.)	(kg)
1	LPBFP Assembly	1,000 x 600 x 350	750	2	1500
2	LPBFP drive motor	1,000 x 600 x 250	270	2	540
3	LPBFP Suction Strainer	300 x 300 x 400	300	2	600
4	LPBFP R.C. Valve	800 x 300 x 1000	200	2	400
5	Common foundation frame	2500 x 600 x 200	525	2	1050

(D) CPHRCP

S.N.	Description of Equipment	Dimensions(mm)	Unit Weight	Total Qty.	Total Weight
		Length xBreadth x Height	(kg)	(Nos.)	(kg)
1	CPHRCP Assembly	1,000 x 600 x 350	1500	3	4500
2	CPHRCP drive motor	2350 x 1400 x 1350	3800	3	11400
3	CPHRCP Suction Strainer	700 x 500 x 400	800	3	2400
4	CPHRCP R.C. Valve	800 x 300 x 1000	300	3	900
5	Common foundation frame	2500 x 600 x 200	1200	3	3600

(3) GTG

SL.N O	DESCRIPTION	WT. (kg)	DIMENSIONS OF BOX (Length x Width x Height) (m)
1	Gas Turbine Fr-9E Flange to Flange	230,000	12.6 x 4.6 x 5
2	Accessory Package (Accessory Base)	60,000	8.4 x 3.4 x 4.8
3	Exhaust Frame Blowers	1,000	2.2 x 1.5 x 1 (2 Nos.)

4	Exhaust Plenum	9137-Top 9818-Lower 460-Loose items	5.661 x 3.113 x 3.632 5.661 x 3.061 x 3.632 0.6 x 0.7 x 2.5
5	Base Exhaust Plenum	1000	6.5 x 1.2 x 1 (2 nos)
6	Lube oil Centrifuge	3500	3 x 1.5 x 1.8
7	Load Coupling with Hardware	2850	4.5 x 1.5 x 1.1
8	Accessory Coupling & Hardware	500	2.2 x 1 x 1
9	Guard Coupling Accessory	300	1.5 x 1 x 1
10	Jacking Oil Skid	1200	2.2 x 1.5 x 1.5
11	Piping Lube Oil Flush Field	700	4.5 x 1.5 x 1.1
12	Field Inter Connection Piping	25000	4.5 x 1.5 x 1.1 (10 nos)
13	Enclosure GT & Accessory Compartment, GT Walkway + Ladders	125,000	6 x 3 x 3 (10 Nos) 14 x 1.2 x 1.5 (3Nos.)
14	Turbine Vent Fans	8,500	2.5 x 2.5 x 2 (2No.s) 2.2 x 1.8 x 1.8 (2No.s) 2.2 x 2 x 1 (2 NO.s) 1.5 x 1 x 0.5 (2No.s)
15	GT Cabling	3,000	15000
16	Generator Enclosure	75,000	6 x 3 x 3 (7 Nos)
17	Filter house (For GT and Generator)	125,000	10 x 3.5 x 3.5 (10 No.s)
18	APU	3,000	6 x 2 x 2.5
19	Cooler Finned-APU	1500	6 x 0.5 x 3.5
20	<u>Inlet Duct</u>		
	i) Inlet Plenum Extension	3,000	4.3 x 2.3 x 3 (2 nos.)
	ii) Inlet Duct Transition Pieces	3,500	9.8 x 3.5 x 3 (2 nos.)
	iii) Inlet Duct Expansion Pieces	2,250	10 x 3.5 x 0.6 (2 nos.)
	iv) Inlet Duct Elbow	11,000	10 x 3.3 x 3.7
	v) Silencer	20,000	10 x 3.5 x 3
	vi) Duct Pieces	6750	10 x 3.5 x 3 (4 nos)

	vii) Support Structure	5,000	10 x 3 x 3 (2nos) (W x D x H)
21	<u>Exhaust Dust</u>		
	i) Plenum Cover	17,000	8x 3.5 x 1.6 (2 no)
	ii) Horizontal Duct between plenum and EJ-1	15,400	6.0 x 3.2 x 3.2 (2no)
	iii) Horizontal transition Duct after EJ-1	19,700	7.0 x 3.2 x 3.2 (2no)
	iv) Horizontal Duct before EJ-2	9,270	6.0 x 3.2 x 3.2 (2no)
	v) Horizontal duct between diverter damper and guillotine	5,080	6.2x3.1x3.1 (2 no)
	vi) Horizontal duct after Guillotine	4,000	6.2x3.1x3.1 (2 no)
	vii) Silencer Inlet Transitino	4,300	8 x 3.2 x 3.2 (2 no)
	viii) Silencer Assembly with panels	74,730	8 x 3.2 x 3.2 (8 no)
	ix) Stack Transition	16,600	6 x 3.2 x 3.2 (2 no)
	x) Vertical Stack Assembly	50,550	6 x.3.2 x 3.1 (8 no)
	xi) Ladder & Platforms	15,800	6 x 3.2 x 1.2 (2 no)
	xii) Support structure Assembly	59,000	6 x 3.2 x 1.2 (2 no)
	xiii) Aviation lamp & Lightening Arrestor	300	0.4 x0.3 x 0.3
	xiv) Expansion Joint (EJ-1)	1,980	5.6 x 3.0 x 0.6 (2 no)
	xv) Expansion Joint (EJ-2)	2,480	5.6 x 3.0 x 0.6 (2 no)
	xvi) Expansion Joint (EJ-3)	2,100	5.6 x 3.0 x 0.6 (2 no)
	xvii) Expansion Joint (EJ-4)	2,480	5.6 x 3.0 x 0.6 (2 no)
22	Sensor Arrangement Exhaust	75	0.1 x 0.05 x 0.015
23	Gas Valve Module	5000	3 x 2 x 4.2
24	CO2 Rack (CO2 bottle Racks)	4,000	3.5 x 1 x 2.5 (8 nos.)
25	Auxiliary Control Panel	700	1 x 0.915 x 2.286
26	Lube Oil Demister	3,000	2.5 x 1.6 x 2.5 (1 no)
27	Water Wash Skid	9000	3.5 x 3.2 x 8

28	Water injection skid	6500	6.5 x 3.2 x 3.2 (1 no) 6.5 x 3.2 x 1.8 (1 no)
29	Diverter Damper	38000	3.2 x 3.2 x 3 (8 nos)
30	Guillotine Damper	20000	3.2 x 3.2 x 1.8 (6 nos)
31	Piping Arrangement Lube oil Junction Boxes	2000	4.5 x 1.5 x 1.1 (3 nos)
32	Piping Arrangement Lube oil Junction Boxes	12000	6.5 x 1.2 x 1 (3 No.s) 4.5 x 1.5 x 1.1 (2No.s)
33	Anchoring, Base Plates Positioning Blocks (Foundation Hardware-Concrete Embedments)	3350	1.2 x 1.5 x 3.5
34	Anchoring, Base Plates Positioning Blocks (Foundation Hardware Shims, Guideblock etc)	1590	0.4 x 0.5 x 1.5
35	Anchoring, Base Plates Positioning Blocks (Angle 75x75x45000)	400	0.175 x 0.325 x 6 (7 Nos.) 0.175 x 0.325 x 3 (1 No.)
36	Special Tools for GT Maintenance (Tools)	550	1 x 1 x 2.2

(4) STEAM TURBINE (HNK 71/3.2-4) & AUXILIARIES :

SL.N o.	ITEM DESCRIPTION	QTY.	TOTAL WEIGHT	DIMENSIONS (mm)
			(Kgs)	LxWxH
				(Approximate)
1.	Outer Casing – Upper Part	1	14000	3725x3110x1600
2.	Outer Casing- Lower Part	1	15000	3495x3100x1600
3.	Exhaust hood – Upper part	1	15000	5800x2100x2000
4.	Exhaust hood – Lower part	1	22000	6200x2300x2700
5.	Rotor assembly	1	23000	7200x2300x2300
6.	Front Bearing Housing assly including Bed plate	1	7500	1600x2000x1500

7.	Rear Bearing Housing assly	1	7000	4300X1600X1500
8.	Inner Casing	1	4000	1300x1500x1250
9.	Guide blade carrier-I	1	1800	600x1300x1200
10.	Guide blade carrier-II	1	4700	600x1500x1500
11.	Guide blade carrier-III	1	3500	350x2000x2000
12.	Guide blade carrier-IV	1	4800	420x2400x2200
13.	Lube oil pump assly.	2	1100 each	2500x1000x900 each
14.	EOP Assly. (DC)	1	700	1600 x 750 x 700
15.	JOP Assly. (AC & DC)	1	2000	1550x1350x800
16.	Oil accumulators	1set	585	1000x500x2300
17.	Lube oil tank	1	5500	4450x2700x3000
18.	Oil centrifuge	1	1000	2200x1900x2000
19.	Duplex filter	1	500	1500x500x2000
20.	Overhead oil tank	1	3000	2800x2700x2800
21.	Governing console	1	1000	1800x1500x1500
22.	Valve Block	2	4000	2000x700x950

(5) S.T.G & G.T.G:

(A)59.7 MW S.T.G

S.NO	DESCRIPTION EQUIPMENT	Qty.	OVERALL DIMENSIONS IN MM			Weight in tonnes
			LENGTH	BREADTH	HEIGHT	
1	GENERATOR STATOR	1	6000	3300	3300	89

2	GENERATOR ROTOR	1	7700	950	950	20.2
3	FOUNDATION ITMES	LOOSE ITEMS				5.4
4	BEARINGS	2	1810	540	1228	2.3
5	AIR COOLER UNIT	LOOSE ITEMS				2.7
6	EXCITER	1	3000	2000	2000	5
7	CO ₂ EQUIPMENT	1	3000	1000	1500	3

B) G.T.G

S.NO	DESCRIPTION EQUIPMENT	OVERALL DIMENSIONS IN MM			WEIGHT IN M.T
		LENGTH	BREADTH	HEIGHT	
1	GENERATOR PACKAGE	9000	4100	4700	210
2	FOUNDATION ITMES	LOOSE ITEMS			8
3	GENERATOR ENCLOSURE	12600	5600	5100	8
4	EXCITER	4600	2020	1803	7

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(6) TANKS:

SL. NO.	DESCRIPTION	SHIPPING DIMENSIONS (M)	DRY WEIGHT (MT)	FLOODED WEIGHT (MT)
	Misc. Tanks			
1	Reserve feed water -60 m3	9.3(L) x 3.52 OD x 0.016 TK	17.1	101
2	Atmospheric Flash Vessel	1.500(H) x 1.0 OD x 0.010 TK	1	2.1
3	RE Joint – Conventional type 1100 NB	1.750 OD x 0.800	0.625	–

(7) B. F. VALVE & other types etc.

SI. NO.	SIZE OF VALVE (MM)	APPROX.WEIGHT OF EACH VALVE (KG)	APPROX.OVERALL DIMENSIONS OF EACH VALVE:L(MM) X B(MM) X H(MM)
1	Dia 1100 NB (Dia 1200 NB with Taper Piece) BF Valve	3300	1900 X 1500 X 1000
Other valves		17.1 / 101	9.3 (L) x 3.52 OD x 0.016 Tk
		1 / 2.1	1.500 (H) x 1.0 OD x 0.010 Tk
		0.625	1.750 OD x 0.800 (H)

(08) EDN

SI.No.	Document	BOQ (Aprox)	Dimension (aprox) / Pc (L X B X H)	Aprox.Gross Weight/Pc
A	EDN			
1	DCS control panel- BOP	22 Panels	95 Cm X 105 Cm X 270 Cm	565 Kg

2	TG Package :	22 panels	95 Cm X 105 Cm X 270 Cm	565 Kg
3	MMI System :	02 Panels	95 Cm X 105 Cm X 270 Cm	565 Kg
4	AVR Package	2 sets	325 Cm X 105 Cm X 270 Cm	2325 Kg
5	Mark-VI package :	1 set	91Cm X 225 Cm X 228 Cm	3000 Kg
6	UCP	1 No		2000 KG
B	BOP – Bought Out Items			Approx Wt. for total quantity
1	CJC Box	15 Nos		300 Kg
2	Valve Manifolds	75 Nos		225 Kg
3	Socket Weld Fittings	1000 Nos		200 Kg
4	Impulse Pipes	4500 Mtr		5700 Kg
5	Pr/DP Switches	16 Nos		250 Kg
6	Pr/DP Gauges	104 Nos		175 Kg
7	Temp Gauges	94 Nos		125 Kg
8	LIE/LIR	30 Nos	1650 Cm X 650 Cm X 2150 Cm	550 Kg
9	Temp Elements	60 Nos		110 Kg
10	SWAS-Analysers	42 Nos		180 Kg
11	SWAS-Panels	4 panels		18000 Kg
12	Pr. & Diff Pr. Transmitters	110 Nos		165 Kg

13	Level Transmitter	9 Nos		210 kg
14	HMS	1 set		100 Kg
15	Digital Indicators	8 Nos		35 Kg
16	Pen Recorders	4 Nos		16 Kg
17	Instrumentation Cables	75 Km		24000 Kgs
18	Compensating Cables	1.5 Km		1500 Kgs
19	Master Clock System	1 Set		100Kg
20	HMI Control Desk	1 No		1000 Kg
21	Rotameters	5 Nos		500 Kg
22	Level switches	10 Nos		100 Kg
23	Level guages	1 No		10 KG
24	FEP Extruded Cable	5 Km		5000 KG

09. PEM- Air Traps, Aluminium Sheet, Ancilliary Materials for Insulation, Chemical Dosing System, Control Valves, Flow elements, ME Bellows, Steam Traps, Thermal insulation, Air Release Valves, Ball Valves, CI-Gate-Globe-NRV Valves , GM Valves, etc.

10. Weights of annexure IA inclusive.

NOTES:

1. The weight mentioned above is approximate and liable to vary as per design consideration of the manufacturing unit.
2. The payment will be made at the quoted / accepted rates for the tonnage actually handled.
3. The list is only illustrative and not exhaustive

Chapter-XII: RATESCHEDULE

RATE SCHEDULE

Sl. No	DESCRIPTION OF WORK	QTY	UNIT	Rate in Rupees (In figures and words)	TOTAL VALUE in Rupees (In figures and words)
1	MATERIALS HANDLING – Part A				
1.1	Rate in Rupees per MT for entire material being supplied to the project as per tender specifications and items as listed above	6,000	MT		
1.2	Lump sum price for entire scope of materials handling work as defined in this Tender Specification in respect of following items from Trailers, directly coming to site. Materials to be unloaded MANUALLY (using sleeper/ Jack method). All the resources such as sleepers, fixtures, T and P and manpower is in the scope of contractor for following LUMPSUM items.				
1.2.1	LUMPSUM PRICE FOR Gas Turbine Skid Approx. Dimensions: 12.6X4.6X5.0 M3 Approximate weight: 230 MT 1 No.		lump sum		
1.2.2	LUMPSUM PRICE FOR Gas Turbine Generator Skid Approx. Dimensions: 9.0X4.1X4.7 M3 Approximate weight: 210 MT 1 No.		do		

1.2.3	LUMPSUM PRICE FOR Steam Turbine Generator Stator Approx. Dimensions: 6.0X3.3X3.3 M3 Approximate weight: 89 MT 1 No.		do		
1.3	Rate in Rs. per MT for packing and Loading of materials in their own Trucks / Trailers and transporting the same to Carriers Godown / Railway Station at JAISALMER & their booking for destination as per BHELs instructions.	20	MT		
1.4	Rate in Rs. per MT for Taking delivery of materials in their own Trucks / Trailers from Godowns of Carriers / Railways at JAISALMER & bringing the same to BHEL store as per tender specifications.	20	MT		
1.5	Rate in Rs. per MT for collecting and loading of materials including packing (if required) in carriers Trucks / Trailers, to be placed by Carriers inside the project area.	10	MT		
1.6	Rate in Rs. per MT for shifting of materials already stored or stacked at BHEL stores/sheds/ erection site to customer's premises or premises of other agencies in plant complex or vice versa by loading, transporting, unloading and stacking.	20	MT		
2	HRSG – Part B				
2.1	Rate in Rupees per MT for complete work of Erection, Testing, Commissioning, Trial operation and handing over, of 1X182 TPH HRSG and Auxiliaries, 70 M Chimney etc as per tender specifications.	2600	MT		

2.2	Erection, Testing, Commissioning, Trial operation and handing over of Piping and their insulation of various piping systems of all types of materials such as AS, CS, SS etc. along with Insulation as indicated under Annexure – I(B) of tender specifications.				
2.2.1	Alloy Steel (AS) Piping & its Insulation	35	MT		
2.2.2	Stainless Steel (SS) Piping & its insulation	20	MT		
2.2.3	Carbon Steel (CS) Piping & its insulation	225	MT		
	GRAND TOTAL AMOUNT (A+B) IN WORDS AND FIGURES (Rs.)				

NOTES:

1. **Base date for PVC,**
 - c) Material Handling Part (A) - as per clause no. 2.17.5 of GCC
 - d) HRSG Erection Part (B) - 01.12.2013
2. The quantities indicated against each item above are tentative and these are liable to vary depending upon the site requirement.
3. Rates applicable against item no 1.2.1, 1.2.2 & 1.2.3 will be applicable only when the material is unloaded manually by sleeper / jack method. In case material is unloaded using BHEL cranes of 100 / 150 / 200 / 250 MT and other higher capacity cranes or EOT CRANE, the payment shall be released as per quoted rate against the applicable rates under Item no 1.1.
4. Evaluation of bids shall be done on total price (A+B) against this rate schedule / BOQ.
5. In case of any mismatch in rate and amount on price discrepancy, the same will be dealt as per clause no. 1.4 of GCC.

Signature of the bidder

General Conditions of Contract

(Common for Power Sector Regions)

2012

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CHAPTER -1

1. GENERAL INSTRUCTION TO TENDERERS

1.1. DESPATCH INSTRUCTION

- i) The General Conditions of Contract form part of the Tender specifications. **All pages of the tender documents shall be duly signed, stamped and submitted along with the offer in token of complete acceptance thereof.** The information furnished shall be complete by itself. The tenderer is required to furnish all the details and other documents as required in the following pages
- ii) Tenderers are advised to study all the tender documents carefully. Any submission of tender by the tenderer shall be deemed to have been done after careful study and examination of the tender documents and with the full understanding of the implications thereof. Should the tenderers have any doubt about the meaning of any portion of the Tender Specification or find discrepancies or omissions in the drawings or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, the scope of work etc., he shall at once, contact the authority inviting the tender well in time (so as not to affect last date of submission) for clarification before the submission of the tender. Tenderer's request for clarifications shall be with reference to Sections and Clause numbers given in the tender documents. The specifications and terms and conditions shall be deemed to have been accepted by the tenderer in his offer. Non compliance with any of the requirements and instructions of the tender enquiry may result in the rejection of the tender.
- iii) Integrity pact (IP) shall be applicable for all tenders / contracts if indicated in NIT. This integrity pact shall be issued as part of the Tender documents and shall be returned by the bidder along with Techno-commercial bid duly filled, signed and stamped by the authorized signatory who signs the bid. Only those vendors / bidders who have entered into such an IP with BHEL shall be considered qualified to participate in the bidding. Entering into this pact shall be a preliminary qualification.

1.2. SUBMISSION OF TENDERS

- 1.2.1 The tenderers must submit their tenders to Officer inviting tender as per instructions in the NIT
- 1.2.2 Tenders submitted by post shall be sent by 'REGISTERED POST ACKNOWLEDGEMENT DUE / by COURIER' and shall be posted with due allowance for any postal/courier delays. BHEL takes no responsibility for delay, loss or non-receipt of tenders sent by post/courier. **The tenders received after the specified time of their submission are treated as 'Late Tenders' and shall not be considered under any circumstances.** Offers received by Fax/Email/Internet shall be considered as per terms of NIT.
- 1.2.3 Tenders shall be opened by authorised Officer of BHEL at his office at the time and date as specified in the NIT, in the presence of such of those tenderers or their authorised representatives who may be present

1.2.4 Tenderers whose bids are found techno commercially qualified shall be informed the date and time of opening of the Price Bids and such Tenderers may depute their representatives to witness the opening of the price bids. BHEL's decision in this regard shall be final and binding.

1.2.5 Before submission of Offer, the tenderers are advised to inspect the site of work and the environments and be well acquainted with the actual working and other prevalent conditions, facilities available, position of material and labour, means of transport and access to Site, accommodation, etc. No claim will be entertained later on the grounds of lack of knowledge of any of these conditions.

1.3. **LANGUAGE**

1.3.1 The tenderer shall quote the rates in English language and international numerals. These rates shall be entered in figures as well as in words. For the purpose of the tenders, the metric system of units shall be used.

1.3.2 All entries in the tender shall either be typed or written legibly in ink. Erasing and over-writing is not permitted and may render such tenders liable for rejection. All cancellations and insertions shall be duly attested by the tenderer.

1.4 **PRICE DISCREPANCY:**

1.4.1 **Conventional (Manual) Price Bid opening** : In the case of price bid opening without resorting to Reverse Auction, if there are differences between the rates given by the tenderer in words and figures or in amount worked out by him, the following procedure for evaluation and award shall be followed:

- i) When there is a difference between the rates in figures and in words, the rates which corresponds to the amounts worked out by the contractor, shall be taken as correct
- ii) When the amount of an item is not worked out by the contractor or it does not correspond with the rate written either in figure or in words, then the rate quoted by the contractor in words shall be taken as correct
- iii) When the rate quoted by the contractor in figures and words tallies but the amount is not worked out correctly, the rate quoted by the contractor shall be taken as correct and not the amount.
- iv) In case of lumpsum price, if there is any difference between the amount in figures and in words, the amount quoted by the bidder in words shall be taken as correct.
- v) In case of omission in quoting any rate for one or more items, the evaluation shall be done considering the highest quoted rate obtained against the respective items by other tenderers for the subject tender. If the tenderer becomes L-1, the notional rates for the omission items shall be the lowest rates quoted for the respective items by the other tenderers against the respective omission items for the subject job and the 'Total quoted price (loaded for omissions)' shall be arrived at. However the overall price remaining the same as quoted originally, the rates for all the items in the 'Total quoted price (loaded for omissions)' shall be reduced item wise in proportion to the ratio of 'Original' total price and the 'Total quoted price (loaded for omissions)'.
- vi) The 'Final Total Amount' shall be arrived at after considering the amounts worked out in line with 'i' to 'iv' above.

1.4.2 **Reverse Auction**: In case of Reverse Auction, the successful bidder shall undertake to execute the work as per overall price offered by him during the Reverse Auction process. In case of omission of rates, the procedure shall be as per 'Guidelines for Reverse Auction' enclosed.

1.5. **QUALIFICATION OF TENDERERS**

- i) Only tenderers who have previous experience in the work of the nature and description detailed in

- the Notice Inviting Tender and/or tender specification are expected to quote for this work duly detailing their experience along with offer.
- ii) Offers from tenderers who do not have proven and established experience in the field shall not be considered
 - iii) .Offers from tenderers who are under suspension (banned) by any Unit/Region/Division of BHEL shall not be considered.
 - iv) Offers from tenderers who do not comply with the latest guidelines of Ministry/Commissions of Govt of India shall not be considered.

1.6. EVALUATION OF BIDS

- i) Technical Bids submitted by the tenderer will be opened first and evaluated for fulfilling the Pre Qualification criteria and other conditions in NIT/Tender documents, based on documentary evidences submitted along with the offer
- ii) In case the same qualifying experience is claimed by more than one agency, then the agency who has executed the work as per documentary evidence submitted shall only be qualified. Scope of qualifying work should be totally with the agency who has executed and in case it is only labour+consumables without T&P, then the responsibility of execution is assigned to the first agency and not to the agency who has executed only as labour supply contractor. Further, BHEL reserves the right to ask for further proofs including submission of TDS certificates for the said job
- iii) In case the qualifying experience is claimed by private organizations based on Work Order and completion certificates from another private organization, BHEL reserves the right to ask for further proofs including submission of TDS certificates for the said job
- iv) Assessing Bidder Capacity for executing the current tender shall be as per Notice Inviting Tender
- v) Price Bids of shortlisted bidders shall only be opened either through the conventional price bid opening or through electronic Reverse Auction, at the discretion of BHEL
- vi) Price Bids of unqualified bidders shall not be opened. Reasons for rejection shall be intimated in due course after issue of LOI/LOA to successful bidder and receipt of unqualified acceptance from the successful bidder
- vii) Bidders are advised to also refer to clause no 2.9.4 regarding evaluation of their performance in ongoing projects for the current tender

1.7. DATA TO BE ENCLOSED

Full information shall be given by the tenderer in respect of the following. Non-submission of this information may lead to rejection of the offer.

- i) **INCOME TAX PERMANENT ACCOUNT NUMBER**
Certified copies of Permanent Account Numbers as allotted by Income Tax Department for the Company/Firm/Individual Partners, etc. shall be furnished along with tender.
- ii) **ORGANIZATION CHART**
The organization chart of the tenderer's organization, including the names, addresses and contact information of the Directors/Partners shall be furnished along with the offer.
- iii) An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole proprietor
- iv) **IN CASE OF INDIVIDUAL TENDERER:**
His / her full name, address and place & nature of business.

v) **IN CASE OF PARTNERSHIP FIRM**

The names of all the partners and their addresses, A copy of the partnership deed/instrument of partnership duly certified by the Notary Public shall be enclosed.

vi) **IN CASE OF COMPANIES:**

- a. Date and place of registration including date of commencement certificate in case of Public Companies (certified copies of Memorandum and articles of Association are also to be furnished).
- b. Nature of business carried on by the Company and the provisions of the Memorandum relating thereof.

1.8 **AUTHORISATION AND ATTESTATION**

Tenders shall be signed by a person duly authorized/empowered to do so. An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole proprietor shall be submitted along with the tenders

1.9 **EARNEST MONEY DEPOSIT**

1.9.1 Every tender must be accompanied by the prescribed amount of Earnest Money Deposit (EMD) in the manner described herein.

- i) EMD shall be furnished along with the offer in full as per the amount indicated in the Special Conditions of Contract / NIT
- ii) EMD is to be paid in cash (as permissible under Income Tax Act), Pay order or Demand Draft in favour of 'Bharat Heavy Electricals Limited' and payable at Regional HQ issuing the tender.
- iii) No other form of EMD remittance shall be acceptable to BHEL
- iv) Bidder may opt to deposit "One Time EMD" of Rs. 2.0 lakhs (Rupees Two lakhs only) with BHEL:Power Sector Region HQ issuing the tender, which will enable them to participate in all the future tender enquiries in respect of Erection and Commissioning services issued from the respective office. Interested bidders may clearly send their consent for converting the present EMD into a "One Time EMD" in their offer.
 - Note : The 'One Time EMD' cannot be withdrawn by the tenderers within 3 years from the date of deposit, under any circumstances. The Tenderer who wishes to withdraw after three years will not be allowed to submit 'One Time EMD' again.
- v) Bidders who have already deposited such "One Time EMD" of Rs. 2.00 lakh are exempted from submission of EMD for this tender. However a copy of 'One Time EMD' certificate issued by BHEL Regional HQ issuing the tender shall be enclosed along with the offer.

1.9.2 EMD by the bidder will be forfeited as per Tender Documents if

- i) After opening the tender, the bidder revokes his tender within the validity period or increases his earlier quoted rates.
- ii) The bidder does not commence the work within the period as per LOI/Contract. In case the LOI / contract is silent in this regard then within 15 days after award of contract.

1.9.3 EMD shall not carry any interest.

1.9.4 In the case of unsuccessful bidders, the Earnest Money will be refunded to them within a reasonable time after acceptance of award by successful tenderer.

1.10 SECURITY DEPOSIT

1.10.1 Upon acceptance of Tender, the successful Tenderer should deposit the required amount of Security Deposit for satisfactory completion of work, as per the rates given below:

SN	Contract Value	Security Deposit Amount
1	Up to Rs. 10 lakhs	10% of Contract Value
2	Above Rs. 10 lakhs upto Rs.50 lakhs	1 lakh + 7.5% of the Contract Value exceeding Rs. 10 lakhs.
3	Above Rs. 50 lakhs	Rs 4 lakhs + 5% of the Contract Value exceeding Rs. 50 lakhs.

1.10.2 The security Deposit should be furnished before start of the work by the contractor.

1.10.3 Security Deposit may be furnished in any one of the following forms

- i) Cash (as permissible under the Income Tax Act)
- ii) Pay Order / Demand Draft in favour of BHEL.
- iii) Local cheques of scheduled banks, subject to realization.
- iv) Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc. (Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).
- v) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format for Security Deposit shall be in the prescribed formats
- vi) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vii) Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be deposited in any form as prescribed before start of the work and the balance 50% may be recovered from the running bills.
- viii) EMD of the successful bidder can be converted and adjusted against the cash portion of Security Deposit excepting for such bidders who have remitted One Time EMD.

NOTE: Acceptance of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

1.10.4 The Security Deposit shall not carry any interest.

1.10.5 In case the value of work exceeds / reduces from the awarded / accepted value, the Security Deposit shall be correspondingly enhanced / reduced as given below:

- i) The enhanced part of the Security Deposit shall be immediately deposited by the Contractor or adjusted against payments due to the Contractor.
- ii) There will be no reduction in Security Deposit value in case of variation in contract value upto the lower limit specified in Quantity variation clause. In case of reduction of contract value beyond the lower limit specified in Quantity Variation clause, then the Security Deposit shall be re adjusted in proportion.
- iii) In case of reduction, the reduced Contract value shall be certified by BHEL Construction Manager after ascertaining / freezing of BOQ / Drawings from the Design / Engineering Centre. The reduced Security Deposit value can only be considered after taking into account the adequacy of the

securities held by BHEL to meet the liabilities of the contractor for the contract, and the performance of the contract in general. **In such cases, the revised value of Security Deposit shall be worked out only after execution of not less than the lower limit of the revised scope of work/contract value as per quantity variation clause, and as certified by Construction Manager. This reduction in value of Security Deposit shall not entitle the contractor to any amendment of Contract and shall be operated at the discretion of BHEL**

- iv) Contract value for the purpose of operating the reduced/increased value of Security Deposit due to Quantity Variation, shall be exclusive of Price Variation Clause, Over Run Compensation and Extra works done on manday rates.

1.10.6 The validity of Bank Guarantees towards Security Deposit shall be initially upto the completion period as stipulated in the Letter of Intent/Award + 3 months, and the same shall be kept valid by proper renewal till the acceptance of Final Bills of the Contractor, by BHEL

1.10.7 BHEL reserves the right of forfeiture of Security Deposit in addition to other claims and penalties in the event of the Contractor's failure to fulfill any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserves the right to set off the Security Deposit against any claims of other contracts with BHEL.

1.11 RETURN OF SECURITY DEPOSIT

Security Deposit shall be refunded/Bank Guarantee(s) released to the Contractor along with the 'Final Bill' after deducting all expenses / other amounts due to BHEL under the contract / other contracts entered into with them by BHEL.

1.12 BANK GUARANTEES

Where ever Bank Guarantees are to be furnished/submitted by the contractor, the following shall be complied with

- i) Bank Guarantees shall be from Scheduled Banks / Public Financial Institutions as defined in the Companies Act.
- ii) The Bank Guarantees shall be as per prescribed formats.
- iii) It is the responsibility of the bidder to get the Bank Guarantees revalidated/extended for the required period (subject to a minimum period of six months), as per the advice of BHEL Site Engineer / Construction Manager. BHEL shall not be liable for issue of any reminders regarding expiry of the Bank Guarantees.
- iv) In case extension/further extensions of any Bank Guarantees are not required, the bidders shall ensure that the same is explicitly endorsed by the Construction Manager and submitted to the Regional HQ issuing the LOI/LOA.
- v) In case the Bank Guarantees are not extended before the expiry date, BHEL reserves the right to invoke the same by informing the concerned Bank in writing, without any advance notice/communication to the concerned bidder.
- vi) Bidders to note that any corrections to Bank Guarantees shall be done by the issuing Bank, only through an amendment in an appropriate non judicial stamp paper.
- vii) The Original Bank Guarantee shall be sent directly by the Bank to BHEL under Registered Post (Acknowledgement Due), addressed to the Subcontracting Department of the respective Region.

1.13 VALIDITY OF OFFER

The rates in the Tender shall be kept open for acceptance for a minimum period of **SIX MONTHS** from latest due date of offer submission (including extension, if any) . In case BHEL (Bharat Heavy Electricals Ltd) calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer which shall be binding on the tenderers.

1.14 EXECUTION OF CONTRACT AGREEMENT

The successful tenderer's responsibility under this contract commences from the date of issue of the Letter of Intent by Bharat Heavy Electricals Limited. The Tenderer shall submit an unqualified acceptance to the Letter of Intent/Award within the period stipulated therein.

The successful tenderer shall be required to execute an agreement in the prescribed form, with BHEL, within a reasonable time after the acceptance of the Letter of Intent/Award, and in any case before releasing the first running bill. The contract agreement shall be signed by a person duly authorized/empowered by the tenderer. The expenses for preparation of agreement document shall be borne by BHEL.

1.15 REJECTION OF TENDER AND OTHER CONDITIONS

1.15.1 The acceptance of tender will rest with BHEL which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights for the following without assigning any reasons whatsoever:-

- a. To reject any or all of the tenders.
- b. To split up the work amongst two or more tenderers as per NIT
- c. To award the work in part if specified in NIT
- d. In case of either of the contingencies stated in (b) and (c) above, the time for completion as stipulated in the tender shall be applicable.

1.15.2 Conditional tenders, unsolicited tenders, tenders which are incomplete or not in the form specified or defective or have been materially altered or not in accordance with the tender conditions, specifications etc., are liable to be rejected.

1.15.3 Tenders are liable to be rejected in case of unsatisfactory performance of the tenderer with BHEL, or tenderer under suspension (hold/banning /delisted) by any unit / region / division of BHEL or tenderers who do not comply with the latest guidelines of Ministry/Commissions of Govt of India. BHEL reserves the right to reject a bidder in case it is observed that they are overloaded and may not be in a position to execute this job as per the required schedule in line with clause no. 9.0 of the 'NIT'. The decision of BHEL will be final in this regard.

1.15.4 If a tenderer who is a proprietor expires after the submission of his tender or after the acceptance of his tender, BHEL may at their discretion, cancel such tender. If a partner of a firm expires after the submission of tender or after the acceptance of the tender, BHEL may then cancel such tender at their discretion, unless the firm retains its character.

1.15.5 BHEL will not be bound by any Power of Attorney granted by changes in the composition of the firm made subsequent to the execution of the contract. They may, however, recognise such

power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.

- 1.15.6 If the tenderer deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract if awarded and forfeit the Earnest Money/Security Deposit/any other money due.
- 1.15.7 Canvassing in any form in connection with the tenders submitted by the Tenderer shall make his offer liable to rejection.
- 1.15.8 In case the Proprietor, Partner or Director of the Company/Firm submitting the Tender, has any relative or relation employed in BHEL, the authority inviting the Tender shall be informed of the fact as per specified format, along with the Offer. Failing to do so, BHEL may, at its sole discretion, reject the tender or cancel the contract and forfeit the Earnest Money/Security Deposit.
- 1.15.9 The successful tenderer should not sub-contract part or complete work detailed in the tender specification undertaken by him without written permission of BHEL's Construction Manager/Site Incharge. The tenderer is solely responsible to BHEL for the work awarded to him.
- 1.15.10 The Tender submitted by a techno commercially qualified tenderer shall become the property of BHEL who shall be under no obligation to return the same to the bidder. However unopened price bids and late tenders shall be returned to the bidders
- 1.15.11 Unsolicited discount received after the due date and time of Bid Submission shall not be considered for evaluation. However, if the party who has submitted the unsolicited discount/rebate becomes the L-I party, then the awarded price i.e contract value shall be worked out after considering the discount so offered.
- 1.15.12 BHEL shall not be liable for any expenses incurred by the bidder in the preparation of the tender irrespective of whether the tender is accepted or not.

CHAPTER-2

2.1 **DEFINITION:** The following terms shall have the meaning hereby assigned to them except where the context otherwise requires

- i) BHEL shall mean Bharat Heavy Electricals Limited (of the respective Power Sector Region inviting the Tender), a company registered under Indian Companies Act 1956, with its Registered Office at BHEL HOUSE, SIRI FORT, NEW DELHI – 110 049, or its Power Sector Regional Offices or its Authorised Officers or its Site Engineers or other employees authorised to deal with any matters with which these persons are concerned on its behalf.
- ii) “EXECUTIVE DIRECTOR” or ‘GROUP GENERAL MANAGER’ or “GENERAL MANAGER (Incharge)” or “GENERAL MANAGER” shall mean the Officer in Administrative charge of the respective Power Sector Region.
- iii) “COMPETENT AUTHORITY” shall mean Executive Director or Group General Manager or General Manager (Incharge) or General Manager or BHEL Officers who are empowered to act on behalf of the Executive Director or General Manager (Incharge) or General Manager of BHEL.
- iv) “ENGINEER” or “ENGINEER IN CHARGE” shall mean an Officer of BHEL as may be duly appointed and authorized by BHEL to act as “Engineer” on his behalf for the purpose of the Contract, to perform the duty set forth in this General Conditions of Contract and other Contract documents. The term also includes ‘CONSTRUCTION MANAGER’ or ‘SITE INCHARGE’ as well as Officers at Site or at the Headquarters of the respective Power Sector Regions.
- v) “SITE” shall mean the places or place at which the plants/equipments are to be erected and services are to be performed as per the specification of this Tender.
- vi) “CLIENT OF BHEL” or “CUSTOMER” shall mean the project authorities with whom BHEL has entered into a contract for supply of equipments or provision of services.
- vii) “CONTRACTOR” shall mean the successful Bidder/Tenderer who is awarded the Contract and shall include the Contractor’s successors, heirs, executors, administrators and permitted assigns.
- viii) “CONTRACT” or “CONTRACT DOCUMENT” shall mean and include the Agreement of Work Order, the accepted appendices of Rates, Schedules, Quantities if any, General Conditions of Contract, Special Conditions of Contract, Instructions to the Tenderers, Drawings, Technical Specifications, the Special Specifications if any, the Tender documents, subsequent amendments mutually agreed upon and the Letter of Intent/Acceptance issued by BHEL. Any conditions or terms stipulated by the contractor in the tender documents or subsequent letters shall not form part of the contract unless, specifically accepted in writing by BHEL in the Letter of Intent/Award and incorporated in the agreement.
- ix) “GENERAL CONDITIONS OF CONTRACT” shall mean the ‘Instructions to Tenderers’ and ‘General Conditions of Contract’ pertaining to the work for which above tenders have been called for.
- x) “TENDER SPECIFICATION” or “TENDER” or “TENDER DOCUMENTS” shall mean General Conditions, Common Conditions, Special Conditions, Price Bid, Rate Schedule, Technical

	Specifications, Appendices, Annexures, Corrigendums, Amendments, Forms, procedures, Site information, etc and drawings/documents pertaining to the work for which the tenderers are required to submit their offers. Individual specification number will be assigned to each Tender Specification.
xi)	“LETTER OF INTENT” shall mean the intimation by a Letter/Fax/email to the tenderer that the tender has been accepted in accordance with provisions contained in the letter. The responsibility of the contractor commences from the date of issue of this letter and all terms and conditions of the contract are applicable from this date.
xii)	“COMPLETION TIME” shall mean the period by ‘date/month’ specified in the ‘Letter of Intent/Award’ or date mutually agreed upon for handing over of the intended scope of work, the erected equipment/plant which are found acceptable by the Engineer, being of required standard and conforming to the specifications of the Contract.
xiii)	“PLANT” shall mean and connote the entire assembly of the plant and equipments covered by the contract.
xiv)	“EQUIPMENT” shall mean equipment, machineries, materials, structural, electricals and other components of the plant covered by the contract.
xv)	“TESTS” shall mean and include such test or tests to be carried out on the part of the contractor as are prescribed in the contract or considered necessary by BHEL, in order to ascertain the quality, workmanship, performance and efficiency of the contractor or part thereof.
xvi)	“APPROVED”, “DIRECTED” or “INSTRUCTED” shall mean approved, directed or instructed by BHEL.
xvii)	“WORK or CONTRACT WORK” shall mean and include supply of all categories of labour, specified consumables, tools and tackles and Plants required for complete and satisfactory site transportation, handling, stacking, storing, erecting, testing and commissioning of the equipments to the entire satisfaction of BHEL.
xviii)	“SINGULAR AND PLURALS ETC” words carrying singular number shall also include plural and vice versa, where the context so requires. Words imparting the masculine Gender shall be taken to include the feminine Gender and words imparting persons shall include any Company or Associations or Body of Individuals, whether incorporated or not.
xix)	“HEADING” – The heading in these General Conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken as instructions thereof or of the contract.
xx)	“MONTH” shall mean calendar month unless otherwise specified in the Tender.
xxi)	Day’ or ‘Days’ unless herein otherwise expressly defined shall mean calendar day or days of twenty four (24) hours each. A week shall mean continuous period of seven (7) days.
xxii)	“COMMISSIONING” shall mean the synchronisation testing and achieving functional operation of the Equipment with associated system after all initial adjustments, trials, cleaning, re-assembly required at site if any, have been completed and Equipment with associated system is

	ready for taking into service.
xxiii)	“WRITING” shall include any manuscript type written or hand written or printed statement or electronically transmitted messages, under the signature or seal or transmittal of BHEL.
xxiv)	“TEMPORARY WORK” shall mean all temporary works for every kind required in or for the execution, completion, maintenance of the work.
xxv)	‘CONTRACT PRICE’ or ‘CONTRACT VALUE’ shall mean the sum mentioned in the LOI/LOA/Contract Agreement subject to such additions thereto or deductions there from as may be made under provisions hereinafter contained
xxvi)	“COMMENCEMENT DATE” or “START DATE” shall mean the commencement/start of work at Site as per terms defined in the Tenderl
xxvii)	“SHORT CLOSING” or “FORE CLOSING” of Contract shall mean the premature closing of Contract, for reasons not attributable to the contractor and mutually agreed between BHEL and the contractor
xxviii)	“TERMINATION” of Contract shall mean the pre mature closing of contract due to reasons as mentioned in the contract
xxix)	“DE MOBILISATION” shall mean the temporary winding up of Site establishment by Contractor leading to suspension of works temporarily for reasons not attributable to the contractor
xxx)	“RE MOBILISATION” shall mean the resumption of work with all resources required for the work after demobilization.
2.2	LAW GOVERNING THE CONTRACT AND COURT JURISDICTION The contract shall be governed by the Law for the time being in force in the Republic of India. The Civil Court having original Civil Jurisdiction at Delhi for PSNR, at Kolkata for PSER, at Nagpur for PSWR and at Chennai for PSSR, shall alone have exclusive jurisdiction in regard to all claims in respect of the Contract. No other Civil Court shall have jurisdiction in case of any dispute, under this contract
2.3	ISSUE OF NOTICE 2.3.1 <u>Service of notice on contractor</u> Any notice to be given to the Contractor under the terms of the contract shall be served by sending the same by Registered Post / Speed Post to or leaving the same at the Contractor's last known address of the principal place of business (or in the event of the contractor being a company, to or at its Registered Office). In case of change of address, the notice shall be served at changed address as notified in writing by the Contractor to BHEL. Such posting or leaving of the notice shall be deemed to be good service of such notice and the time mentioned to the condition for doing any act after notice shall be reckoned from the date so mentioned in such notice. 2.3.2 <u>Service of notice on BHEL</u> Any notice to be given to BHEL in-charge/Region under the terms of the Contract shall be served by sending the same by post to or leaving the same at BHEL address or changed address as notified in writing by BHEL to the Contractor.
2.4	USE OF LAND No land belonging to BHEL or their Customer under temporary possession of BHEL shall be occupied by the contractor without written permission of BHEL.

2.5 COMMENCEMENT OF WORK

- 2.5.1 The contractor shall commence the work as per the time indicated in the Letter of Intent from BHEL and shall proceed with the same with due expedition without delay.
- 2.5.2 If the contractor fails to start the work within stipulated time as per LOI or as intimated by BHEL, then BHEL at its sole discretion will have the right to cancel the contract. The Earnest Money and/or Security Deposit with BHEL will stand forfeited without any further reference to him without prejudice to any and all of BHEL's other rights and remedies in this regard.
- 2.5.3 All the work shall be carried out under the direction and to the satisfaction of BHEL.

2.6 MEASUREMENT OF WORK AND MODE OF PAYMENT:

- 2.6.1 All payments due to the contractors shall be made by e mode only, unless otherwise found operationally difficult for reasons to be recorded in writing
- 2.6.2 For progress running bill payments: - The Contractor shall present detailed measurement sheets in triplicate, duly indicating all relevant details based on technical documents and connected drawings for work done during the month/period under various categories in line with terms of payment as per contract. The basis of arriving at the quantities, weights shall be relevant documents and drawings released by BHEL. These measurement sheets shall be prepared jointly with BHEL Engineers and signed by both the parties.
- 2.6.3 These measurement sheets will be checked by BHEL Engineer and quantities and percentage eligible for payment under various groups shall be decided by BHEL Engineer. The abstract of quantities and percentage so arrived at based on the terms of payment shall be entered in Measurement Book and signed by both the parties.
- 2.6.4 Based on the above quantities, contractor shall prepare the bills in prescribed format and work out the financial value. These will be entered in Measurement Book and signed by both the parties. Payment shall be made by BHEL after effecting the recoveries due from the contractor.
- 2.6.5 All recoveries due from the contractor for the month/period shall be effected in full from the corresponding running bills unless specific approval from the competent authorities is obtained to the contrary.
- 2.6.6 Measurement shall be restricted to that portion of work for which it is required to ascertain the financial liability of BHEL under this contract.
- 2.6.7 The measurement shall be taken jointly by persons duly authorized on the part of BHEL and by the Contractor.
- 2.6.8 The Contractor shall bear the expenditure involved if any, in making the measurements and testing of materials to be used/used in the work. The contractor shall, without extra charges, provide all the assistance with appliances and other things necessary for measurement.
- 2.6.9 If at any time due to any reason whatsoever, it becomes necessary to re-measure the work done in full or in part, the expenses towards such re measurements shall be borne by the contractor unless such re measurements are warranted solely for reasons not attributable to contractor.

- 2.6.10 Passing of bills covered by such measurements does not amount to acceptance of the completion of the work measured. Any left out work has to be completed, if pointed out at a later date by BHEL.
- 2.6.11 Final measurement bill shall be prepared in the final bill format prescribed for the purpose based on the certificate issued by BHEL Engineer that entire works as stipulated in tender specification has been completed in all respects to the entire satisfaction of BHEL. Contractor shall give unqualified "No Claim" Certificate. All the tools and tackles loaned to him should be returned in satisfactory condition to BHEL. The abstract of final quantities and financial values shall also be entered in the Measurement Books and signed by both parties to the contract. The Final Bill shall be prepared and paid within a reasonable time after completion of work.
- 2.7 RIGHTS OF BHEL**
BHEL reserves the following rights in respect of this contract during the original contract period or its extensions if any, as per the provisions of the contract, without entitling the contractor for any compensation.
- 2.7.1 To withdraw any portion of work and/or to restrict/alter quantum of work as indicated in the contract during the progress of work and get it done through other agencies to suit BHEL's commitment to its customer or in case BHEL decides to advance the date of completion due to other emergent reasons/ BHEL's obligation to its customer.
- 2.7.2 To terminate the contract or get any part of the work done through other agency or deploy BHEL's own/hired/otherwise arranged resources, at the risk and cost of the contractor after due notice of a period of two weeks by BHEL, in the event of:-
- i) Contractor's continued poor progress
 - ii) Withdrawal from or abandonment of the work before completion of the work
 - iii) Contractor's inability to progress the work for completion as stipulated in the contract
 - iv) Poor quality of work
 - v) Corrupt act of Contractor
 - vi) Insolvency of the Contractor
 - vii) Persistent disregard to the instructions of BHEL
 - viii) Assignment, transfer, sub-letting of contract without BHEL's written permission
 - ix) Non fulfillment of any contractual obligations
 - x) In the opinion of BHEL, the contractor is overloaded and is not in a position to execute the job as per required schedule
- 2.7.3 To meet the expenses including BHEL overheads on the differential cost at 5%, over and above the Liquidated damages/penalties arising out of "Risk & Cost" as explained above under SI.No. 2.7.2. BHEL shall recover the amount from any money due from Contractor, or from any money due to the Contractor including Security Deposit, or by forfeiting any T&P or material of the contractor under this contract or any other contract of BHEL or by any other means or any combination thereof
- 2.7.4 To terminate the contract or to restrict the quantum of work and pay for the portion of work executed in case BHEL's contract with their customer are terminated for any reason, as per mutual agreement.
- 2.7.5 To effect recovery from any amounts due to the contractor under this or any other contract or in

any other form, the moneys BHEL is statutorily forced to pay to anybody, due to contractor's failure to fulfill any of his obligations. BHEL shall levy overheads of 5% on all such payments along with interest as defined elsewhere in the GCC.

- 2.7.6 While every endeavour will be made by BHEL to this end, they cannot guarantee uninterrupted work due to conditions beyond their control. The Contractor will not be normally entitled for any compensation/extra payment on this account unless otherwise specified elsewhere in the contract.
- 2.7.7 In case the execution of works comes to a complete halt or reaches a stage wherein worthwhile works cannot be executed and there is no possibility of commencement of work for a period of not less than two months, due to reasons not attributable to the contractor and other than Force Majeure conditions, BHEL may consider permitting the contractor to de mobilize forthwith and re mobilize at an agreed future date. Cost of such demobilization/remobilization shall be mutually agreed. ORC in such cases shall not be applicable for the period between the period of demobilization and re mobilisation. The duration of contract/time extension shall accordingly get modified suitably. In case of any conflict, BHEL decision in this regard shall be final and binding on the contractor.
- 2.7.8 In the unforeseen event of inordinate delay in receipt of materials, drawings, fronts, etc, due to which inordinate discontinuity of work is anticipated, BHEL at its discretion may consider contractor's request to short close the contract in following cases:
- a) The balance works (including but not limited to Trial Operation, PG Test, etc) are minor vis a vis the scope of work envisaged as per the contract.
 - b) There has been no significant work in past 6 months OR no significant work is expected in next 6 months (example in Hydro projects or in projects where work has stopped due to reasons beyond the control of BHEL)
 - c) The balance works cannot be done within a reasonable period of time as they are dependent on unit shutdown or on other facilities of customer or any other reasons not attributable to the contractor

At the point of requesting for short closure, contractor shall establish that he has completed all works possible of completion and he is not able to proceed with the balance works due to constraints beyond his control. In such a case, the estimated value of the unexecuted portion of work (or estimated value of services to be provided for carrying out milestone/stage payments like Trial Operation/PG Test, etc) as mutually agreed, shall however be reduced from the final contract value.

2.7.9 LIQUIDATED DAMAGES/PENALTY

If the contractor fails to maintain the required progress of work which results in delay in the completion of the work as per the contractual completion period, BHEL shall have the right to impose Liquidated Damage/Penalty at the rate of 0.5% of the contract value, per week of delay or part thereof subject to a maximum of 10% of the contract value. For this purpose, the period of delay shall be the delay attributable to the Contractor for the completion of work as per contract. Contract Value for this purpose, shall be the final executed value exclusive of ORC, Extra Works executed on Mandy rate basis, Supplementary/Additional Items and PVC.

2.8 RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF LOCAL LAWS, EMPLOYMENT OF WORKERS ETC.

The following are the responsibilities of the contractor in respect of observance of local laws, employment of personnel, payment of taxes etc. The subcontractor shall fully indemnify BHEL against any claims of whatsoever nature arising due to the failure of the contractor in discharging any of his responsibilities hereunder:

- 2.8.1 As far as possible, Unskilled Workers shall be engaged from the local areas in which the work is being executed.
- 2.8.2 The contractor at all times during the continuance of this contract shall, in all his dealings with local labour for the time being employed on or in connection with the work, have due regard to all local festivals and religious and other customs.
- 2.8.3 The contractor shall comply with all applicable State and Central Laws, Statutory Rules, Regulations, Notifications, etc. such as Payment of Wages Act, Minimum Wages Act, Workmen Compensation Act, Employer's Liability Act, Industrial Disputes Act, Employees' Provident Funds Act, Employees State Insurance Act, Contract Labour (Regulation and Abolition) Act, 1970, Payment of Bonus & Gratuity Acts, Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, Building and Other Construction Workers' Welfare Cess Act, 1996 and Other Acts, Rules, and Regulations for labour/workers as applicable and as may be enacted by the State Government and Central Govt. during the tenure of the Contract and/or having force or jurisdiction at Site. The Contractor shall also comply with provisions of all applicable laws and give all such notices to the local Police and other Authorities as may be required by the Law.
- 2.8.4 (a) The Contractor shall obtain independent License under the Contract Labour (Regulations and Abolition) Act, 1970 for engaging contract labour as required from the concerned Authorities based on the certificate (Form- V) issued by the Principal Employer/Customer.
- (b) In case any portion of work or execution of work attracts provisions of Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and Other Construction Workers' Welfare Cess Act, 1996 then compliance to the above titled Acts shall be ensured by the contractor and the Contractor shall obtain independent Certificate of Registration from the concerned Authorities under the Act, 1996 and shall deposit Cess imposed and applicable on the establishment of the Contractor while executing the work under contract.
- (c) It shall be the responsibility of the Contractor to make payment of all statutory payments & compensations to its labour/ workers including as provided under the Workmen's Compensation Act, 1923.
- (d) It shall be the sole responsibility of the contractor to forthwith ensure compliances and he shall furnish copy of such license/Registration/ permission/Cess deposit receipts, challans, etc to BHEL within time along with the number, name and other details of beneficiaries (building workers) as per the act, 1996 engaged by the contractor during the preceding month.

- 2.8.5 The contractor shall pay and bear all taxes, fees, license charges, Cess, duties, deposits, tolls, royalties, commission or other charges which may be leviable on account of his operations in executing the contract.
- 2.8.6 While BHEL would pay the inspection fees and Registration fees of Boiler/Electrical Inspectorate, all other arrangements for site visits periodically by the Inspectorate to site, Inspection certificate etc. will have to be made by contractor. However, BHEL will not make any payment to the Inspectorate in connection with contractor's Welders/Electricians qualification tests etc.
- 2.8.7 Contractor shall be responsible for provision of Health and Sanitary arrangements (more particularly described in Contract Labour Regulation & Abolition Act), Safety precautions etc. as may be required for safe and satisfactory execution of contract.
- 2.8.8 The contractor shall be responsible for proper accommodation including adequate medical facilities for personnel employed by him.
- 2.8.9 The contractor shall be responsible for the proper behavior and observance of all regulations by the staff employed by him.
- 2.8.10 The contractor shall ensure that no damage is caused to any person/property of other parties working at site. If any such damage is caused, it is responsibility of the contractor to make good the losses or compensate for the same.
- 2.8.11 All the properties/equipments/components of BHEL/their Client loaned with or without deposit to the contractor in connection with the contract shall remain properties of BHEL/their Client.
- 2.8.12 The contractor shall use such properties for the purpose of execution of this contract. All such properties/equipments/components shall be deemed to be in good condition when received by the contractor unless he notifies within 48 hours to the contrary. The contractor shall return them in good condition as and when required by BHEL/their Client. In case of non-return, loss, damage, repairs etc, the cost thereof as may be fixed by BHEL Engineer will be recovered from the contractor
- 2.8.13 In case the contractor is required to undertake any work outside the scope of this contract, the rates payable shall be those mutually agreed upon if the item rates are not mentioned in existing contract
- 2.8.14 Any delay in completion of works/or non achievement of periodical targets due to the reasons attributable to the contractor, the same may have to be compensated by the contractor either by increasing manpower and resources or by working extra hours and/or by working more than one shift. All these are to be carried out by the contractor at no extra cost.
- 2.8.15 The contractor shall arrange, coordinate his work in such a manner as to cause no hindrance to other agencies working in the same premises.
- 2.8.16 All safety rules and codes applied by the Client/BHEL at site shall be observed by the contractor without exception. The contractor shall be responsible for the safety of the equipment/material and works to be performed by him and shall maintain all light, fencing guards, slings etc. or other protection necessary for the purpose. Contractor shall also take such additional precautions as

may be indicated from time to time by the Engineer with a view to prevent pilferage, accidents, fire hazards. Due precautions shall be taken against fire hazards and atmospheric conditions. Suitable number of Clerical staff, watch and ward, store keepers to take care of equipment/materials and construction tools and tackles shall be posted at site by the contractor till the completion of work under this contract.

The contractor shall arrange for such safety devices as are necessary for such type of work and carry out the requisite site tests of handling equipment, lifting tools, tackles etc. as per prescribed standards and practices.

Contractor has to ensure the implementation of Health, Safety and Environment (HSE) requirements as per directions given by BHEL/Customer. The contractor has to assist in HSE audit by BHEL/Customer and submit compliance Report. The contractor has to generate and submit record/reports as per HSE plan/activities as per instruction of BHEL/Customer

- 2.8.17 The contractor will be directly responsible for payment of wages to his workmen. A pay roll sheet giving all the payments given to the workers and duly signed by the contractor's representative should be furnished to BHEL site for record purpose, if so called for.
- 2.8.18 In case of any class of work for which there is no such specification as laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the Engineer.
- 2.8.19 Also, no idle charges will be admissible in the event of any stoppage caused in the work resulting in contractor's labour and Tools & Plants being rendered idle due to any reason at any time.
- 2.8.20 The contractor shall take all reasonable care to protect the materials and work till such time the plant/equipment has been taken over by BHEL or their Client whichever is earlier.
- 2.8.21 The contractor shall not stop the work or abandon the site for whatsoever reason of dispute, excepting force majeure conditions. All such problems/disputes shall be separately discussed and settled without affecting the progress of work. Such stoppage or abandonment shall be treated as breach of contract and dealt with accordingly
- 2.8.22 The contractor shall keep the area of work clean and shall remove the debris etc. while executing day-to-day work. Upon completion of work, the contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit them in places specified by the Engineer. The contractor will also demolish all the hutments, sheds, offices, etc. constructed and used by him and shall clean the debris. In the event of his failure to do so, the same will be arranged to be done by the Engineer and the expenses recovered from the contractor.
- 2.8.23 The contractor shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and timely execution shall be the essence of this contract. The contractor shall be responsible to ensure that the quality, assembly and workmanship conform to the dimensions and clearance given in the drawings and/ or as per the instructions of the Engineer.
- 2.8.24 The Contractor to note that some of BHEL's T&Ps/MMDs may not be insured. The Contractor will take necessary precautions and due care to protect the same while in his custody from any

damage/ loss till the same is handed over back to BHEL. In case the damage / loss is due to carelessness/ negligence on the part of the contractor, the Contractor is liable to get them repair/ replaced immediately and in case of his failure to do so within a reasonable time, BHEL will reserve the right to recover the loss from the contractor.

2.9 PROGRESS MONITORING, MONTHLY REVIEW AND PERFORMANCE EVALUATION

- 2.9.1 A detailed plan/programme for completion of the contractual scope of work as per the time schedule given in the contract shall be jointly agreed between BHEL and Contractor, before commencement of work. The above programme shall be supported by monthwise deployment of resources viz Manpower, T&P, Consumables, etc. Progress will be reviewed periodically (Daily/Weekly/Monthly) vis a vis this jointly agreed programme. The Contractor shall submit periodical progress reports (Daily/Weekly/Monthly) and other reports/information including manpower, consumables, T&P mobilization etc as desired by BHEL.
- 2.9.2 Monthly progress review between BHEL and Contractor shall be based on the agreed programme as above, availability of inputs/fronts etc, and constraints if any, as per prescribed formats. Manpower, T&P and consumable reports as per prescribed formats shall be submitted by contractor every month. Release of RA Bills shall be contingent upon certification by BHEL Site Engineer of the availability of the above prescribed formats duly filled in and signed.
- 2.9.3 The burden of proof that the causes leading to any shortfall is not due to any reasons attributable to the contractor is on the contractor himself. The monthly progress review shall record shortfalls attributable to (i) Contractor, (ii) Force Majeure Conditions, and (iii) BHEL
- 2.9.4 Performance of the Contractor shall be assessed as per prescribed formats and shall form the basis for 'Annual/Overall Performance Evaluation' of the Contractor and also for 'Assessment of Capacity of Bidder' for Tenders where the Contractor is a bidder. BHEL reserves the right to revise the evaluation formats during the course of execution of the works

2.10 TIME OF COMPLETION

- 2.10.1 The time schedule shall be as prescribed in the Contract. The time for completion shall be reckoned from the date of commencement of work at Site as certified by BHEL Engineers
- 2.10.2 The entire work shall be completed by the contractor within the time schedule or within such extended periods of time as may be allowed by BHEL under clause 2.11

2.11 EXTENSION OF TIME FOR COMPLETION

- 2.11.1 If the completion of work as detailed in the scope of work gets delayed beyond the contract period, the contractor shall request for an extension of the contract and BHEL at its discretion may extend the Contract.
- 2.11.2 Based on the monthly reviews jointly signed, the works balance at the end of original contract period less the backlog attributable to the contractor shall be quantified, and the number of months of 'Time extension' required for completion of the same shall be jointly worked out. Within this period of 'Time extension', the contractor is bound to complete the portion of backlog attributable to the contractor. Any further 'Time extension' or 'Time extensions' at the end of the previous extension shall be worked out similarly.
- 2.11.3 However if any 'Time extension' is granted to the contractor to facilitate continuation of work and completion of contract, due to backlog attributable to the contractor alone, then it shall be without prejudice to the rights of BHEL to impose penalty/LD for the delays attributable to the contractor, in addition to any other actions BHEL may wish to take at the risk and cost of contractor.
- 2.11.4 A joint programme shall be drawn for the balance amount of work to be completed during the period of 'Time Extension', along with matching resources (with weightages) to be deployed by the contractor as per specified format. Review of the programme and record of shortfall shall be done

every month of the 'Time extension' period in the same manner as is done for the regular contract period.

2.11.5 During the period of 'Time extension', contractor shall maintain their resources as per mutually agreed program

2.11.6 At the end of total work completion as certified by BHEL Engineer, and upon analysis of the total delay, the portion of time extensions attributable to (i) Contractor, (ii) Force majeure conditions, and (iii) BHEL, shall be worked out and shall be considered to be exhausted in the same order. The total period of time extensions shall be the sum of (i), (ii) and (iii) above and shall be equal to period between the scheduled date of completion and the actual date of completion of contract. LD shall be imposed/levied for the portion of time extensions attributable to contractor and recoverable from the dues payable to the contractor.

2.12 **OVERRUN COMPENSATION**

2.12.1 Over Run Compensation (ORC) is payable for works done during the extension period, by way of rate revisions for periods beyond original contract period subject to the following terms and conditions.

2.12.2 Rates shall be increased by 10% for the first twelve months of one or more extensions beyond original contract period. For the next twelve months of further extensions if any, rates shall be increased as above by 10% over the previous twelve months, and similarly for each subsequent twelve months extension.

2.12.3 The amount of increase payable per month due to rate revisions is subject to a minimum of Rs 1,00,000/- per month and a maximum of Rs 10,00,000/- per month.

2.12.4 Should there be any 'Time extension' for reasons attributable only to the contractor, then the work shall be executed by the contractor at the rates applicable for the period the work was planned

2.12.5 Payment of ORC shall be regulated as follows:

- i) Contractor is entitled to Over Run Compensation (ORC) only for the portion of backlog attributable to BHEL.
- ii) 50% of the compensation as per clause 2.12.3 is allocated for deployment of resources agreed as per the joint programme drawn vide 2.11.4. Payment shall however be based on the actual deployment of resources for the month as certified by BHEL, as per weightages assigned therein
- iii) 50% of the compensation as per clause 2.12.3, is allocated for achieving of planned progress agreed as per the joint programme drawn vide 2.11.4. Payment shall be on pro rata basis for actual achieved quantities
- iv) Total Over Run Compensation shall be limited to 10% of the executed contract value as certified in Final Bill. For this purpose executed contract value excludes PVC, ORC, Supplementary/Additional Items and Extra Works done on Manday rate basis

2.12.6 Contractor shall not be entitled for any Over Run Compensation (ORC) for the portion of backlog attributable to the contractor. Such works shall be executed at the rates applicable for the period the work was planned

2.13 **INTEREST BEARING RECOVERABLE ADVANCES**

2.13.1 Normally no advance is payable to the contractor. However, advance payment in exceptional circumstances shall be interest bearing and secured through a Bank Guarantee and shall be limited to a maximum of 5% of contract value. This 'Interest Bearing Recoverable Advance' shall be payable in not less than two installments with any of the installment not exceeding 60% of the total eligible advance.

- 2.13.2 In exceptional circumstances, with due justification, Competent Authority of BHEL is empowered to approve proposals for payment of additional interim interest bearing advance against Bank Guarantee, for resource augmentation towards expediting work for project implementation.
- 2.13.3 Bank Guarantee towards 'Interest Bearing Recoverable Advance' shall be atleast 110% of the advance so as to enable recovery of not only principle amount but also the interest portion, if so required.
- 2.13.4 Contractor shall establish the utilization of advance drawn before the release of next installment.
- 2.13.5 Payment and recovery of Interest Bearing Recoverable advance shall be at the sole discretion of BHEL and shall not be a subject matter of arbitration.
- 2.13.6 The rate of interest applicable for the above advances shall be the prime lending rate of State Bank of India prevailing at the time of disbursement of the advance + 2%, and such rate will remain fixed till the total advance amount is recovered
- 2.13.7 Unadjusted amount of advances paid shall not exceed 5% of the total contract value at any point of time. Recovery of advances shall be made progressively from each Running Bill such that the advance amounts paid along with the interest is fully recovered by the time the contractor's billing reaches 80% of contract value.
- 2.13.8 Recovery rate per month shall be the sum of:
- Not less than 10% of Running Bill amount
 - Simple interest up to the date of RA Bill on the outstanding Principle amount/amounts
- 2.13.9 Contractor to submit Bank Guarantee as per prescribed formats for each of the advance and shall be valid for at least one year or the recovery duration or the balance contract period which ever is later. In case the recovery of dues does not get completed within the aforesaid BG period, the contractor shall renew the BG or submit fresh BG for the outstanding amount and the remaining recovery period.
- 2.13.10 BHEL is entitled to make recovery of the entire outstanding amount in case the contractor fails to comply with the BG requirement

2.14 QUANTITY VARIATION

- 2.14.1 The quoted rates shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limits of Plus (+) or Minus (-) 15% of awarded contract value
- 2.14.2 Compensation due to variation of final executed value in excess of the limits defined in clause above, shall be as follows:
- In case the finally executed contract value reduces below the lower limit of Contract Value due to quantity variation specified above, the contractor will be eligible for compensation @ 15% of the difference between the lower limit of the contract value and the actual executed value.
 - In case the finally executed contract value increases above the upper limit of Contract Value due to quantity variation specified above, there will be no revision in the rates within the contract period.

2.15 EXTRA WORKS

- 2.15.1 All rectifications/modifications, revamping, and reworks required for any reasons not due to the fault of the contractor, or needed due to any change in deviation from drawings and design of equipments, operation/maintenance requirements, mismatching, or due to damages in transit, storage and erection/commissioning, and other allied works which are not very specifically indicated in the drawings, but are found essential for satisfactory completion of the work, will be considered as extra works.
- 2.15.2 Extra works arising on account of the contractor's fault, irrespective of time consumed in rectification of the damage/loss, will have to be carried out by the contractor free of cost. Under such circumstances, any material and consumable required for this purpose will also have to be arranged by the contractor at his cost.
- 2.15.3 All the extra work should be carried out by a separately identifiable gang, without affecting routine activities. Daily log sheets in the pro-forma prescribed by BHEL should be maintained and shall be signed by the contractor's representative and BHEL engineer. No claim for extra work will be considered/entertained in the absence of the said supporting documents i.e. daily log sheets. Signing of log sheets by BHEL engineer does not necessarily mean the acceptance of such works as extra works.
- 2.15.4 BHEL retains the right to award or not to award any of the major repair/rework/modification/rectification/fabrication works to the contractor, at their discretion without assigning any reason for the same
- 2.15.5 After eligibility of extra works is established and finally accepted by BHEL engineer/designer, payment will be released on competent authority's approval at the following rate.

MAN-HOUR RATE FOR ELIGIBLE EXTRA WORKS: Single composite average labour man-hour rate, including overtime if any, supervision, use of tools and tackles and other site expenses and incidentals, consumables for carrying out any major rework/repairs/rectification/modification/fabrication as certified by site as may arise during the course of erection, testing, commissioning or extra works arising out of transit, storage and erection damages, payment, if found due will be at Rs 60/- per man hour.

- 2.15.6 The above composite labour man hour rate towards extra works shall remain firm and not subject to any variation during execution of the work. PVC will not be applicable for extra works. Rate revision, Over Run Charges/compensation etc will not be applicable due to extra works.
- 2.15.7 **Extra Works for Civil Packages** shall be regulated as follows
- i) Rates for Extra Works arising due to (1) non availability of BOQ (Rate Schedule), OR (2) change in Specifications of materials/works (3) rectification/modification/dismantling & re erecting etc due to no fault of Contractor, shall be in the order of the following:
- a) Item rates are to be derived from similar nature of items in the BOQ (Rate Schedule) with applicable escalation derived from All India Consumer Price Index for Whole Sale Commodities.
- b) As per CPWD-DSR-2007 (or latest edition) with applicable escalation derived from All India Consumer price Index for Whole Sale Commodities, OR, Notification issued by the office of CPWD for 'Cost Index' in that Region where the project is being executed, whichever is less
- c) Item rates are to be worked out on the basis of prevailing market rates mutually agreed between BHEL and Contractor, plus 15% towards Contractor's overheads and profit.

ii) PVC and ORC will not applicable be for (i) above.

2.16 SUPPLEMENTARY ITEMS

2.16.1 For NON Civil Works

Supplementary items are items/works required for completion of entire work but not specified in the scope of work. Subject to certification of such items/works as supplementary items by BHEL Engineer, rates shall be derived on the basis of any one of the following on mutual agreement:

- i) Based on percentage breakup/rates indicated for similar/nearby items
- ii) In case (i) above does not exist, then BHEL/site may derive the percentage breakup/rates to suit the type of work

2.16.2 For Civil Works

- i) Rates for Supplementary Works/Additional Works arising out due to additions/alterations in the original scope of works as per contract subject to certification of BHEL Engineer shall be worked out as under:
 - a) Item rates which are available in existing BOQ (Rate Schedule) shall be operated with applicable escalation derived from All India Consumer Price Index for Whole Sale Commodities
 - b) Items of works which are not available in existing BOQ shall be operated as an 'Extra Works' and rate shall be derived as per clause no 2.15.7
- ii) Execution of Supplementary Works/Additional Works through the Contractor shall be at the sole discretion of BHEL, and shall be considered as part of executed contract value for the purpose of Quantity Variation as per clause 2.14
- iii) BHEL Engineer's decision regarding fixing the rate as above is final and binding on the contractor.
- iv) PVC and ORC will not be applicable for (i) above.

2.17 PRICE VARIATION COMPENSATION

2.17.1 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, Price Variation Formula as described herein shall be applicable

2.17.2 85% component of Contract Value shall be permitted to be adjusted for variation in various relevant indices during execution of work. The remaining 15% shall be treated as fixed component

2.17.3 The basis for calculation of price variation in each category, their component, Base Index, shall be as under:

SL NO.	CATEGORY	BASE INDEX	COMPONENT ('K')				
			CIVIL PACKAGES (See Note A/B/C)			MECHANICAL PACKAGES	LABOUR ORIENTED PACKAGES (See Note D)
			A	B**	C		
i)	LABOUR (ALL CATEGORIES)	'MONTHLY ALL-INDIA AVERAGE CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS' published by Labour Bureau, Ministry of Labour and Employment, Government of India. (Website: labourbureau.nic.in)	40	25	30	65	80
ii)	HIGH SPEED	Name of Commodity : HSD OIL. Type : INDIVIDUAL COMMODITY	5	3	5	5	5

	DIESEL OIL	(See Note F)					
iii)	WELDING ROD	Name of Commodity : WELDING ROD Type: INDIVIDUAL COMMODITY (See Note F)				15	
iv)	CEMENT	Name of Commodity : GREY CEMENT Type: INDIVIDUAL COMMODITY (See Note F)		20	30		
v)	STEEL (Structural and Reinforcement Steel)	Name of Commodity : a1. IRON & SEMIS Type: GROUP ITEM (See Note F)		25			
vi)	MATERIALS (Other than Cement & Steel)	Name of Commodity: ALL COMMODITIES Type: GROUP ITEM (See Note F)	40	12	20		

Note: A) Cement & Steel : Free Issue (BHEL Scope)

B) Cement & Steel : In Contractor Scope {**: unless otherwise specified in Special Conditions of Contract (SCC) }

C) Cement in Contractor Scope, and Steel is Free Issue (BHEL Scope)

D) Predominantly 'Labour Oriented' packages including Material Handling & Management, Insulation, Painting, Electrical and CI or a combination thereof, which are separately tendered and awarded

E) For Composite packages (i.e. Civil+Mechanical+Electrical/CI or Civil+Mechanical or Mechanical+Electrical/CI), the components for various categories shall be as per respective packages

F) 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.

2.17.4 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 (Excluding Taxes and Duties if payable extra)

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.

2.17.5 Base date shall be calendar month of the latest date of submission of Tender.

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

2.17.7 The contractor shall furnish necessary monthly bulletins for the necessary indices from the relevant websites along with his Bills.

2.17.8 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 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.

- 2.17.9 PVC shall be applicable for the entire original contract period plus the extended period. However the Total Quantum of Price Variation amount payable/recoverable shall be regulated as follows:
- For the portion of backlog attributable to the contractor, the PVC will be based on the average of the indices for the period of the original contract period.
 - For the period of Force Majeure, the PVC will be limited to the indices applicable at the beginning of the force majeure period.
 - For the portion of backlog attributable to BHEL, the PVC will be as per the indices applicable for the respective months
 - The total amount of PVC shall not exceed 20% of the cumulatively executed contract value. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works.

2.18 **INSURANCE**

- 2.18.1 BHEL/their customer shall arrange for insuring the materials/properties of BHEL/customer covering the risks during transit, storage, erection and commissioning.
- 2.18.2 It is the sole responsibility of the contractor to insure his materials, equipments, workmen, etc. against accidents and injury while at work and to pay compensation, if any, to workmen as per Workmen's compensation Act. The work will be carried out in a protected area and all the rules and regulations of the client /BHEL in the area of project which are in force from time to time will have to be followed by the contractor.
- 2.18.3 If due to negligence and or non-observation of safety and other precautions by the contractors, any accident/injury occurs to the property / manpower belong to third party, the contractor shall have to pay necessary compensation and other expense, if so decided by the appropriate authorities.
- 2.18.4 The contractor will take necessary precautions and due care to protect the material, while in his custody from any damage/ loss due to theft or otherwise till the same is taken over by BHEL or customer. For lodging / processing of insurance claim the contractor will submit necessary documents. BHEL will recover the loss including the deductible franchise from the contractor, in case the damage / loss is due to carelessness / negligence on the part of the contractor. In case of any theft of material under contractor's custody, matter shall be reported to police by the contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL for taking up with insurance. However this will not relieve the contractor of his contractual obligation for the material in his custody.

2.19 **STRIKES & LOCKOUT**

- 2.19.1 The contractor will be fully responsible for all disputes and other issues connected with his labour. In the event of the contractor's labour resorting to strike or the Contractor resorting to lockout and if the strike or lockout declared is not settled within a period of one month, BHEL shall have the right to get the work executed through any other agencies and the cost so incurred by BHEL shall be deducted from the Contractor's bills.
- 2.19.2 For all purposes whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL

2.20 **FORCE MAJEURE**

The following shall amount to Force Majeure:-

- 2.20.1 Acts of God, act of any Government, War, Sabotage, Riots, Civil commotion, Police action, Revolution, Flood, Fire, Cyclones, Earth quake and Epidemic and other similar causes over which the contractor has no control.
- 2.20.2 If the contractor suffers delay in the due execution of the contractual obligation due to delays caused by force majeure as defined above, the agreed time of completion of the job covered by this contract or the obligations of the contractor shall be extended by a period of time equal to period of delay, provided that on the occurrence of any such contingency, the contractor immediately reports to BHEL in writing the causes of delay and the contractor shall not be eligible for any compensation.

2.21 ARBITRATION & RECONCILIATION

- 2.21.1 In case amicable settlement is not reached in the event of any dispute or difference arising out of the execution of the Contract or the respective rights and liabilities of the parties or in relation to interpretation of any provision by the Contractor in any manner touching upon the Contract, such dispute or difference shall (except as to any matters, the decision of which is specifically provided for therein) be referred to the sole arbitration of the arbitrator appointed by BHEL/In charge(Region).

The award of the Arbitrator shall be binding upon the parties to the dispute

Subject as aforesaid, the provisions of Arbitration and Reconciliation Act 1996 (India) or statutory modifications or re enactments thereof and the rules made there under and for the time being in force shall apply to the arbitration proceedings under this clause. The venue of the arbitration shall be the place from which the contract is issued or such other place as the Arbitrator at his discretion may determine

- 2.21.2 In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable :

In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred to by either party to the arbitration of one of the arbitrators in the department of public enterprises. The award of the arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the parties hereto finally and conclusively.

- 2.21.3 The cost of arbitration shall be borne equally by the parties.

- 2.21.4 Work under the contract shall be continued during the arbitration proceedings

2.22 RETENTION AMOUNT

2.22.1 Retention Amount shall be 5% of executed contract value and shall be recovered at the rate of 5% from each Running Bill admitted, including PVC Bills.

2.22.2 Refund of Retention Amount shall be as follows:

- i) 50% of retention amount along with 'Final Bill'
- ii) Balance 50% of retention amount shall be retained towards 'Performance Guarantee for Workmanship' and shall become refundable after expiry of Guarantee period, provided all the defects noticed during the guarantee period have been rectified to the satisfaction of BHEL Site Engineer/BHEL Construction Manager, and after deducting all expenses/other amounts due to BHEL under the contract/other contracts entered into by BHEL with them. This portion of the retention amount can be released on commencement of the Guarantee period, on submission of equivalent Bank Guarantee.

2.23 PAYMENTS

Payments to Contractors are made in any one of the following forms

2.23.1 Running Account Bills (RA Bills)

- i) These are for interim payments when the contracts are in progress. The bills for such interim payments are to be prepared by Contractor in prescribed formats (RA Bill forms).
- ii) Payments shall be made according to the extent of work done as per measurements taken up to the end of the calendar month and in line with the terms of payments described in the Tender documents
- iii) Recoveries on account of electricity, water, statutory deductions, etc are made as per terms of contract
- iv) Full rates for the work done shall be allowed only if the quantum of work has been done as per the specifications stipulated in the contract. If the work is not executed as per the stipulated specifications, BHEL may ask the contractor to re do the work according to the required specifications, without any extra cost. However, where this is not considered necessary 'OR' where the part work is done due to factors like non-availability of material to be supplied by BHEL 'OR' non availability of fronts 'OR' non availability of drawings, fraction payment against full rate, as is considered reasonable, may be allowed with due regard for the work remaining to be done. BHEL decision in this regard will be final and binding on the contractor.
- v) In order to facilitate part payment, BHEL Site Engineer at his discretion may further split the contracted rates/percentages to suit site conditions, cash flow requirements according to the progress of work

2.23.2 Final Bill

Final Bill' is used for final payment on closing of Running Account for works or for single payment after completion of works. 'Final Bill' shall be submitted as per prescribed format after completion of works as per scope and upon material reconciliation, along with the following.

- i) 'No Claim Certificate' by contractor
- ii) Clearance certificates where ever applicable viz Clearance Certificates from Customer, various Statutory Authorities like Labour department, PF Authorities, Commercial Tax Department, etc
- iii) Indemnity bond as per prescribed format

BHEL shall settle the final bills after deducting all liabilities of Contractor to BHEL

2.24 PERFORMANCE GUARANTEE FOR WORKMANSHIP

- 2.24.1 Even though the work will be carried out under the supervision of BHEL Engineers the Contractor will be responsible for the quality of the workmanship and shall guarantee the work done for a period of twelve months from the date of commencement of guarantee period as defined in Special Conditions of Contract, for good workmanship and shall rectify free of cost all defects due to faulty erection detected during the guarantee period. In the event of the Contractor failing to repair the defective works within the time specified by the Engineer, BHEL may proceed to undertake the repairs of such defective works at the Contractor's risk and cost, without prejudice to any other rights and recover the same from the Guarantee money.
- 2.24.2 BHEL shall release the guarantee money subject to the following
- i) Contractor has submitted 'Final Bill'
 - ii) Guarantee period as per contract has expired
 - iii) Contractor has furnished 'No Claim Certificate' in specified format
 - iv) BHEL Site Engineer/Construction Manager has furnished the 'No Demand Certificate' in specified format
 - v) Contractor has carried out the works required to be carried out by him during the period of Guarantee and all expenses incurred by BHEL on carrying out such works is included for adjustment from the Guarantee money refundable.
- 2.25 **CLOSING OF CONTRACTS**
The Contract shall be considered completed and closed upon completion of all contractual obligations and settlement of Final Bill or completion of Guarantee period whichever is later. Upon closing of Contract, BHEL shall issue a completion certificate as per standard format, based on specific request of Contractor.
- 2.26 **REVERSE AUCTION:**
BHEL reserves the right to go for Reverse Auction for Price Bid Opening by BHEL appointed service provider, instead of opening the submitted sealed price bid in the conventional way. The Business Rules for Reverse Auction shall be as per BHEL guidelines issued from time to time.
- 2.27 **SUSPENSION OF BUSINESS DEALINGS**
BHEL reserves the right to take action against Contractors who either fail to perform or Tenderers/Contractor who indulge in malpractices, by suspending business dealings with them in line with BHEL guidelines issued from time to time.
- 2.28 **OTHER ISSUES**
- 2.28.1 Value of Non judicial Stamp Paper for Bank Guarantees and for Contract Agreement shall be not less than Rs 100/- unless otherwise required under relevant statutes.
- 2.28.2 In case of any conflict between the General Conditions of Contract and Special Conditions of Contract, provisions contained in the Special Conditions of Contract shall prevail.
- 2.28.3 Unless otherwise specified in NIT, offers from consortium/JVs shall not be considered.
- 2.28.4 BHEL may not insist for signing of Contract Agreements in respect of low value and short time period contracts like providing services for Hot water flushing, Chemical Cleaning, Transportation, etc

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SPECIAL CONDITIONS OF CONTRACT (SCC)

(Document No PS:MSX:SCC)

BHARAT HEAVY ELECTRICALS
LIMITED



SPECIAL CONDITIONS OF CONTRACT (SCC)

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SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - I : General Intent of Specifications

1.0	INTENT OF THE SPECIFICATION
1.1	The intent of this erection specification is to provide services for execution of the project according to most modern and proven techniques and codes. The omission of specific reference to any method, equipment or material necessary for the proper and efficient services towards installation of the plant shall not relieve the contractor of the responsibility of providing such services / facilities to complete the work or portion of work awarded to him. The quoted / accepted rates / price shall deem to be inclusive of all such contingencies.
1.2	The work shall conform to dimensions and tolerances given in various drawings and documents that will be provided during erection. If any portion of works is found to be defective in workmanship and not conforming to drawings / documents or other stipulations, the contractor shall dismantle and re-do the work duly replacing the defective materials at their own cost, failing which recoveries, as determined by BHEL, shall be effected from contractor's bills.
1.3	It is not the intent of this specification to specify herein all the details of erection and commissioning. However, the system shall conform in all respects to high standards of quality and workmanship for performing the required duties in a manner acceptable to purchaser who will interpret the meaning of drawings and specifications and shall be entitled to reject any work or material, which in his judgments is not in full accordance herewith.
1.4	The omission of specific reference to any fabrication / erection or other method, equipment or material necessary for proper and efficient working of the plant shall not relieve the tenderer of the responsibility of providing such facilities to complete the work at quoted rates. Any mismatch/ defect found due to mistake in fabrication / erection shall have to be rectified by the vendor free of cost. Inspection by BHEL/Customer does not relieve vendor of his responsibility of executing quality erection.
1.5	The work covered under this specification is of highly sophisticated nature, requiring the best quality workmanship, supervision, engineering and construction management. The contractor should ensure proper planning and successful and timely completion of the work to meet the overall project schedule. The contractor must deploy adequate quantity of tools & plants, modern / latest construction aids etc. He must also deploy adequate trained, qualified and experienced supervisory staff and skilled personnel.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - I : General Intent of Specifications

1.6	Contractor shall erect and commission all the equipments and auxiliaries as per the sequence & methodology prescribed by BHEL depending upon the technical requirements. Availability of materials and fronts will decide this. BHEL Engineer's decision regarding correctness of the work and method of working shall be final and binding on the contractor. No claims for extra payment from the contractor will be entertained on the ground of deviation from the methods / sequence adopted in erection of similar sets elsewhere.
1.7	Following shall be the minimum responsibility of contractor and have to be provided within finally accepted rates / prices:
1.7.1	Provision as required of all types of labour, supervisors, engineers, watch and ward, tools & tackles, calibrated MMEs (Monitoring and Measuring Equipment) as specified and otherwise required for the work, consumables for erection, testing and commissioning including material handling
1.7.2	Achieving Proper out-turn / Turn-over as per BHEL plan and commitment.
1.7.3	Completion of work as per BHEL Schedule
1.7.4	Good quality and accurate workmanship for proper performance of the equipment
1.7.5	Repair and rectification
1.7.6	Preservation / Re-conservation of all components during storage / erection / commissioning till handing over.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - II : General Services to be rendered by the Bidder

2.0	GENERAL SERVICES TO BE RENDERED BY THE BIDDER
2.1	Services for construction, fabrication, equipment erection testing as well as trial run & commissioning of various equipment and accessories under the contract shall include but not be limited to the following:
2.2	Issuing materials from store/open yard from time to time for erection as per the construction programme. The Contractor shall be the custodian of all the materials issued till the plant/equipment is officially taken over by the owner / BHEL after complete erection any successful trial run & commissioning.
2.3	Transport of material to their respective places of erection and erection of the complete plant & equipment as supplied under this specification.
2.4	Trial run and commissioning of individual equipment / sub-systems to the satisfaction of Owner/BHEL.
2.5	Deployment of all skilled and unskilled manpower required for erection, supervision of erection, watch & ward, commissioning and other services to be rendered under this specification.
2.6	Deployment of all erection tools & tackle, construction machinery, transportation vehicles and all other implements in adequate number and size, appropriate for the erection work to be handled under scope of this specification except otherwise specified.
2.7	Supply of all consumables, eg welding electrodes, cleaning agents, diesel oil, lubricant etc as well as materials required for temporary supports, scaffolding etc as necessary for such erection work, unless specified other wise.
2.8	Providing support services for the contractor's erection staff eg construction of site offices, temporary stores, residential accommodation and transport to work site for erection personnel, watch and ward for security and safety of the materials under the Contractor's custody etc. as required.
2.9	Maintaining proper documentation of all the site activities undertaken by the Contractor as per the proforma mutually agreed with BHEL, Submission of monthly progress reports and any such document as and when desired by BHEL/owner, taking approval of all statutory authorities i.e Boiler Inspector, Factory Inspector, Inspector of Explosives etc , as applicable for respective portions of work fall under the jurisdiction of such statutes of laws.
2.10	Any other service, although not specifically called for but required for a contract of the size and nature indicated in the specification.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter - III : General Technical Requirements (Codes and Standards)

3.0	GENERAL TECHNICAL REQUIREMENTS (CODES AND STANDARDS)
3.1	Except where otherwise specified, the plant/equipment shall comply with the appropriate Indian Standard or an agreed internationally accepted Standard Specification as mentioned elsewhere in contract specifications, each incorporating the latest revisions at the time of tendering. Where no internationally accepted standard is applicable, the Bidder shall give all particulars and details as necessary, to enable BHEL to identify all of the plant/equipment in the same detail as would be possible had there been a Standard Specification.
3.2	Where the Bidder proposes alternative codes or standards he shall include in his tender one copy (in English) of each Standard Specification to which materials offered shall comply. In such case, the adopted alternative standard shall be equivalent or superior to the standards mentioned in the specification.
3.3	In the event of any conflict between the codes and standards referred above, and the requirements of this specification, the requirements which are more stringent shall govern.
3.4	Tools used during erection and commissioning shall not be accepted except with the specific approval of the Engineer.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

4.0	OBLIGATIONS OF CONTRACTOR
4.1	CONSUMABLES & OTHER ITEMS
4.1.1	The contractor shall provide within finally accepted price / rates, all consumables (excepting those indicated in BHEL scope) like welding electrodes (including alloy steel and stainless steel), filler wires, TIG filler wires (over & above as supplied by the unit along with the plant materials, which will be given free of cost to bidder), gases (inert, welding, cutting), soldering material, dye penetrants, radiography films, etc. Other erection consumables such as tapes, jointing compound, grease, mobile oil, M-seal, Araldite, petrol, CTC / other cleaning agents, grinding and cutting wheels are to be provided by the contractor. Steel, packers, shims, wooden planks, scaffolding materials hardware items etc required for temporary works such as supports, scaffoldings are to be arranged by the contractor. Sealing compounds, gaskets, gland packing, wooden/concrete sleepers, for temporary work, required for completion of work except those which are specifically supplied by manufacturing unit are also to be arranged by the contractor.
4.1.2	All the shims, gaskets and packing, which go finally as part of plant equipment, shall be supplied by BHEL free of cost.
4.1.3	It shall be the responsibility of the contractor to plan the activities and store sufficient quantity of consumables. Non-availability of any consumable materials or equivalent suggested by BHEL cannot be considered as reason for not attaining the required progress or for additional claim.
4.1.4	<u>TIG Filler wire for Boiler and Filler wires for Electrodes for P91/T91 piping:</u> These shall be supplied by BHEL free of cost as supplied by BHEL Manufacturing Units as part of regular supply. Required quantity as arrived at by calculation / standards will only be supplied. It would be the contractors' responsibility to account for the consumption of these filler wires. Additional consumption beyond standard / calculated quantity will be at cost recovery basis only unless and otherwise accounted for. Surplus quantity of TIG filler wire, if any, shall be properly stored and returned to BHEL stores.
4.1.5	It shall be the responsibility of the contractor to obtain prior approval of BHEL, regarding suppliers, type of electrodes etc before procurement of welding electrodes. On receipt of electrodes at site these shall be subjected to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch number, date of expiry etc and produce test certificate for each lot / batch with correlation of batch / lot number with respective test certificate. No electrode without a valid test certificate will to be used.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

4.1.6	BHEL reserves the right to reject the use of any consumable including electrodes, gases, lubricants / special consumables if it is not found to be of the required standard / make / purity or when shelf life has expired. Contractor shall ensure display of shelf life on consumable wherever required and records maintained.
4.1.7	Storage of all consumables including welding electrodes shall be done as per requirement / instruction of the Engineer by the contractor at his cost.
4.1.8	In case of improper arrangement for procurement of any consumable, BHEL reserves the right to procure the same from any source and recover the cost from the Contractor's first subsequent bill at market value plus the departmental charges of BHEL from time to time. Postponement of such recovery is normally not permitted. The decision of Engineer in this regard shall be final and binding on the Contractor.
4.1.9	All lubricants and chemicals required for pre-commissioning, commissioning, testing, preservation and lubricants for trial runs of the equipment shall be supplied by BHEL / BHEL's client. All services including labour and T&P will be provided by the contractor for handling, filling, emptying, refilling etc. The consumption of lubricants / chemicals shall be properly accounted for. Surplus material if any shall be properly stacked/tagged and returned to BHEL/ CUSTOMER stores at no extra cost to BHEL. BHEL reserves the right to recover costs for wastage by the contractor.
4.1.10	Transportation of oil drums, from stores, filling of oil for flushing, first filling, subsequent changeover if any, topping/making up till the unit is fully commissioned and handed over to customer is included in scope of this contract. The contractor shall have to return all the empty drums to BHEL / BHEL's client store at no extra cost. Any loss / damage to above drums shall be to contractor's account.
4.1.11	All charges on account of Octroi, terminal or sales tax and other duties on materials obtained from any source for carrying out the works in the scope of the contractor shall be borne by the contractor.
4.2	TOOLS AND PLANTS / MONITORING AND MEASURING EQUIPMENT (MMEs)
4.2.1	T&Ps and MMEs to be provided by Contractor
4.2.1.1	All T&Ps and MMEs excepting those specifically indicated in BHEL scope are to be provided by the Contractor. Contractor has to make his own arrangement at his cost for completing the formalities (including arrangement of Road permits, if any) if required with Sales Tax/VAT authorities, for bringing their materials, plants and equipments at site for the execution of work under this contract.

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4.2.1.2	All suitable cranes, lifting and transport equipments for material handling at stores/yard/siding of BHEL/Customer are included in scope. BHEL's cranes will not be available for this purpose unless otherwise specifically permitted as per contract conditions
4.2.1.3	All T&Ps to be deployed by the contractor shall have the approval of BHEL Engineer with regard to brand, quality and specification.
4.2.1.4	Indicative list of Major T&Ps in the scope of Contractor are given in the Technical Conditions of Contract. Bidders to note that these are only indicative and as such all other T&P necessary for timely and satisfactory completion of work in scope shall be mobilized by Contractor
4.2.1.5	Timely deployment of adequate T&Ps is the responsibility of the contractor. The contractor shall be prepared to augment the T&P at short notice to match the planned programme and to achieve the milestones.
4.2.1.6	Contractor shall maintain and operate his tools and plants in such a way that major breakdowns are avoided. In the event of major breakdown, contractor shall make alternative arrangements expeditiously so that the progress of work is not hampered.
4.2.1.7	In the event of contractor failing to arrange the required tools, plants, machinery, equipment, material or non-availability of the same owing to breakdown, BHEL will make alternative arrangement at the risk and cost of the contractor. Decision of BHEL shall be final and binding on the contractor
4.2.1.8	The T&P to be arranged by the contractor shall be in proper working condition and their operation shall not lead to unsafe condition. The movements of cranes, and other equipment should be such that no damage / breakage occurs to foundations, other equipments, material, property and men. All arrangements for the movement of the T&P etc shall be the contractor's responsibility.
4.2.1.9	Use of welding generators/ rectifiers only shall be permitted for welding. Use of welding transformers will be subject to specific approval of BHEL engineer.
4.2.1.10	The contractor at his cost shall carry out periodical testing of his construction equipments. Test certificates shall be furnished to BHEL.
4.2.1.11	Contractor shall ensure deployment of serviced and healthy T&Ps including cranes, lifting tackles, wire ropes, manila ropes, winches and slings etc. History card and maintenance records for major T&Ps will be maintained by the contractor and will be made available to BHEL Engineer for inspection as and when required. Fitness certificate / Test Certificates of T&P shall have to be submitted before it is put in use. Identification for such T&Ps will be done as per BHEL Engineer's advice.

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Chapter - IV : Obligations of Contractor

	BHEL reserves the right to permit only new slings up to 20 mm and lifting tackles up to 3 MT capacities.
4.2.1.12	Contractor shall ensure deployment of reliable and calibrated MMEs (Inspection measuring and Monitoring equipment). The MMEs shall have test / calibration certificates from authorized / Government approved / accredited agencies traceable to National / International standards. Each MME shall have a label indicating calibration status i.e. date of calibration, calibration agency and due date for calibration. A list of such instruments deployed by contractor at site with its calibration status is to be submitted to BHEL Engineer for control.
4.2.1.13	Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such MME so that work does not suffer when the particular instrument is sent for calibration. If any MMEs not found fit for use, BHEL shall have the right to stop the use of such item. It will be necessary for the contractor to deploy proper item. Any readings taken by the defective instrument will be recalled and repeat the readings taken by that instrument with a proper one. In case he fails to do so, BHEL may deploy MMEs and retake the readings at contractor's cost.
4.2.1.14	BHEL shall have lien on all T&P, MMEs and other equipment of the contractor brought to the site for the purpose of erection, testing and commissioning. BHEL shall continue to hold the lien on all such items throughout the period of contract / extended period. The contractor and / or his sub-contractors, without the prior written approval of the Engineer, shall remove no material brought to the site.
4.2.1.15	The month wise T&P deployment plan to execute the work is to be submitted as per relevant format as per the instruction of BHEL. It shall be the contractor's responsibility to deploy the required T&P, for timely and successful completion of the job, to any extent.
4.2.2	Obligations in respect of T&Ps and MMEs provided by BHEL
4.2.2.1	T&P / MMEs being provided by BHEL to sub-contractor free of hire charges shall be shared by other subcontractors working for BHEL at site and the allotment done by BHEL Engineer shall be final and binding.
4.2.2.2	BHEL T&P will be issued in basic assembled condition. Additional loose components / sub-assemblies / attachments as and when necessary, will be issued by BHEL. Assembly of such additional loose components/sub-assemblies/ attachments is in contractor's scope.
4.2.2.3	In case of non-availability of the T&Ps to be provided by BHEL due to breakdown, major overhauls, distribution pattern or any other reason, the contractor shall plan /

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	amend / alter his activities to meet erection / commissioning targets in consultation with BHEL.
4.2.2.4	void
4.2.2.5	The contractor shall engage trained and experienced operators for the operation of BHEL's T&Ps. Their skill / performance will be checked by BHEL Engineer before they are allowed to operate the same. However checking of skills by BHEL does not absolve the contractor of his responsibilities for proper and safe handling of equipment, consistent good performance of operators and regular performance evaluation of operators.
4.2.2.6	The day to day operation and maintenance of BHEL's T&Ps (Other than cranes) shall be carried out by contractor as per manufacturer's / BHEL's maintenance schedule at his cost. The contractor shall arrange, at his own cost, trained operators, fuel and other consumables for their operation. BHEL shall arrange all spares needed for upkeep of major T&Ps provided like Huck Bolting Machine*, DG Set, Induction Machine and Hydraulic Test pumps. The contractor has to arrange for fixing of the spares; supervision in specialized cases will be provided by BHEL. For upkeep of all other T&Ps supplied by BHEL, spares shall be arranged by the Contractor. BHEL supplied T&Ps shall be maintained in good working condition during the entire period of use. T&Ps in defective / damaged condition shall be rectified promptly to the full satisfaction of BHEL engineer. Contractor shall maintain records for maintenance of major T&Ps. These shall be made available for Inspection whenever required. In case of any lapses on the part of the contractor, BHEL at its own discretion shall get the servicing / repair of equipment done at the risk and cost of the contractor along with BHEL overheads. Further, if there are breakdowns / damages due to negligence of the contractor, the complete service / repair charges and cost of all the spares damaged with BHEL overheads shall be recovered from contractor's RA bills. *: for operation and maintenance of ESP Huck bolting machine, BHEL shall provide the basic power rig and hose. Balance toolings ie Guns, chuck jaws etc are to be arranged by contractor.
4.2.2.7	void
4.2.2.8	Increasing / shortening of the crane boom to suit work requirements shall have to be arranged by the indenting contractor at his cost including restoration to a state as directed by BHEL. All necessary manpower tools, support, consumables, illumination etc. will have to be arranged by contractor at his cost. If required,

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	contractor has to return the crane with original boom.
4.2.2.9	The area and infrastructure development of the area to be carried out by the customer. However in construction projects of this magnitude it is possible that all the areas / approaches may not be ready. In such cases backfilling of approaches where ever necessary, consolidation of ground and arrangement of sleepers / sand bag filling etc for safe operation / movement of equipment including cranes / trailers etc shall be the responsibility of the contractor at his cost. No compensation on this account shall be payable.
4.2.2.10	In the event of contractor not using and maintaining BHEL T&Ps according to BHEL's instructions. BHEL will have the right to withdraw such item without any notice and no claim in this regard shall be entertained and contractor shall be responsible for delay in execution on this account.
4.2.2.11	The contractor shall furnish regular utilization report of the BHEL T&Ps, as per requirement of BHEL.
4.2.2.12	Any loss / damage to any part of BHEL T&Ps and MMEs shall be to the contractor's account and any expenditure on these accounts by BHEL will be recovered from the contractor's bill in case the contractor fails to make good the loss.
4.2.2.13	It shall be responsibility of the contractor to take delivery of T&Ps and MMEs from stores or place of use by other contractor at project site, transport the same to site and return the same to BHEL store / place as intimated by Engineer in project site in good working conditions after use.
4.2.2.14	The contractor shall return BHEL T&Ps and MMEs issued to him in good working condition as and when desired by BHEL (on completion or reduction of workload). If contractor delays return of T&P and MME, hire charges as applicable shall be levied by BHEL from time, it was requisitioned till the time of actual return. T&Ps and MMEs returned in damaged / unserviceable condition shall be got repaired by BHEL at its own discretion and entire cost of repair with BHEL overheads shall be recovered from the contractor.
4.2.2.15	Replacement cost including BHEL overheads in respect of irreparable / completely damaged / non return of T&Ps and MMEs shall be recovered from the contractor's running / final bills

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4.2.2.16	Obligations in respect of Cranes provided by BHEL
a)	BHEL will make available the cranes (as per Technical Conditions of Contract) free of charge to the contractor on sharing basis mainly for the purposes enumerated/ indicated therein. BHEL cranes have to be shared with other agencies / contractors of BHEL. The allocation of cranes shall be the discretion of BHEL engineer, which shall be binding on the contractor.
b)	BHEL Cranes may be initially issued in basic assembled condition. Any alteration/addition like boom reduction / extension, assembly of components/sub-assemblies needed for modulating the capacity/reach/other features of cranes and restoration to the state as directed by BHEL shall be the contractor's responsibility.
c)	In case the BHEL cranes are not covered under AMC of BHEL, then the day-to-day upkeep and running maintenance like filling / topping up of lubricants, changing filters, etc including repair of self starter and dynamo of these cranes shall be the responsibility of the contractor. If on checking it is found that the same is not followed, BHEL will exercise its right to get the job/works done at the risk and cost of contractor. In case BHEL cranes are covered under AMC awarded by BHEL, then the day-to-day upkeep and running maintenance as described above are excluded from scope. However any additional helpers if any required during Preventive/Breakdown Maintenance, Assembly/disassembly shall be provided by contractor at no extra cost. BHEL may also provide cranes through crane hiring agencies in which case the day-to-day upkeep and running maintenance shall be excluded from scope of contractor.
d)	Minor consumables like cotton cloth, cotton waste, etc is to be supplied by Contractor. All spares and lubricants/grease is excluded from scope. Contractor to give the requirements of these items well in advance in case the cranes provided by BHEL are BHEL owned cranes.
e)	Unless otherwise specified, trained operators for BHEL owned cranes shall be provided by the contractor. These operators should possess valid license for heavy vehicle.
f)	BHEL cranes will be withdrawn for regular and capital maintenance as per the respective schedule of maintenance. As far as possible such schedules will be intimated to the contractor in advance and may be adjusted depending on the work requirements at site. However no claim whatsoever will be entertained on account

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	of non-availability of cranes.
g)	Where the services of the cranes provided by BHEL are to be shared by other agencies/ contractors of BHEL, the contractor's responsibilities defined above will also be apportioned accordingly to the beneficiary agency. Working arrangements in this regard will be done at site by BHEL engineer and in any case his decision shall be final and binding.
h)	Major breakdowns will be attended to by BHEL. However, in case of breakdowns or damages due to negligence of the contractor, the complete service/repair charges including cost of spares shall be to the account of the contractor, along with BHEL overheads.
4.2.2.17	Obligations in respect of Construction Lift/Elevators provided by BHEL
a)	The total erection including commissioning, maintenance, statutory clearances shall be included in scope of work. Supervision by the original equipment supplier or their authorized agency shall be arranged for by BHEL, in case found necessary.
b)	All day to day and routine maintenance and checking is to be carried out by the contractor as per the recommendations of the supplier. He should periodically check the brakes and carry out the all works to ensure the safety of all those using the lift/elevator. BHEL shall arrange spares required for upkeep of Construction lift/elevator
c)	The construction lift/elevator should never be overloaded as this can lead to serious accidents. Ensuring all safety aspects in operation of the lift shall be the responsibility of the contractor. Erection of all the required number of landing platforms is included in scope. Landing platforms are to be provided with proper barricades and hand railings.
d)	After completion of contractual scope of work or as per BHEL advice, the temporary elevator/lift shall be dismantled and handed over to BHEL neatly identified/tagged. Temporary structures/platforms etc erected for the elevators/lifts are also to be dismantled and materials to be returned to stores as applicable. The construction and dismantling of the foundations required for the construction/elevator lifts is included in the scope of the contractor.

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Chapter – V : Responsibilities of Contractor in respect of Labour, Supervisory Staff, etc.

5.0	RESPONSIBILITIES OF CONTRACTOR IN RESPECT OF LABOUR, SUPERVISORY STAFF, ETC.
5.1	Refer relevant clauses of General Conditions of Contract (GCC) also in this regard
5.2	The contractor shall deploy all the necessary skilled/semiskilled/ unskilled labour including highly skilled workmen etc. These workmen should have previous experience on similar job. They shall hold valid certificates wherever necessary. BHEL reserves the right to insist on removal of any employee of the contractor at any time if he is found to be unsuitable and the contractor shall forthwith remove him.
5.3	Contractor shall also comply with the requirements of local authorities/ project authorities calling for police verification of antecedents of the workmen, staff etc.
5.4	It is the responsibility of the contractor to engage his workmen in shifts and or on overtime basis for achieving the targets set by BHEL. This target may be set to suit BHEL's commitments to its customer or to advance date of completion of events or due to other reasons. The decision of BHEL in regard to setting the erection and commissioning targets will be final and binding on the contractor.
5.5	Contractor shall provide at different elevation suitable arrangement for urinal and drinking water facility with necessary plumbing & disposal arrangement including construction of septic tank. These installations shall be maintained in hygienic condition at all times.
5.6	The Contractor in the event of engaging 20 or more workmen, shall obtain Independent license under the Contract labour (Regulation and Abolition) Act 1970 from the concerned authorities based on Form-V issued by the Principal Employer/Customer. In order to issue Form-V by Customer, Contractor shall fulfill all Statutory requirements like Insurance Policy, PF Code/PF Account number etc as per the requirement of BHEL/Customer
5.7	Contractor shall deduct the necessary amount towards Provident Fund and contribute equal amount as per Government of India laws. This amount will be deposited regularly to the provident Fund Commissioner. BHEL/Customer may insist for submission of the account code duly certified by PF Commissioner
5.8	Contractor may also be required to comply with provisions of ESI Act in vogue if applicable and submit evidence to BHEL.
5.9	BHEL / customer may insist for witnessing the regular payment to the labour. They may also like to verify the relevant records for compliance with statutory requirements. Contractor shall enable such facilities to BHEL / Customer.

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**Chapter – V : Responsibilities of Contractor in respect of Labour,
Supervisory Staff, etc.**

5.10	Contractor shall deploy only qualified and experienced engineers/ supervisors. They shall have professional approach in executing the work.
5.11	The contractor's supervisory staff shall execute the work in the most professional manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. They shall be responsible to ensure that the assembly and workmanship conform to dimensions and tolerances given in the drawings/instructions given by BHEL engineer from time to time.
5.12	The supervisory staff employed by the contractor shall ensure proper outturn of work and discipline on the part of the labour put on the job by the contractor. Also in general they should see that the works are carried out in a safe and proper manner and in coordination with other labour and staff employed directly by BHEL or other contractors of BHEL or BHEL's client.
5.13	It is the responsibility of the contractor to arrange gate pass for all his employees, T&P etc for entering the project premises. Necessary coordination with customer officials is the responsibility of the contractor. Contractor to follow all the procedures laid down by the customer for making gate passes. Where permitted, by customer / BHEL, to work beyond normal working hours, the contractor shall arrange necessary work permits for working beyond normal working hours.
5.14	The actual deployment will of Labour and Engineer/supervision staff shall be so as to satisfy the erection and commissioning targets set by BHEL. If at any time, it is found that the contractor is not in a position to deploy the required engineers/supervisors/workmen due to any reason, BHEL shall have the option to make alternate arrangements at the contractor's risk and cost. The expenditure incurred along with BHEL overheads thereon shall be recovered from the contractor
5.15	Contractor shall not deploy women labour at night.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VI: Material Handling, Storage & preservation

6.0	MATERIAL HANDLING, STORAGE AND PRESERVATION ETC
6.1	MATERIAL HANDLING AND STORAGE
6.1.1	All the equipments/materials furnished under this contract shall be received from the project stores, sheds / storage yards and transported to pre assembly area / erection site and stored in the storage spaces in a manner so that they are easily retrievable till the contractor erects them. While drawing/lifting material from BHEL / customer stores, the contractor shall ensure that the balance / other materials are stacked back immediately. No claim is admissible on this account
6.1.2	While BHEL will endeavor to store / stack / identify materials properly in their open / close / semi closed / tarpaulins covered storage yard / shed, it shall be contractor's responsibility to assist BHEL in identifying materials well in time for erection. They should take the delivery of the same, following the procedure indicated by BHEL, and transport the material safely to pre-assembly yard / erection site in time, according to program.
6.1.3	The contractor shall take delivery of components, equipment / consumables from storage area after getting the approval of BHEL Engineer on standard indent forms.
6.1.4	The contractor shall identify and deploy necessary Engineers / supervisors / workmen for the above work in sufficient number as may be needed by BHEL, for areas covering their scope.
6.1.5	All the equipment shall be handled very carefully to prevent any damage or loss. No untested wire ropes / slings etc. shall be used for unloading / handling. The equipment shall be properly protected to prevent damage either to the equipment or to the floor where they are stored. The equipment from the stores shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at site.
6.1.6	Contractor shall ensure that while lifting slings shall be put over the points indicated on the equipment or as indicated in the manufacturer's drawings. Slings / shackles of proper size shall be used for all lifting and rigging purposes. All care shall be taken to safe guard the equipment against any damage. Dragging of piping / valves should be avoided. In case of any damage the cost shall be covered from the contractor.
6.1.7	Approach road conditions from the stores / yards to the erection site may not be equipped and ideal for smooth transportation of the equipment. Contractor

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	may have to be adequately prepared to transport the materials under the above circumstances without any extra cost. . The contractor may familiar himself with soil conditions at site.
6.1.8	Contractor shall be responsible for examining all the plant and materials issued to him and notify the Engineer immediately of any damage, shortage, discrepancy etc before they are moved out of the stores / storage area. The contractor shall be solely responsible for any shortages or damages in transit, handling, storage and erection of the equipment once received by him. As the erection work will be spread in different areas / locations of the project, contractor has to arrange sufficient number of watch / ward personal to avoid any pilferage of material
6.1.9	The contractor shall maintain an accurate and exhaustive record-detailing out the list of all equipment received by him for the purpose of erection and keep such record open for the inspection of the engineer at any time.
6.1.10	All the material in the custody of contractor and stored in the open or dusty locations must be covered with suitable weather proof / fire retardant covering material wherever applicable and shall be blocked up on raised level above ground. All covering materials including blocks and sleeper shall be arranged by the contractor at his cost.
6.1.11	If the material belonging to the contractor are stored in area other than those earmarked for his operation the engineer will have the right to get it moved to the area earmarked for the contractor at the contractors risk and cost.
6.1.12	The contractor shall be responsible for making suitable indoor storage facilities to store all equipment (drawn by the contractor from BHEL / customer stores), which require indoor storage till the time of their installation. The Engineer will direct the contractor in this regard, which item in his opinion will require indoor storage, and the contractor shall comply with Engineer's decision.
6.1.13	The contractor shall ensure that all surplus / damaged / scrap / unused material, packing wood / containers/ special transporting frames etc are returned to BHEL at a place in project area identified by the Engineer. The contractor will maintain an account for all items received and returned to BHEL. Any shortage in returning such items shall be chargeable to the contractor except allowable wastage for packing wood only.
6.1.14	The contractor shall hand over all parts / materials remaining extra over the normal requirement with proper identification tags to the stores as directed by the concerned BHEL engineer.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VI: Material Handling, Storage & preservation

6.1.15	The contractor shall ensure that all the packing materials and protective devices installed on equipment during transit and storage are removed before installation.
6.1.16	It shall be the responsibility of the contractor to keep the work / storage areas in neat, tidy and working conditions. All surplus/unusable packing and other materials shall be removed and deposited at location(s) specified by BHEL within the project premises. If required weighing of the same within the project premises will have to be carried out.
6.2	PRESERVATION OF COMPONENTS
6.2.1	After taking delivery from BHEL / customer's stores, plant materials storage shall be subjected to the following protection besides other provisions indicated in these specifications elsewhere.
6.2.1.1	Items stored outdoors shall be stacked up at least six inches (6") off the ground. Items should not be stored in a low lying area where water logging is a possibility. Contractor should have sufficient numbers of wooden / concrete / steel sleepers for the job.
6.2.1.2	Motors, valves, electrical equipment, control equipment and instruments, and special or precision items requiring special care, etc shall be stored indoors. Motor windings shall be kept dry by use of external heat or space heaters.
6.2.1.3	Bearings and other wearing surfaces of plant materials shall be protected against corrosion and kept clean and should be regularly monitored.
6.2.1.4	Insulation materials shall be stored indoors or otherwise protected against getting wet/ damaged, using suitable measures and should be protected from direct rain.
6.2.2	It shall be the responsibility of the contractor to apply preservatives / touch up paints (primer) on equipment handled and erected by him till such time of final painting. It shall be contractor's responsibility to arrange for required paints (primer), thinners, labour, scaffolding materials, cleaning materials like wire brush, emery sheets, etc, cleaning of surface and provide one coat of preservatives / paints (primer) from time to time as decided by BHEL engineer. The accepted rate shall include this work also. It is to be noted that such painting may have to be done as and when required till such time the final painting is carried out.
6.2.3	The contractor shall effectively protect the finished work from action of weather and from damage or defacement and shall cover the finished parts then and there for their protection.

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Chapter – VI: Material Handling, Storage & preservation

6.2.4	Any failure on the part of contractor to carry out works according to above clauses will entail BHEL to carry out the job from any other party and recover the cost from contractor.
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Chapter – VII: Drawings and documents

7.0	DRAWINGS AND DOCUMENTS
7.1	The detailed drawings, specifications available with BHEL engineers will be made available to the contractor during execution of work at site. The contractor will also ensure availability of all drawings / documents at work place.
7.2	Necessary drawings to carry out the erection work will be furnished to the contractor by BHEL on loan, which shall be returned to BHEL Engineer at site after completion of work. Contractor shall ensure safe storage and quick retrieval of these documents.
7.3	The contractor shall maintain a record of all drawings and documents available with him in a register as per format given by BHEL Engineer. Contractor shall ensure use of pertinent drawings / data / documents and removal of obsolete ones from work place and returning to BHEL.
7.4	The data furnished in various annexure enclosed with this tender specification are only approximate and for guidance. However, the change in the design and in the quantity may occur as is usual in any such large scale of work. The contractors quoted rates shall be inclusive of the above factor
7.5	Should any error or ambiguity be discovered in the specification or information the contractor shall forthwith bring the same to the notice of BHEL before commencement of work. BHEL's interpretation in such cases shall be final and binding on the contractor.
7.6	Deviation from design dimensions should not exceed permissible limit. The contractor shall not correct or alter any dimension / details, without specific approval of BHEL.

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Chapter – VIII: Inspection and Quality

8.0	INSPECTION AND QUALITY
8.1	Inspection, Quality Assurance, Quality Control
8.1.1	Preparation of quality assurance log sheets and protocols with customer/ consultants/statutory authority, welding logs, NDE records, testing & calibration records and other quality control and quality assurance documentation as per BHEL engineer's instructions, is within the scope of work/specification. These records shall be submitted to BHEL/customer for approval from time to time.
8.1.2	The protocols between contractor and customer/ BHEL shall be made prior to installation for correctness of foundations, materials, procedures, at each stage of installation, generally as per the requirement of customer/ BHEL. This is necessary to ensure elimination of errors or keeping them within tolerable limits and to avoid accumulation and multiplication of errors.
8.1.3	A daily log book should be maintained by every supervisor/engineer of contractor on the job in duplicate (one for BHEL and one for contractor) for detailing and incorporating alignment/clearance / centering / leveling readings and inspection details of various equipments etc. High pressure welding details like serial number of weld joints, welders name, date of welding, details of repair, heat treatment etc. will be documented in welding log as per BHEL Engineer's instructions. Record of radiography containing details like serial number of weld joints, date of radiography, repairs, if any, re-shots etc shall also be maintained as per BHEL Engineer's instructions. Record of heat treatments performed shall be maintained as prescribed by BHEL
8.1.4	The performance of welders will be reviewed from time to time as per the BHEL standards. Welders' performance record shall be furnished periodically furnished for scrutiny of BHEL's Engineer. Corrective action as informed by BHEL shall be taken in respect of those welders not conforming to these standards. This may include removal/ discontinuance of concerned welder(s). Contractor shall arrange for the alternate welders immediately
8.1.5	All the welders shall carry identity cards as per the proforma prescribed by BHEL/Customer/Consultant. Only welders duly authorized by BHEL/customer/consultant shall be engaged on the work.

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Chapter – VIII: Inspection and Quality

8.1.6	Contractor shall provide all the Measuring Monitoring Equipments (MMEs) required for completion of the work satisfactorily. These MMEs shall be of brand, quality and accuracy specified by BHEL Engineer and should have necessary calibration and other certificates as per the requirement of BHEL Engineer. Decision of BHEL Engineer regarding acceptance or otherwise of the measuring instruments/gauges/tools for the work under this specification, is final and binding on the contractor. BHEL may give an indicative list of MMEs required for this work and to be made available by the contractor. The list will be reviewed by BHEL and the contractor shall meet any augmentation needed wherever required.
8.1.7	It is the responsibility of the contractor to prove the accuracy of the testing/measuring/calibrating equipments brought by him based on the periodicity of calibration as called for in the BHEL's quality assurance standards/BHEL Engineer's instructions.
8.1.8	Any re-laying or re-termination of cables/re-erection of instruments/recalibration of instruments etc. required due to contractor's mistake or design requirement and found at any stage inspection, shall be carried out by the contractor at no extra cost.
8.1.9	BHEL, Power Sector Regions (PSNR/PSER/PSWR/PSSR) have already been accredited with ISO 9001 certification and as such this work is subject to various audits to meet ISO 9001 requirements. One particular aspect which needs special mention is about arrangement of calibration of instruments by the contractor. Contractor shall ensure deployment of reliable and calibrated MMEs (Measuring and Monitoring Equipments). The MMEs shall have test / calibration certificates from authorised / Government approved / Accredited agencies traceable to National / International Standards. Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such MMEs so that work does not suffer when the particular equipment / instrument is sent for calibration. Also if any MMEs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall ie repeat the readings taken by that instrument, failing which BHEL may deploy MME and retake the readings at Contractor's cost.
8.1.10	Re-work necessitated on account of use of invalid MMEs shall be entirely to the contractor's account. He shall be responsible to take all corrective actions,

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	including resource augmentation if any, as specified by BHEL to make-up for the loss of time.
8.1.11	In the courses of erection, it may become necessary to carry repeated checks of the work with instruments recently calibrated, re-calibrated. BHEL may counter/ finally check the measurements with their own MMEs. Contractor shall render all assistance in conduct of such counter/final measurements.
8.1.12	Total Quality is the watchword of the work and Contractor shall strive to achieve the Quality Standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and Quality Standards.
8.2	Stage Inspection By FES/QA Engineers
8.2.1	Apart from day-to-day inspection by BHEL Engineers stationed at Site and Customer's Engineers, stage inspection of equipments under erection and commissioning at various stages shall also be conducted by teams of Engineers from Field Engineering Services of BHEL's Manufacturing Units, Quality Assurance teams from Field Quality Assurance, Unit/Factory Quality Assurance and Commissioning Engineers from Technical Services etc. Contractor shall arrange all labour, tools and tackles etc along with proper access for such stage inspections free of cost.
8.2.2	Any modifications suggested by BHEL FES and QA Engineers' team shall be carried out. Claims of contractor, if any, shall be dealt as per Section 13, and provided such modifications have not arisen for reasons attributable to the contractor.
8.3	Statutory Inspection of Work
8.3.1	The work to be executed under these specifications has to be offered for inspection, at appropriate stages of work completion, to various statutory authorities for compliance with applicable regulations. The work related statutory inspections, though not limited to, are as under: 1) Inspectorate of Steam Boilers and Smoke Nuisance 2) Electrical Inspector 3) Factory Inspector, Labour Commissioner, PF Commissioner and other authority connected to this project work The scope includes getting the approvals from the statutory authorities, which includes arranging for inspection visits of statutory authority periodically as per

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	BHEL Engineer's instructions, arranging materials for ground inspection, taking rub outs for the pressure parts to be offered for inspection, submitting co-related inspection reports, documents, radiographs etc and following up the matter with them. Contractor shall also make all arrangements for offering the Products / Systems for inspection at location, as applicable, to the concerned authority.
8.3.2	Contractor should be qualified to execute pressure parts & piping work coming under the purview of IBR, for which he should register himself with CIB of state concerned. contractor also should be aware of the latest IBR regulations and Electricity Act, including the amendments thereof.
8.3.3	Contractor shall comply with 'Qualification Tests for welders engaged in welding of Boilers and Steam Pipes under Construction, Erection and Fabrication at Site in India and in repairing Boilers and steam pipes by welding' in line with Chapter XIII of Indian Boiler Regulations-1950, for testing his welders / men / workers, including all associated fees, procedures, required instruments and equipments and their calibration there of. It shall be contractor's responsibility to obtain approval of Statutory Authorities, wherever applicable, for the conducting of any work which comes under the purview of these authorities, at his cost.
8.3.4	The following fees shall be excluded from scope of Contractor: 1. Registration Fee as per Regulation 385 of Chapter IX of Indian Boiler Regulations-1950 2. Fees for inspection of Boiler at the site of Construction as per Regulation 395 A, sl no 4 of Chapter IX of Indian Boiler Regulations-1950 However all other fees like visit fees charged by the Boiler Inspector and other arrangements for his visit or visits till satisfactory completion of work, shall be included in scope of Contractor
8.4	The Quality Management System of BHEL, Power Sector Regions (PSNR/PSER/PSWR/PSSR) have already been certified and accredited under ISO 9002 standards in this regard. The basic philosophy of the Quality Management System is to define the organizational responsibility, work as per documented procedures, verify the output with respect to acceptance norms, identify the non-conforming product/ procedure and take corrective action for removal of non-conformance specifying the steps for avoiding recurrence of

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	such non-conformities, & maintain the relevant quality records. The non conformities are to be identified through the conduct of periodical audit of implementation of quality systems at various locations/stages of work. Suppliers/vendors of various products/services contributing in the work are also considered as part of the quality management system. .as such the contractor is expected not only to conform to the quality management system of BHEL but also it is desirable that they themselves are accredited under any quality management system standard.
8.5	Field Quality Assurance
8.5.1	Contractor shall carry out all activities conforming to the approved Field Quality Plan (FQP) as revised from time to time. Total quality shall be the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and quality standards. Contractor shall provide the services of quality assurance engineer as per the relevant clauses.

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9.0	OCCUPATIONAL HEALTH, SAFETY & ENVIRONMENT MANAGEMENT/ QUALITY ASSURANCE PROGRAMME : BHEL, Power Sector Regions (PSNR/ER/WR/SR) are each certified for ISO 9001. Quality of work to customer's satisfaction and fulfillment of system requirements are the essence of ISO 9001 certification. BHEL, PS Regions have HSE certification (ISO 14001 & OHSAS 18001) and therefore Contractor also shall organise/ plan/ perform all their activities to meet with the applicable requirements of these standards.
9.1	HSE (Health, safety & Environment): Contractor will comply with HSE (Health, safety & Environment) requirements of BHEL. HSE requirements in brief, are given below :-
9.1.1	Contractor will nominate one of their qualified and experienced employees as Safety Officer, who will be responsible for all HSE related issues of contractors work area. Safety Officer will have authority to stop any activity, in case he observes that the activity is not being carried out in safe manner. He will conduct surprise inspection as well as periodic inspection/drill (at least once in a month) and submit such reports to BHEL. He will conduct periodic meetings with supervisors of different working groups and explain HSE issues and use of PPEs to them. Reports of such meetings will be submitted to BHEL. Contractor will develop suitable work procedures based upon HSE guidelines and OCPs and implement it. Such work procedures will consist of Area of work, T&P Details, Work Procedure, PPE requirements etc. Please refer Schedule VIII of BOCW Rules for number of safety officers, qualification, duties etc. Contractor should highlight the requirement of safety to staff and labour through daily tool box meeting before start of the days job. Contractor to also submit monthly safety reports as per the format/procedure of BHEL.
9.1.2	The contractor shall arrange induction and regular health check of their employees as per schedule VII of BOCW rules by a registered medical practitioner. The contractor shall take special care of the employees affected with occupational diseases under rule 230 and schedule II of BOCW Rules. The employees not meeting the fitness requirement should not be engaged for such job
9.1.3	Following personnel protective equipments (PPEs), in adequate numbers, will be made available at site & their regular use by all concerned will be ensured :-

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	- HELMET
	- SAFETY GOGGLES & WELDING FACE SHIELDS
	- SAFETY BELTS AND PROTECTIVE NET FOR WORKING AT HEIGHT
	- SAFETY SHOES
	- EAR PLUG
	- ANY OTHER SAFETY EQUIPMENT REQUIRED FOR SAFE COMPLETION OF THE WORK
	Contractor to also submit monthly reports on above as per the format/procedure of BHEL.
9.1.4	Providing appropriate First Aid facilities for prompt treatment of injuries and illness at work place. Arranging training to contractor workmen/ employees for giving first aid.
9.1.5	Arranging ambulance in case of any emergency situation .
9.1.6	Identification of nearest hospital and health check-up of workmen/employees
9.1.7	Providing filtered drinking water at work place in cool container.
9.1.8	Providing Canteen, Rest Room, Washing facilities to the contracted employees as per provisions of Contract Labour Regulation Act 1970 (Chapter V).
9.1.9	Providing appropriate fire fighting equipment at designated work place and nominate a fire officer/warden adequately trained for his job.
9.1.10	Identification of nearest fire station and display contact telephone nos. / person's name around work places for cases of emergencies .
9.1.11	Providing adequate no. of 24 V sources and ensure that no hand lamps are operating at voltage level above 24 Volts.
9.1.12	Fulfilling safety requirements at all power tapping points.
9.1.13	Red & White caution tape of proper width(1.5 to 2 inch) to be used for cordoning unsafe area such as open trench, excavation area etc.
9.1.14	Providing contractors company logo on cloths /uniform/ proper identity cards with photographs, for correct identification of people working at project site .
9.1.15	High/ Low pressure welders to be identified with separate colour clothings. No welders will be deployed without passing appropriate tests and holding valid welding certificates. Approved welding procedure should be displayed at work place.
9.1.16	Displaying safe handling procedures for all chemicals such as lube oil, acid, alkali, sealing compounds etc , at work place .
9.1.17	All scaffolding/ platforms should be made from materials of appropriate quality/grade so that these are safe for use. It should be certified/declared safe

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	for use by an experienced contractor person, before any scaffolding/platform is used. Please refer IS:3696 part 1&2 and 4014 part 1 & 2
9.1.18	All T&Ps/ MMEs should be of reputed brand/appropriate quality & must have valid test/calibration certificates bearing endorsement from competent authority of BHEL.. Contractor to also submit monthly reports of T&Ps deployed and validity test certificates to BHEL safety Officer as per the format/procedure of BHEL.
9.1.19	Ensure that the regulatory requirement of excessive weight limit (to carry/lift/ move weights beyond prescribed limits) for male and female workers are complied with.
9.1.20	Safety slogan, Safety/ Caution boards , wherever required to be displayed in consultation with BHEL.
9.1.21	Take suitable measures for waste management and environment related laws/legislation as a part of normal construction activities. Compliance with the legal requirements on storage/ disposal of paint drums (including the empty ones), Lubricant containers, Chemical Containers, and transportation and storage of hazardous chemicals will be strictly maintained. Ensure proper cleanliness of work place, housekeeping and waste management (including proper waste disposal) on daily basis.
9.1.22	It is imperative on the part of the contractor to join and effectively contribute in joint measures such as tree plantation, environment protection, contributing towards social upliftment, conversion of packing woods to school furniture, keeping good relation with local populace etc.
9.1.23	The contractor shall carry out periodic air and water quality check and illumination level checking in his area of work place and take suitable control measure.
9.1.24	The Contractor is required to provide proper safety net systems (IS-11057) where ever the hazard of fall from height is present as per instruction of BHEL Engineer. The safety nets shall be fire resistant, duly tested and shall be of ISI Mark and the nets shall be located as per site requirements to arrest or to reduce the consequences of a possible fall of persons working at different heights.
9.1.25	All applicable OCPs (Operational control procedures) will be followed by contractor as per BHEL instructions. This will be done as part of normal scope of work. List of such OCPs is given below . In case any other OCP is found to be applicable during the execution of work at site, then contractor will follow this as well, within quoted rate. These OCPs (applicable ones) will be made available to contractor during work execution at site. However for reference

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	purpose, these are kept with Safety Officer of BHEL at the Power Sector Regional HQ, or available in downloadable format in the website, which may be refereed by contractor, if they so desire.
■	OCP for safe handling of chemicals
■	OCP for Electrical safety
■	OCP for energy conservation
■	OCP for safe welding and gas cutting operation
■	OCP for fire safety
■	OCP for safety in use of hand tools
■	OCP for first aid
■	OCP for food safety at canteen
■	OCP for safety in use of cranes
■	OCP for storage and handing of gas cylinders
■	OCP for manual arc welding
■	OCP for safe use of helmets
■	OCP for good house keeping
■	OCP for working at height
■	OCP for safe excavation
■	OCP for safe filling of Hydrogen in cylinder
■	OCP for illumination
■	OCP for handling and erection of heavy metals
■	OCP for safe acid cleaning
■	OCP for safe alkali boil out
■	OCP for safe oil flushing
■	OCP for steam blowing
■	OCP for safe working in confined area
■	OCP for safe operation of passenger lift, material hoists & cages
■	OCP for Vehicle maintenance
■	OCP for safe radiography
■	OCP for waste disposal
■	OCP for working at night
■	OCP for blasting
■	OCP for DG Set
■	OCP for handling & storage of mineral wool
■	OCP for drilling, reaming and grinding(machining) etc.
■	OCP for hydraulic test
■	OCP for spray insulation

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	■ OCP for trial run of rotary equipment
	■ OCP for stress relieving
	■ OCP for material preservation
	■ OCP for cable laying/tray work
	■ OCP for electrical maintenance
	■ OCP for transformer charging
	■ OCP for safe handling of battery system
	■ OCP for computer operation
	■ OCP for storage in open yard
	■ OCP for sanitary maintenance
	■ OCP for batching
	■ OCP for piling rig operation
	■ OCP for gas distribution test
	■ OCP for cleaning of hotwell / deaerator
	■ OCP for electro-resistance heating
	■ OCP for compressor operation
	■ OCP for O&M of control of AC plant & system
	■ OCP for air compressor
	■ OCP for passivation
	■ OCP for Safe EDTA Cleaning
	■ OCP for Safe Chemical cleaning of Pre boiler system
	■ OCP for Safe Boiler Light up
	■ OCP for Safe Rolling and Synchronisation
	■ OCP for Safe Loading of Unit
9.2	SAFETY AND CLEANLINESS : The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per discretion of BHEL or its authorised officials (Site Construction Manager) to prevent loss of human lives, injuries, to personnel engaged and damage to property. Before commencing the work, the contractor shall submit a “Safety Plan” to the above authorised BHEL official and obtain approval on the same. The safety plan shall indicate in detail the measures that would be taken by the contractor to ensure safety of men, equipment, materials and environment during execution of the work. This will also include an organization structure, role and responsibilities of the concerned key personnel, the safety practices that will be followed, PPEs deployed, plan for handling critical activities and emergencies.
9.3	If the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions issued by

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	the authorised BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor.
9.4	During the course of construction, alternation or repairs, scrap with protruding nail, sharp edge etc and all other debris shall be kept clean from working areas, passage, ways and stairs in and around site.
9.5	Combustible scrap and debris shall be removed at regular intervals during the course of execution. Safe means shall be provided to facilitate such removal. The combustible scrap should be stored in safe place away from the plant materials to avoid fire accidents. The area shall be chosen in consultation with the Engineer and to be cordoned off.
9.6	Rigging equipment for materials handling shall be inspected prior to use in each shift and as necessary during its use to ensure that it is safe. Defective rigging equipment will be removed from service.
9.7	Rigging equipment shall not be loaded in excess of its recommended safe working load. Rigging equipment, when not in use, shall be removed from the original work area so as not to present a hazard to employees.
9.8	Contractor shall notify the engineer, of his intention to bring on to site any equipment or any container, with liquid or gaseous fuel or other substance which may create a hazard. The Engineer shall have the right to prescribe the condition under which such equipment or container may be handled and used during the performance of the works and the contractor shall strictly adhere to such instructions. The Engineer shall have the right to inspect any construction tool and to forbid its use, if in his opinion it is unsafe. No claim due to such prohibition will be entertained.
9.9	Where it is necessary to provide and/or store petroleum products or petroleum mixture & explosives, the contractor shall be responsible for carrying out such provision / storage in accordance with the rules & regulations laid down in the relevant petroleum act, explosive act and petroleum and carbide of calcium manual, published by the chief inspector of explosives of India. All such storage shall have prior approval if necessary from the chief inspector of explosives or any other statutory authority. The contractor shall be responsible for obtaining the same.
9.10	Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dragged, struck or permitted to strike each other violently.

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9.11	When cylinders are transported by powered vehicle they shall be secured in a vertical position.
9.12	All workmen of the contractor working on construction area shall wear safety shoes, hand gloves, safety helmets and safety belt as applicable. The contractor shall provide to its workforce and ensure the use of following personnel protective equipment as found necessary and as directed by BHEL.
9.12.1	Safety Helmets conforming to IS-2925 : 1984
9.12.2	Safety Belts conforming to IS-3521:1983
9.12.3	Safety Shoes conforming to IS-1989 : 1978
9.12.4	Eye and face protection devices conforming to IS – 1179:1967, IS 5983:1980, IS 8521 Part 1:1977, IS 8521 Part 2: 1994.
9.12.5	Hand and body protection devices conforming to IS 4770:1991 and IS- 6994 : Part 1: 1973, IS – 8619 : 1977
9.12.6	Ear protection IS-9167:1979
9.12.7	Respiratory Protective Devices as per IS-9473:2002, i4746:1999 and 14166:1994
9.13	The contractor shall insure his workmen against all accidents and the policy shall be presented to BHEL Engineer on demand. Other wise, BHEL will arrange the same and the expenditure towards this will be debited to the contractor. In case of a fatal or disabling injury accident to any person at construction site due to lapses by the contractor, the victim and/or his/her dependants shall be compensated by the contractor as per statutory requirements. However, if considered necessary BHEL shall have the right to impose appropriate financial penalty on contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependence before imposing any such penalty. Appropriate enquiry shall be held by BHEL giving opportunity to the contractor for presenting his case. Above safety conditions are not exhaustive but gives an idea for the contractor and contractor shall adhere to all safety precaution given by the Engineer at site.
9.14	The contractor shall arrange at his cost adequate lighting facilities e.g. flood lighting, hand lamps, area lighting etc. at various levels for safe and proper working operations during night hours at the work spot as well as at the pre-assembly area.

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9.15	The contractor shall be responsible for provision of all the safety notices and safety equipment as enjoined on him by the application of relevant statutory regulation / provisions and/or as called upon by BHEL from time to time. He shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instruction that may endanger safety of men, equipment and material.
9.16	The contractor shall provide temporary fencing wherever required as a safety measure against accident and damage to properties. Suitable caution notices shall be displayed where access to any part is found to be unsafe and hazardous.
9.17	Contractor shall ensure safety of all the workmen, material and equipment either belonging to him or to others working at site. He shall observe safety rules and codes applied by BHEL without exception.
9.18	It will be the responsibility of the contractor to ensure safe lifting of the equipment, taking due precaution to avoid any accident and damage to other equipment and personnel. All requisite tests and inspection of handling equipment, tools & tackle shall be periodically done by the contractor by engaging only the COMPETENT PERSONS as per law. Defective equipment or uncertified shall be removed from service. Any equipment shall not be loaded in excess of its recommended safe working load.
9.19	The contractor shall provide necessary first aid facilities as per schedule III. In addition, ambulance facilities, OHC and CMO as per schedule IV, V, X and XI of BOCW Rules as applicable for all his employees, representatives and workmen at site and BHEL shall have no obligation in this regard. The first aid boxes should be placed at various elevations so as to make them available within the reach and at the quickest possible time. The contractor should conduct periodical first –aid classes to keep his supervisor and Engineers properly trained for attending to any emergency.
9.20	Training
9.20.1	The contractor shall arrange induction safety training for all employees before assigning work. In addition, awareness programme, mock drill at regular intervals and daily tool box meetings shall be arranged. Monthly report of the above to be given to BHEL safety Officer as per prescribed BHEL formats
9.20.2	All the contractor's supervisory personnel and sufficient number of workers shall be trained for fire protection systems. Enough number of such trained personnel must be available during the tenure of contract. Contractor should nominate his

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	supervisor to coordinate and implement the safety measures.
9.21	Contractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, temporary structure in labour colony etc. Such fire protection equipment shall be easy and kept open at all times. The fire extinguishers shall be properly refilled and kept ready which should be certified at periodic intervals. The date of changing should be marked on the Cylinders. All other fire safety measures as laid down in the “codes for fire safety at construction site” issued by safety coordinator of BHEL shall be followed. Non-compliance of the above requirement under fire protection shall in no way relieve the contractor of any of his responsibility and liabilities to fire accident occurring either to his materials or equipment or those of others. Emergency contacts nos must be displayed at prominent locations
9.22	The contractor shall at his cost, remove from vicinity of work at least once each day all combustible waste, scrap, painting materials, rubbish, unused or other materials and deposit them in places specified by BHEL to keep the work site clear and tidy. Use of undercoated canvas paper, corrugated paper, fabricated carton, plastic or other flammable materials shall be restricted to the minimum and promptly removed.
9.23	The contractor shall not use any hand lamp energized by Electric power with supply voltage of more than 24 volts in confined spaces like inside water boxes, turbine casings, condensers etc.
9.24	All portable electric tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed. Only electricians licensed by appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works. Details of earth resource and their test date to be given to BHEL safety officer as per the prescribed formats of BHEL
9.25	In case of any delay in completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from the payments due to the contractor, after notifying the contractor suitably.
9.26	Valve protection caps shall be kept in place and secured.
9.27	The contractor shall be responsible for the safe storage and handling of his radio-active sources as per BARC rules and regulations.
9.28	Tarpaulin being inflammable should not be used (instead, only non infusible covering materials shall be used) as protective cover while preheating, welding,

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	stress relieving etc. at site.
9.29	If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given reasonable opportunity to do so and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instruction regarding safety issued by BHEL, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than 7 days indicating the steps that would be taken by BHEL.
9.30	If the contractor succeeds in carrying out its job in time with out any fatal or disabling injury accident and without any damage to property BHEL may, at its sole discretion, favorably consider to reward the contractor suitably for the performance.
9.31	The contractor shall carefully follow the safety requirement of BHEL/ the purchaser with the regard to voltages used in critical areas.
9.32	The contractor shall use only properly insulated and armored cables which conform to the requirement of Indian Electricity Act and Rules for all wiring, electrical applications at site. BHEL reserves the right to replace any unsafe electrical installations, wiring, cabling etc. at the cost of the contractor. All electrical appliances used in the work shall be in good working condition and shall be properly earthed. No maintenance work shall be carried out on live equipment. The contractor shall maintain adequate number of qualified electricians to maintain his temporary electrical installations. Area wise Electrical safety inspection is to be carried out on monthly basis as per "Electrical Safety Inspection checklist" and the report is to be submitted to BHEL safety officer
9.33	The contractor shall arrange adequate number of persons specifically for clearing any debris and for house keeping of the erection area including restacking of components in the erection areas. Housekeeping to be carried out as per BHEL's checklist and report is to be submitted to BHEL safety officer
9.34	In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover the cost of such damages from the contractor after holding an appropriate enquiry.
9.35	The contractor shall submit report of all accidents, fires and property damage etc to the Engineer immediately after such occurrence, but in any case not later then 24 hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition periodic reports on safety shall also be

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	submitted by the contractor to BHEL from time to time as prescribed by the Engineer.Compiled monthly reports of all kinds of accidents, fires and property damage to be submitted to BHEL safety officer as per prescribed formats
9.36	Before commencing the work, the contractor shall appoint/nominate a responsible person to supervise implementation of all safety measures and liaison with his counterpart of BHEL.
9.37	Suitable scaffolds shall be provided for workman for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration of work which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made of steel. The steps shall have a minimum width of 45 cm and a maximum rise of 30 cm. Suitable handholds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ horizontal and 1 vertical.
9.38	Scaffolding or staging more than 3.6 m above the ground floor, swung or suspended from an overhead support or erected with stationery support shall have a guard rail properly bolted, braced or otherwise secured, at least 90 cm above the floor or platform of such scaffolding or staging and extending along the entire length of the out side and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from savor, from swaying, from the building or structure.
9.39	Working platforms, gangways and stairways shall be so constructed that they do not sag unduly or unequally and if the height of the platform gangways provided is more than 3.6 m above ground level or floor level, they shall be closely boarded and shall have adequate width which shall not be less than 750 mm and be suitably fenced as described above.
9.40	Every opening in the floor or a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 90 cm.
9.41	Wherever there are open excavation in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.
9.42	Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m in the length while the width between side rails in rung ladder shall in no case be less than app. 29.2 cm for ladder upto and including 3 m in length. For longer ladders this

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	width shall be increased at least ¼” for each additional foot of length.
9.43	A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to Construction.
9.44	All personnel of the Contactor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal worker shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
9.45	Adequate precautions shall be taken to prevent danger for electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.
9.46	All trenches, four feet or more in depth, shall at all times be supplied with at least one ladder for each 30 m in length or fraction thereof. The ladder shall be extended from bottom of the trench to at least 90 cm above the surface of the ground. Sides of the trenches which are 1.50 m or more in depth shall be stepped back to give suitable slope or securely held by timer bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.
9.47.1	The contractor shall take permission of BHEL prior to risky jobs such as working at height, hot work, liftig activities, etc through permits. No job should be started without permits.
9.47.2	The Contactor shall take all measures at the sites of the work to protect all persons from accidents and shall be bound to bear the expenses of defense of every suit, action or other proceeding at law that may be brought by any persons for injury sustained or death owing to neglect of the above precautions and to pay any such persons such compensation or which may with the consent of the Contractor be paid to compromise any claim by any such person should such claim proceeding be filed against BHEL, the Contractor hereby agrees to indemnify BHEL against the same.
9.48	Before any demolition work is commenced and also during the process of the work the following shall be ensured:
9.48.1	All roads and open areas adjacent to the work site shall either be closed or suitably protected.

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9.48.2	No electric cable or apparatus which is liable to be a source of danger nor a cable or an apparatus used by the operator shall remain electrically charged.
9.48.3	All practical steps shall be taken to prevent danger to persons employed from the risks of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render them unsafe.
9.49	All necessary personnel safety equipment as considered adequate by the Engineer should be kept available for the use of the persons employed in the Site and maintained in a condition suitable for immediate use and the Contactor should take adequate steps to ensure proper use of equipment by those concerned.
9.49.1	Workers employed on mixing asphalted materials, cement and lime mortars shall be provided with protective foot wear and protective goggles.
9.49.2	Those engaged in white washing and mixing or stacking of cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.
9.49.3	Those engaged in welding works shall be provided with welder's protective eyesight lids.
9.49.4	Stone breakers shall be provided with protective goggles and protective clothing and seated sufficient to safe intervals.
9.49.5	Where workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into manhole, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.
9.49.6	The Contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precautions should be taken.
9.49.6.1	No paint containing lead or lead products shall be used except in the form of paste or ready made paint.
9.49.6.2	Suitably face masks should be supplied for use by the workers where paints are applied in the form of spray or a surface having lead paint dry rubbed and scrapped.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

9.49.6.3	Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
9.50	When the work is being done near any place where there is risk of drowning all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
9.51	Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safe guards. Hoisting appliance should be provided with such means as will reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers employed on electrical installations which are already energized, insulting mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductor of electricity.
9.52	All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near the places of work.
9.53	The contractor shall maintain and ensure necessary safety measures as required for inspection and tests HV test, Pneumatic test, Hydraulic test, Spring test, Bend test etc as applicable, to enable. inspection Agency for performing Inspection. If any test equipment is found not complying with proper safety requirements then the Inspection Agency may withhold inspection, till such time the desired safety requirements are met.
9.54	The Contractor shall notify BHEL of his intention to bring to site any equipment or material which may create hazard. BHEL shall have the right to prescribe the conditions under which such equipment or materials may be handled and the contractor shall adhere to such instructions. BHEL may prohibit the use of any construction machinery, which according to him is unsafe. No claim for compensation due to such prohibition will be entertained by BHEL.
9.55	All safety precautions shall be taken for welding and cutting operations as per IS-818. All safety precautions shall be taken for foundation and other excavation marks as per IS-3764.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE & OHSAS

9.56	.All gas cylinders shall be stored in upright position. Suitable trolley shall be used. There shall be flash-back arrestors conforming to IS-11006 at both cylinder and burner ends. Damaged tube and regulators must be immediately replaced. No of cylinders shall not exceed the specified quantity as per OCP												
9.57	These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent, place at work spot. The persons responsible for compliance of the safety code shall be named therein by the Contractor												
9.58	To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangement made by the contract shall be open to inspection by the Engineer of the Engineer's Representative.												
9.59	Keeping the work area clean/ free from debris, removed scaffoldings, scraps, insulation/sheeting wastage /cut pieces, temporary structures, packing woods etc. will be in the scope of the contractor. Such cleanings has to be done by contractor within quoted rate, on daily basis by an identified group. If such activity is not carried out by contractor / BHEL is not satisfied, then BHEL may get it done by other agency and actual cost alongwith BHEL overheads will be deducted from contractor's bill. Such decisions of BHEL shall be binding on the contractor.												
9.60	Notwithstanding the above clauses there is nothing to exit the Contractor from the operations of any other Act or Rule in force in area of work in this respect. Provided always that all safety measures apart from those specifically provided in this agreement which are brought to the notice of the Contractor from time to time by the Engineer shall be complied by the Contractor. Provided further that all consequences, damages, or losses arising by reason of any safety code shall be met with by the Contractor.												
9.61	<u>NON COMPLIANCE:-</u> NONCONFORMITY OF SAFETY RULES AND SAFETY APPLIANCES WILL BE VIEWED SERIOUSLY AND BHEL HAS RIGHT TO IMPOSE FINES ON THE CONTRACTOR AS UNDER <u>for every instance of violation noticed:</u> <table><tr><th>SN</th><th>Violation of Safety Norms</th><th>Fine (in Rs)</th></tr><tr><td>01</td><td>Not Wearing Safety Helmet</td><td>50/- *</td></tr><tr><td>02.</td><td>Not wearing Safety Belt or not anchoring life line</td><td>100/-*</td></tr><tr><td>03</td><td>Not wearing safety shoe</td><td>100/-*</td></tr></table>	SN	Violation of Safety Norms	Fine (in Rs)	01	Not Wearing Safety Helmet	50/- *	02.	Not wearing Safety Belt or not anchoring life line	100/-*	03	Not wearing safety shoe	100/-*
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03	Not wearing safety shoe	100/-*											

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE & OHSAS

04	Not keeping gas cylinders vertically	100/-
05	Not using flash back arrestors	50/-
06	Not wearing gloves	50/- *
07.	Grinding Without Goggles	50/- *
08.	Not using 24 V Supply For Internal Work	500/-
09.	Electrical Plugs Not used for hand Machine	100/-
10.	Not Slings property	200/-
11.	Using Damaged Sling	200/-
12.	Lifting Cylinders Without Cage	500/-
13.	Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.	200/-
14.	Not Removing Small Scrap From Platforms	200/-
15.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	200/-
16.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-
17.	Improper Earthing Of Electrical T&P	500/-
18	No or improper barricading	500/-
19.	Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case)	1000/-
20.	Accident Resulting in Partial Loss in Earning Capacity	25,000/- per victim
21.	Fatal Accident/Accidents Resulting in total loss in Earning Capacity	1,00,000/- per victim #

Legend:-*: per head,

#: or as deducted by Customer whichever is higher

Any other non-conformity noticed not listed above will also be fined as deemed fit by BHEL. The decision of BHEL engineer is final on the above. The amount will be deducted from running bills of the contractor. The amount collected above will be utilized for giving award to the employees who could avoid accident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE & OHSAS

9.61	<u>CITATION:</u>-If safety record of the contractor in execution of the awarded job is to the satisfaction of safety department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion of the job
9.62	<u>MEMORANDUM OF UNDERSTANDING</u> After Award Of Work, Contractors Are Required To Enter Into A Memorandum Of Understanding As Given Below: <u>Memorandum of Understanding</u> ➤ BHEL, Power Sector _____ Region is committed to Health, Safety and Environment Policy (EHS Policy). ➤ M/s _____ do hereby also commit to the same EHS Policy while executing the Contract Number _____ ➤ M/s _____ shall ensure that safe work practices not limited to the above are followed by all construction workers and supervisors. Spirit and content therein shall be reached to all workers and supervisors for compliance. ➤ BHEL will be carrying out EHS audits twice a year and M/s _____ shall ensure to close any non-conformity observed/reported within fifteen days. Signed by authorized representative of M/s ----- Name : Place & Date:

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-X: RA Bill Payments

10.0	RA Bill Payments
10.1	The contractor shall submit his monthly RA bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas for the previous calendar month.
10.2	Mode of payment and measurement of work completed shall be as per relevant clauses of General Conditions of Contract
10.3	Release of payment in each running bill including PVC Bills where ever applicable will be restricted to 95% of the value of work admitted as per stages of progressive pro rata payments.
10.4	The 5% thus remaining shall be treated as 'Retention Amount' and shall be released as per terms specified in the General Conditions of Contract.
10.5	The payment for running bills will normally be released within 30 days of submission of running bill complete in all respects with all documents. It is the responsibility of the contractor to make his own arrangements for making timely payments towards labour wages, statutory payments, outstanding dues etc and other dues in the meanwhile. In case of Civil works, 60% of RA Bills complete and correct in all respects and certified by BHEL Engineer, shall be paid within 15 days of receipt. Balance payment shall be within 30 days.
10.6	BHEL shall release payment through Electronic Fund Transfer (EFT)/RTGS. In order to implement this system, Contractor to furnish details pertaining to his Bank Accounts where proceeds will be transferred through BHEL's banker, as per prescribed formats: Note: BHEL may also choose to release payment by other alternative modes as applicable
10.7	Paying Authority shall be the Construction Manager of the Site. Any change in the paying Authority shall be intimated to the Contactor accordingly.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-XI : Performance Monitoring

11.0	Performance Monitoring
11.1	Performance of the contractor is monitored through various reports/reviews and shall be jointly evaluated every month for unit wise identified packages as per prescribed formats. Based on the net weighted scores obtained, Contractors shall be rated 'Good' or 'Satisfactory' or 'Unsatisfactory'
11.2	In case of any dispute on performance rating and the contractor refuses to sign on the performance rating given by BHEL package Incharge, the same shall be reviewed by BHEL site Incharge/Construction Manager and his decision shall be final.
11.3	Release of RA Bills will be contingent upon joint evaluation of performance
11.4	Performance of the contractor will be taken into consideration for assessing the capacity of the bidder to execute future jobs under tender, as detailed in the Notice Inviting Tender. Risk of non evaluation or non availability of the Monthly performance evaluation reports is to be borne by the Bidder.
11.5	In case of 'Unsatisfactory performance' for a continuous period of three or more months for a package or packages, BHEL has the right to get the balance works executed at the risk and cost of the contractor.
11.6	In case of 'Unsatisfactory performance' in a financial year, BHEL reserves the right to put on hold such Contractors for a period of six months for similar package or similar packages

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-XII: Suspension of Business Dealings

12.0	Suspension of Business dealings
12.1	BHEL reserves the right to take action against contractors who fail to perform or indulge in malpractices, by suspending business dealings with them.
12.2	Suspension could be in the form of 'Hold', 'De-listing' or 'Banning' a contractor.
12.3	A bidder may be put on HOLD for a period of 6 months, for future tenders for specific works on the basis of one or more of the following reasons: a) Bidder does not honour his own offer or any of its conditions within the validity period. b) Bidder fails to respond against three consecutive enquires of BHEL. c) After placement of order, Bidder fails to execute a contract. d) Bidder fails to settle sundry debt account, for which he is legitimately liable, within one year of its occurrence. e) Bidder's performance rating falls below 60% in specific category (more fully described in chapter 'Performance Monitoring') f) Bidder works are under strike/ lockout for a long period.
12.4	A Bidder may be de-listed from the list of registered Bidders of the region for a period of 1 year on the basis of one or more of the following reasons:- a) Bidder tampers with tendering procedure affecting ordering process or commits any misconduct which is contrary to business ethics. b) Bidder has substituted, damaged, failed to return, short returned or unauthorizedly disposed off materials/ documents/ drawings/ tools etc of BHEL. c) Bidder no longer has the technical staff, equipment, financial resources etc. required to execute the orders/ contracts.
12.5	A Bidder can be banned from doing any business with all Units of BHEL for a period of 3 years on the basis of one or more of the following reasons: a) Bidder is found to be responsible for submitting fake/ false/ forged documents, certificates, or information prejudicial to BHEL's interest. b) In spite of warnings, the Bidder persistently violates or circumvents the provisions of labour laws/ regulations/ rules and other statutory requirements. c) Bidder is found to be involved in cartel formation

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-XII: Suspension of Business Dealings

	d) The Bidder has indulged in malpractices or misconduct such as bribery, corruption and fraud, pilferage etc which are contrary to business ethics. e) The Bidder is found guilty by any court of law for criminal activity/ offences involving moral turpitude in relation to business dealings. f) The Bidder is declared bankrupt, insolvent, has wound up or been dissolved; i.e ceases to exist for all practical purposes. g) Bidder is found to have obtained Official Company information/ documentation by questionable means. h) Communication is received from the administrative Ministry of BHEL to ban the Bidder from business dealings.
12.6	Contracts already entered with a contractor before the date of issue of order of 'HOLD' or 'DE-LISTING' shall not be affected.
12.7	All existing contracts with a 'BANNED' contractor shall normally be short closed
12.8	Once the order for suspension is passed, existing offers/new offers of the contractor shall not be entertained
12.9	The above guidelines are not exhaustive but enunciate broad principles governing action against contractors

Rev 01

1st June
2012

FORMS & PROCEDURES

(Document No. PS:MSX:F&P)

BHARAT HEAVY ELECTRICALS
LIMITED



FORMS & PROCEDURES

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FORMS & PROCEDURES

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: will be released later

OFFER FORWARDING LETTER / TENDER SUBMISSION LETTER
(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

Offer Reference No:.....

Date:.....

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : Submission of Offer against Tender Specification No:

I/We hereby offer to carry out the work detailed in the Tender Specification issued by Bharat Heavy Electricals Limited, Power Sector-....., in accordance with the terms and conditions thereof.

I/We have carefully perused the following listed documents connected with the above work and agree to abide by the same.

1. Amendments/Clarifications/Corrigenda/Errata/etc issued in respect of the Tender documents by BHEL
2. Notice Inviting Tender (NIT)
3. Price Bid
4. Technical Conditions of Contract
5. Special Conditions of Contract
6. General Conditions of Contract
7. Forms and Procedures

Should our Offer be accepted by BHEL for Award, I/we further agree to furnish 'Security Deposit' for the work as provided for in the Tender Conditions within the stipulated time as may be indicated by BHEL.

I/We further agree to execute all the works referred to in the said Tender documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed thereto.

I/We have deposited/depositing herewith the requisite Earnest Money Deposit (EMD) as per details furnished in the Check List.

Authorised Representative of Bidder

Signature :

Name :

Address :

Place:

Date:

DECLARATION BY AUTHORISED SIGNATORY OF BIDDER

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration by Authorised Signatory**

Ref : 1) NIT/Tender Specification No:
2) All other pertinent issues till date

I/We, hereby certify that all the information and data furnished by me with regard to the above Tender Specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations and all other pertinent issues till date, and agree to comply with the requirements and Intent of the specification.

I further certify that I am authorised to represent on behalf of my Company/Firm for the above mentioned tender and a valid Power of Attorney to this effect is also enclosed.

Yours faithfully,

(Signature, Date & Seal of Authorized
Signatory of the Bidder)

Date:

Enclosed : Power of Attorney

NO DEVIATION CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **No Deviation Certificate**

Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions, Integrity Pact (if applicable) and acceptance to Reverse Auctioning process.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized
representative of the bidder)

DECLARATION CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS
(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration confirming knowledge about Site conditions**

Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

I/We, _____ hereby declare and confirm that we have visited the Project Site as referred in BHEL Tender Specifications and acquired full knowledge and information about the Site conditions including Wage structure, Industrial Climate, the Law & Order and other conditions prevalent at and around the Site. We further confirm that the above information is true and correct and we shall not raise any claim of any nature due to lack of knowledge of Site conditions.

I/We, hereby offer to carry out work as detailed in above mentioned Tender Specification, in accordance with Terms & Conditions thereof.

Yours faithfully,

(Signature, Date & Seal of Authorized
Representative of the Bidder)

Date :

Place:

DECLARATION FOR RELATION IN BHEL

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder failing which the offer of Bidder is liable to be summarily rejected)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration for relation in BHEL**

Ref : 1) NIT/Tender Specification No:,

I/We hereby submit the following information pertaining to relation/relatives of Proprieter/Partner(s)/Director(s) employed in BHEL

Tick(✓) any one as applicable:

1. The Proprieter, Partner(s), Director(s) of our Company/Firm DO NOT have any relation or relatives employed in BHEL

OR

2. The Proprieter, Partner(s), or Director(s) of our Company/Firm HAVE relation/relatives employed in BHEL and their particulars are as below:

(i)

(ii)

Signature of the Authorised Signatory

Note:

1. Attach separate sheet, if necessary.
2. If BHEL Management comes to know at a later date that the information furnished by the Bidder is false, BHEL reserves the right to take suitable against the Bidder/Contractor.

NON DISCLOSURE CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

NON DISCLOSURE CERTIFICATE

I/We understand that BHEL PS __ is committed to Information Security Management System as per their Information Security Policy.

Hence, I/We M/s.....
who are submitting offer for providing services to BHEL PS __ against
Tender Specification No:_____,
hereby undertake to comply with the following in line with Information
Security Policy of BHEL PS __, _____

- To maintain confidentiality of documents & information which shall be used during the execution of the Contract.
- The documents & information shall not be revealed to or shared with third party which shall not be in the business interest of BHEL PS__.

(Signature, date & seal of Authorized
Signatory of the bidder)

Date:

BANK ACCOUNT DETAILS FOR E-PAYMENT

(To be given on Letter head of the Company /Firm of Bidder, and **ENDORSED (SIGNED & STAMPED) BY THE BANK** to enable BHEL release payments through Electronic Fund Transfer (EFT/RTGS))

1. Beneficiary Name :
2. Beneficiary Account No. :
3. Bank Name & Branch :
4. City/Place :
5. 9 digit M ICR Code of Bank Branch :
6. IFSC Code of Bank Branch :
7. Beneficiary E-mail ID :
(for payment confirmation)

NOTE: In case Bank endorsed certificate regarding above has already been submitted earlier, Kindly submit photocopy of the same

FORMAT FOR SEEKING CLARIFICATION

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Request for Clarification**Ref : 1) NIT/Tender Specification No:
2) All other pertinent issues till date

Sl no	Reference clause of Tender Document	Existing provision	Bidder's query	BHEL's clarification
1				
2				
3				
4				
5				
6				

Yours faithfully,

(Signature, date & seal of Authorized
Representative of the Bidder)

CAPACITY EVALUATION OF BIDDERS FOR CURRENT TENDER

SL NO.	DESCRIPTION OF WORK (Similar to Tendered Scope)	WORK ORDER REF & DATE	CONTRACT VALUE (Rs. LACS)	CUSTOMER NAME & ADDRESS	CURRENT STATUS OF THE JOB ALONG WITH LATEST MILE STONE COMPLETED	%AGE OF WORK COMPLETE D	VALUE OF BALANCE WORK (Rs. Lacs)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

NOTES:

1. BIDDERS ARE REQUIRED TO FURNISH ALL THE JOBS OF SIMILAR NATURE WHICH THEY ARE EXECUTING (IN PROGRESS) AT THE TIME OF SUBMISSION OF TENDER, AS PER ABOVE FORMAT.

2. BIDDERS HEREBY UNDERTAKE THAT THEY HAVE FURNISHED THE DETAILS SOUGHT AS PER POINT NO. 1 IN TOTALITY AND THAT THE DETAILS FURNISHED IS COMPLETE IN ALL RESPECT.

3. BHEL WILL TAKE APPROPRIATE ACTION AS DEEMED FIT , IN CASE, IT IS FOUND AT A LATER DATE THAT THE CONTRACTOR HAD SUPPRESSED THE FACTS AND HAVE NOT FURNISHED THE CORRECT & COMPLETE INFORMATIONS.

DATE :
PLACE:

Signature

Name, Designation & Seal of Bidder

CONTRACT AGREEMENT

Form No: F-10 (Rev 00)

BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)

Power Sector – Region

.....

.....

CONTRACT AGREEMENT

AGREEMENT NO. _____

NAME OF WORK	
NAME OF THE CONTRACTOR WITH FULL ADDRESS	
VALUE OF WORK AWARDED	
LETTER OF INTENT NO.	
TIME ALLOTTED FOR COMPLETING THE WORK (DATE OF COMPLETION)	

SIGNATURE OF CONTRACTOR

(SIGNATURE OF BHEL OFFICER)

CONTRACT AGREEMENT

THIS AGREEMENT MADE THIS _____ DAY OF _____ between BHARAT HEAVY ELECTRICALS LIMITED (A Government of India Enterprise) a Company incorporated under the Companies Act, 1956, having its Registered Office at BHEL House, Siri Fort New Delhi-110049 (herein after called BHEL) of the ONE PART.

AND

M/S _____
_____ (hereinafter called the 'Contractor') of the
SECOND PART.

WHEREAS M/s -----state that they
have acquired and possess extensive experience in the field of -----

And Whereas in response to an Invitation to Tender No. ----- issued by BHEL for
execution of ----- the contractor submitted their offer
No.-----dated -----And whereas BHEL has accepted the
offer of the Contractor on terms and conditions specified in the Letter of Intent No.-----
-----dated -----read with the references cited therein.

THIS AGREEMENT WITNESSES AND it is hereby agreed by and between the parties as follows:

1. That the contractor shall execute the work of -----and more particularly described in Tender Specification No -----including Drawings and Specifications (hereinafter called the said works) in accordance with and subject to terms and conditions contained in these presents, instructions to Tenderers, General Conditions of Contract, Special Conditions, Annexures, Letter of Intent dated ----- and such other instructions, Drawings, Specifications given to him from time to time by BHEL.
2. The Contractor is required to furnish to BHEL Security deposit in the form of cash/ approved securities/ Bank Guarantee valid upto ----- for a sum of Rs.----- towards satisfactory performance and completion of the Contract.
3. The Contractor has furnished a Bank Guarantee bearing no.-----dated ----- for a sum of Rs.-----executed by ----- in favour of BHEL towards Security Deposit valid upto -----

OR

The Contractor has furnished to BHEL an initial Security Deposit of Rs.-----in the form of cash / approved Securities/ B.G No.----- dated ----- for Rs.-----executed by ----- in favour of BHEL valid upto ----- and has agreed for recovery of the balance security deposit by BHEL @ 10% of the value of work done from each running bill till the entire Security Deposit is recovered.

OR

The contractor has furnished to BHEL an initial Security Deposit of Rs.-----(Rs.----- vide Bank draft No.-----dated -----and by adjusting EMD of Rs.----- submitted vide Bank draft No.----- dt.-----) and has agreed for recovery of balance Security Deposit by BHEL @ 10% of the value of work done from each running bill till the entire security deposit is recovered.

4. The Contractor hereby agrees to extend the validity of the Bank Guarantee for such further period or periods as may be required by BHEL and if the Contractor fails to obtain such extension(s) from the Bank, the Contractor, shall pay forthwith or accept recovery of Rs.----- from the bills in one installment and the contractor further agrees that failure to extend the validity of the Bank Guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum of Rs.-----

OR

In case the contractor furnishes the bank guarantee at a later date the contractor hereby agrees to extend the validity of bank guarantee for such further period or periods as may be required by BHEL and if the contractor fails to obtain such extension(s) from the bank, the contractor shall pay forthwith or accept recovery of the amount of bank guarantee given in lieu of security deposit from the bills in one installment and the contractor further agrees that failure to extend the validity of bank guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum.

5. That in consideration of the payments to be made to the Contractor by BHEL in accordance with this Agreement the Contractor hereby covenants and undertakes with BHEL that they shall execute, construct, complete the works in conformity, in all respects, with the terms and conditions specified in this Agreement and the documents governing the same.
6. That the Contractor shall be deemed to have carefully examined this Agreement and the documents governing the same and also to have satisfied himself as to the nature and character of the Works to be executed by him.
7. That the Contractor shall carry out and complete the execution of the said works to the entire satisfaction of the Engineer or such other officer authorised by BHEL, within the agreed time schedule, the time of completion being the essence of the Contract.
8. That BHEL shall, after proper scrutiny of the bills submitted by the Contractor, pay to him during the progress of the said works such sum as determined by BHEL in accordance with this Agreement.
9. That this Agreement shall be deemed to have come into force from ----- the date on which the letter of intent has been issued to the Contractor.
10. That whenever under this contract or otherwise, any sum of money shall be recoverable from or payable by the Contractor, the same may be deducted in the manner as set out in the General Conditions of Contract or other conditions governing this Agreement.
11. That all charges on account of Octroi, Terminal and other taxes including sales tax or other duties on material obtained for execution of the said works shall be borne and paid by the Contractor.
12. That BHEL shall be entitled to deduct from the Contractor's running bills or otherwise Income Tax under Section 194 (C) of the Income Tax Act, 1961.
13. That BHEL shall be further entitled to recover from the running bills of the Contractor or otherwise such sum as may be determined by BHEL from time to time in respect of

CONTRACT AGREEMENT

Form No: F-10 (Rev 00)

consumables supplied by BHEL, hire charges for tools and plants issued (Where applicable) and any other dues owed by the Contractor.

14. That it is hereby agreed by and between the parties that non-exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents and the liability of the Contractor with respect to compensation payable to BHEL or Contractor's obligations shall remain unaffected.
15. It is clearly understood by and between the parties that in the event of any conflict between the Letter of Intent and other documents governing this Agreement, the provisions in the Letter of Intent shall prevail.

16. The following documents

1. Invitation to Tender No-----
and the documents specified therein.
2. Contractor's Offer No-----
dated-----.
3. _____
4. _____
5. _____
6. Letter of Intent No_____ dated_____.
7. _____

shall also form part of and govern this Agreement.

IN WITNESS HEREOF, the parties hereto have respectively set their signatures in the presence of

WITNESS

1.

2.

WITNESS

1.

2.

(CONTRACTOR)
(to be signed by a person holding
a valid Power of Attorney)

(For and on behalf of BHEL)

BANK GUARANTEE FOR SECURITY DEPOSIT

B.G. NO.

Date

This deed of Guarantee made this ----- day of -----two thousand ---- by <Name and Address of Bank> hereinafter called the "The Guarantor" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) in favour of M/s Bharat Heavy Electrical Limited (A Govt. of India Undertaking) a company incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its unit at Bharat Heavy Electricals Limited, Power Sector Western Region, Shree Mohini Complex, 345 Kingsway, Nagpur 440 001 hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns)

WHEREAS < Contractor's Name and Address> (hereinafter referred to as the Contractor) have entered into a contract arising out of Letter of Intent no. < LOI REF & Date > (hereinafter referred to as "the contract") for < Name of Work > with the company.

AND WHEREAS the contract inter-alia provides that the contractor shall furnish to the company a sum of Rs.----- (Rupees-----) towards security deposit for due and faithful performance of the contract in the form and manner specified therein.

AND WHEREAS the contractor has approached the Guarantor and in consideration of the arrangement arrived at between the contractor and the Guarantor, the Guarantor has agreed to give the Guarantee as hereinafter mentioned in favour of the company.

The Guarantor do hereby guarantee to the company the due and faithful performance, observance or discharge of the Contract by the contractor and further unconditionally and irrevocably undertake to pay to the Company without demur and merely on a demand, to the extent of Rs.----- (Rupees-----) against any claim by the company on them for any loss, damage, costs, charges and expenses caused to or suffered by the company by reasons of the contractor making any default in the performance, observance or discharge of the terms, conditions, stipulations or undertakings or any of them as contained in the contract.

The decision of the company whether any default has occurred or has been committed by the contractor in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them as contained in the contract and / or as to the extent of loss, damage, costs, charges and expenses caused to or suffered by the company by reason of the contractor making any default in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them shall be conclusive and binding on the Guarantor irrespective of the fact whether the contractor admits or denies the default or questions the correctness of any demand made by the company in any Court, Tribunal or Arbitration proceedings or before any other Authority.

The company shall have the fullest liberty without affecting in any way the liability of the Guarantor under this Guarantee, from time to time to vary any of the terms and conditions of the contract or extend time of performance by the contractor or to postpone for any time and from time to time any of the powers exercisable by it against the contractor and either enforce or forbear from enforcing any of the terms and conditions governing the contract or securities available to the company and the Guarantor shall not be released from its liability under these presents by any exercise by the company of the liberty with reference to the matters aforesaid or by reasons of time being given to the contractor or any other forbearance, act or commission on the part of the company or any indulgence by the company to the contractor or any other matter or thing whatsoever which under the law relating to sureties would, but for this provision have the effect of so releasing the Guarantor from its liability under this guarantee.

The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the contract and its claim satisfied or discharged and till the company certifies that the terms and conditions of the contract have been fully and properly carried out by the contractor and accordingly discharges this Guarantee, subject however, that the company shall have no claim under this Guarantee after ----- i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time, as the case may be) unless a notice of the claim under this Guarantee has been served on the Guarantor before the expiry of the said period in which case the same shall be enforceable against the Guarantor notwithstanding the fact that the same is enforced after the expiry of the said period.

BANK GUARANTEE FOR SECURITY DEPOSIT

The Guarantor undertakes not to revoke this Guarantee during the period it is in force except with the previous consent of the Company in writing and agrees that any liquidation or winding up or insolvency or dissolution or any change in the constitution of the contractor or the Guarantor shall not discharge the Guarantor's liability hereunder.

It shall not be necessary for the company to proceed against the contractor before proceeding against the Guarantor and the Guarantee herein contained shall be enforceable against them notwithstanding any security which the Company may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealized.

Notwithstanding anything contained herein before, our liability under the Guarantee is restricted to Rs.-----
- (Rupees-----). Our guarantee shall remain in force until -----, i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time) unless a claim or demand under this guarantee is made against us on or before ----- we shall be discharged from our liabilities under this Guarantee thereafter.

Any claim or dispute arising under the terms of this documents shall only be enforced or settled in the courts of at Nagpur only.

The Guarantor hereby declares that it has power to execute this guarantee and the executant has full powers to do so on behalf of the Guarantor.

IN WITNESS whereof the ----- (Bank) has hereunto set and subscribed its hand the day, month and year first, above written.

(Name of the Bank)

Signed for and on behalf of the Bank
(Designation of the Authorized Person Signing the Guarantee)

(Signatory No.-----)

DATED:

SEAL

=====

Notes :

1. The BG shall be executed on non-judicial stamp papers of adequate value procured in the name of the Bank in the State where the Bank is located.
2. The BG is required to be sent by the executing Bank directly to BHEL at the address where tender is submitted / accepted under sealed cover.

BANK GUARANTEE FOR INTEREST BEARING REFUNDABLE ADVANCE

B.G. No.

Date

This deed of Guarantee made this _____ day of _____ two thousand _____ by < **Name and Address of Bank** > hereinafter called the "The Guarantor" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) in favour of M/S Bharat Heavy Electricals Limited a Company incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, New Delhi - 110049 through its unit at Bharat Heavy Electricals Limited, Power Sector Western Region, Shree Mohini Complex, 345 Kingsway, Nagpur 440 001, hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns).

WHEREAS M/s. _____ (hereinafter referred to as the Contractor) have entered into a Contract arising out of Letter of Intent no. _____ dtd _____ (hereinafter referred to as "the Contract") for the < **Name of work** > with the Company.

AND WHEREAS the Contract inter-alia provides that the Company will pay to the Contractor interest bearing advance of Rs. _____ (Rupees _____ only) on certain terms and conditions specified in the Contract subject to the Contractor furnishing a Bank Guarantee for Rs. _____ (Rupees _____ only) in favour of the Company.

AND WHEREAS the Company has agreed to accept a Bank Guarantee from a Bank to cover the said advance.

AND WHEREAS the Contractor has approached the Guarantor and in consideration of the arrangement arrived at between the Contractor and the Guarantor, the Guarantor has agreed to give the Guarantee as hereinafter mentioned in favour of the Company.

NOW THIS DEED WITNESSES AS FOLLOWS:-

- (1) In consideration of the Company having agreed to advance a sum of Rs. _____ (Rupees _____ only) to the Contractor, the Guarantor do hereby guarantee the due recovery by the Company of the said advance with interest thereon as provided according to the terms and conditions of the Contract. If the said Contractor fails to utilise the said advance for the purpose of the Contract and /or the said advance together with interest as aforesaid is not fully recovered by the Company the Guarantor do hereby unconditionally and irrevocably undertake to pay to the Company without demur and merely on a demand, to the extent of the said sum of Rs. _____ (Rupees _____ only) any claim made by the Company on them for the loss or damage caused to or suffered by the Company by reasons of the Company not being able to recover in full the advance with interest as aforesaid.

BANK GUARANTEE FOR INTEREST BEARING REFUNDABLE ADVANCE

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- (2) The decision of the Company whether the Contractor has failed to utilise the said advance or any part thereof for the purpose of the Contract and / or as to the extent of loss or damage caused to or suffered by the Company by reason of the Company not being able to recover in full the said sum of Rs. _____ with interest if any shall be final and binding on the Guarantor, irrespective of the fact whether the Contractor admits or denies the default or questions the correctness of any demand made by the Company in any Court Tribunal or Arbitration proceedings or before any other Authority.
 - (3) The Company shall have the fullest liberty without affecting in any way the liability of the Guarantor under this Guarantee, from time to time to vary any of the terms and conditions of the Contract or extend time of performance by the Contractor or to postpone for any time and from time to time any of the powers exercisable by it against the Contractor and either enforce or forebear from enforcing any of the terms and conditions governing the Contract or securities available to the Company and the Guarantor shall not be released from its liability under these presents by any exercise by the Company of the liberty with reference to the matters aforesaid or by reasons of time being given to the Contractor or any other forbearance, act or commission on the part of the Company or any indulgence by the Company to the Contractor or of any other matter or thing whatsoever which under the law relating to sureties would, but for this provision have the effect of so releasing the Guarantor from its liability under this guarantee.
 - (4) The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period till the Company discharges this Guarantee, subject to however, that the Company shall have no claim under this Guarantee after _____ i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time, as the case may be) unless a notice of the claim under this Guarantee has been served on the Guarantor before the expiry of the said period in which case the same shall be enforceable against the Guarantor notwithstanding the fact that the same is enforced after the expiry of the said period.
 - (5) The Guarantor undertakes not to revoke this Guarantee during the period it is in force except with the previous consent of the Company in writing and agrees that any liquidation or winding up or insolvency or dissolution or any change in the constitution of the Contractor or the Guarantor shall not discharge the Guarantor's liability hereunder.
 - (6) It shall not be necessary for the Company to proceed against the Contractor before proceeding against the Guarantor and the Guarantee herein contained shall be enforceable against them notwithstanding any security which the Company may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealised.
 - (7) Notwithstanding anything contained herein before, our liability under the Guarantee is restricted to Rs. _____ (Rupees _____). Our guarantee shall remain in force until _____, i.e. the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time. Unless a claim or demand under this guarantee is made against us on or before-----, we shall be discharged from our liabilities under this Guarantee thereafter.

BANK GUARANTEE FOR INTEREST BEARING REFUNDABLE ADVANCE

- (8) Any claim or dispute arising under the terms of this document shall only be enforced or settled in the courts at Nagpur only.
- (9) The Guarantor hereby declares that it has power to execute this Guarantee under its Memorandum and Articles of Association and the executant has full powers to do so on its behalf under the Power of Attorney dated_____ (To be incorporated by the Bank) granted to him by the proper authorities of the Guarantor.

IN WITNESS whereof the _____(Bank) has hereunto set and subscribed its hand the day, month and year first, above written.

(Name of the Bank)

Signed for and on behalf of the Bank
(Designation of the Authorized Person Signing the Guarantee)

(Signatory No.-----)

DATED:

SEAL

=====

Notes :

1. The BG shall be executed on non-judicial stamp papers of adequate value procured in the name of the Bank in the State where the Bank is located.
2. The BG is required to be sent by the executing Bank directly to BHEL at the address where tender is submitted / accepted, under sealed cover.

FORM for EXTENSION OF VALIDITY OF BANK GUARANTEE

1. To be typed on non judicial Stamp Papers of value as applicable in the State of India from where the BG has been issued or the State of India where the BG shall be operated
2. The non judicial stamp papers shall be purchased in the name of the Party on whose behalf the BG is being issued or the BG issuing Bank

BANK GUARANTEE No:

Date:.....

To

(Write Designation and Address of Officer of BHEL inviting the Tender)

Dear Sir

Sub : Validity of Bank Guarantee No:..... Dated for
 Rs in favour of yourself, expiry date
, on account of M/s in respect of
 Contract Number....., (herein after called the Original bank Guarantee)

At the request of M/s....., we Bank,
 having its branch Office at and having Head office
 at, do hereby extend our liability under the above mentioned Bank Guarantee
 number..... dated for a further period ofMonths/years
 from to expire on

Except as provided above, all other terms and conditions of the Original Bank Guarantee No
 Dated..... shall remain unaltered and binding on us.

Kindly treat this extension as an integral part of the original Bank Guarantee to which it
 would be attached.

Yours faithfully

Signature.....

Name & Designation.....

Power of Attorney/Signing Power No

Seal of Bank



PS- R

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 1 of 4

Name of Site		Contract No.	
		Name of Contractor	
Review for the month of		Brief Scope of work	
Date of Review			

PART- A PHYSICAL REVIEW

Sl.No	Description of work	Unit of Measurement	Original Plan (QTY Planned for the month as per joint review of previous month)	Last months shortfall (attributable to Contractor)	Total Planned for the month (including previous month backlog attributable to Contractor)	Achieved	Shortfall attributable to (in Qty)		REMARKS
			(a)	(b)	C=(a)+(b)		BHEL	Contractor	
		UOM	Phy.	Phy	Phy	Phy.	Phy.	Phy.	

Use separate sheets if necessary

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS- R

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 2 of 4

CONTRACT NO:

CONTRACTOR:

PART – B-1 REVIEW OF DEPLOYMENT OF MAJOR T&Ps

SUPPLIER SCOPE:-

SN.	MAJOR T&P TO BE DEPLOYED AS PER WORK PLANNED FOR THE MONTH	QTY.	DEPLOYMENT STATUS (ACTUAL DEPLOYED)	REMARKS (WORKS EFFECTED DUE TO NON- DEPLOYMENT OF T&Ps

BHEL SCOPE:-

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS- R

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 3 of 4

CONTRACT NO:

CONTRACTOR:

PART – B-2 REVIEW OF DEPLOYMENT OF MANPOWER

SUPPLIER SCOPE:-

SNO.	AREA OF WORK	CATEGORY OF LABOUR	NO. OF LABOUR REQUIRED AS PER CATEGORY	DEPLOYED FOR THE PERIOD	REMARKS (WORKS AFFECTED DUE TO NON- AVAILABILITY OF LABOUR)

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS- R

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 4 of 4

CONTRACT No.:**Date of Report:****PART C1 : PLAN FOR THE NEXT MONTH (PHYSICAL)**

SL NO.	DESCRIPTION OF WORK (Area Wise)	PLANNED MT/ % / QTY (EXCLUDING SHORTFALLS ATTRIBUTABLE TO CONTRACTOR TILL DATE)	T&Ps REQUIRED	MANPOWER REQUIRED	REMARKS

NOTE: USE SEPARATE SHEETS, IF REQUIRED

**PART C2: PLAN FOR THE NEXT MONTH
(OTHERS)**

SL NO.	DESCRIPTION OF WORK (Area Wise)	PLANNED MT/ % / QTY	T&Ps REQUIRED	MANPOWER REQUIRED	REMARKS

NOTE: USE SEPARATE SHEETS, IF REQUIRED

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)

 PS- R	MONTHLY PLAN & REVIEW WITH CONTRACTOR	Page 5 of 4
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BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 1 of 8

Project		Vendor				Package & Unit	
SL	Parameter for Measurement	Classification	Max Score	Score Obtained		Measurement Key/Scheduled date	Supporting Documents`
#1.01	Cumulative number of days in the month, the nominated Quality Officer or his authorised nominee was not available	QUALITY	0.35			Quality Officer or his authorised nominee should be available for all the days	Daily Log Book entry/Incident Registers/letter references
#1.02	Shortfall in number of weekly Quality meetings in the month, not conducted or not attended by Quality officer or his authorised nominee	QUALITY	0.7			Quality meetings to be held every week	Daily Log Book entry/Incident Registers/letter references
#1.03	Level of compliance wrt decisions taken in previous Quality meetings	QUALITY	0.35			Number of consolidated issues discussed in Quality meetings	Daily Log Book entry/Incident Registers/letter references
#1.04	Number of batches of welding electrodes, cement, sand , aggregate, consumable, Paints etc as applicable for which test certificates not submitted OR MM & MH pkg:) In case of MM & MH package, monthly checks	QUALITY	0.375			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#1.05	Number of incidences of improper storage of inflammable gases and liquids, fuel etc	QUALITY	0.35			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#1.06	Total number of complaints in the month on non-preservation of materials under the custody of the contractor / erected in his scope.	QUALITY	0.35			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#1.07	Cumulative number of days in the month delayed due to poor organisation/planning of works at site.	QUALITY	0.625			Cumulative number of days delayed	Daily Log Book entry/Incident Registers/letter references
#1.08	Total number of rework instances in a month necessitated due to improper works/procedures by contractor	QUALITY	0.625			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#1.09	Total number of complaints received in the month on the quality of finish / aesthetics	QUALITY	0.65			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#1.10	Total number of instances in the month, House keeping NOT attended to inspite of instructions by BHEL -ie removal / disposal of surplus earth / debris / scrap / unused / surplus cable drums / other electrical items / surplus steel items / packing materials, thrown out scrap like weld butts, cotton waste etc from the working area to identified locations	QUALITY	0.625			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 2 of 8

Project		Vendor				Package & Unit	
SL	Parameter for Measurement	Classification	Max Score	Score Obtained		Measurement Key/Scheduled date	Supporting Documents`
#2.01	Number of times the workplan submitted FOR THE NEXT MONTH is REJECTED for not being supported with proper T&P (major) and Manpower.	PERFORMAN CE	3.47			Number of rejections	Daily Log Book entry/Incident Registers/letter references
#2.02	Number of times the Work plan (unloading and storage plans in case of MM & MH packages) is not supported by relevant construction/layout drawings - like A4 plan / elevation views of plan status for structures / pressure parts/Civil Works, Piping isometrics for piping, Layout / PID / System reference sketch, Unloading/storage plans etc as applicable for the works planned	PERFORMAN CE	3.47			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#2.03	Cumulative number of days of delay in submission of plan FOR THE NEXT MONTH supported by deployment plan of Major T&Ps and Manpower (as per C-1 & C-2 of Format F-14)	PERFORMAN CE	1.73			Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#2.04	Percentage of delayed submission of Daily Reports for Progress, Labour etc	PERFORMAN CE	1.87			Percentage of daily reports delayed/Scheduled date is each day for the previous day	Daily Log Book entry/Incident Registers/letter references
#2.05	Number of days delayed for submission of log sheets / protocols / Monthly Progress reports for the work executed during the month under measurement	PERFORMAN CE	0.93			Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#2.06	Shortfall attributable to contractor as a percentage of what is clearly executable (In line with Terms of payment) by contractor as per the plan (part-A of F-14) for the subject month	PERFORMAN CE	20.67			Percentage calculated as per part-A of F-14	Progress review formats
#2.07	Cumulative number of days in the month for which feedback/briefing on plans for the day and the progress of previous day was not given to BHEL	PERFORMAN CE	2.67			Cumulative number of days for which briefing or feedback not given/each day for the previous day	Daily Log Book entry/Incident Registers/letter references
#2.08	Cumulative number of major instances in the month hampering/affecting progress of work due to improper management of labour and T&P at site leading to slowed progress of work or extended the completion of works	PERFORMAN CE	3.47			Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 3 of 8

Project		Vendor				Package & Unit	
SL	Parameter for Measurement	Classification	Max Score	Score Obtained		Measurement Key/Scheduled date	Supporting Documents`
#2.09	Cumulative number of days of work lost due to interface issues with fellow contractors/ customers leading to stoppage / delay in works, attributable to the contractor	PERFORMAN CE	1.73			Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#2.10	Number of times the commitments on augmentation of resources as per plan for the month have slipped	PERFORMAN CE	3.47			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#2.11	Number of days the submission of Running bills for the month are delayed	PERFORMAN CE	0.93			Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#2.12	Number of days the supporting documents for the Running bills submitted for the month are delayed	PERFORMAN CE	0.93			Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#2.13	Number of times updations were not carried out in maintainance of records in PC in a form approved by BHEL at site (as applicable for respective packages).	PERFORMAN CE	1.33			Cumulative number of days updation not carried out/	Daily Log Book entry/Incident Registers/letter references
#2.14	Number of times the Top Management of contractor did not respond to critical issues of site, for the month	PERFORMAN CE	3.47			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#2.15	Number of refusals for improvement/remedial measures suggested by BHEL	PERFORMAN CE	0.67			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#2.16	Cumulative number of days in the month the works were stopped / refused on interpretation of contract clauses/scope due to tendency of taking undue advantage by interpreting contract clauses in their favour	PERFORMAN CE	2.67			Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#2.17	Number of times rework refused	PERFORMAN CE	1.73			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#2.18	Cumulative number of days in the month recording/logging was not done in daily log/ history register / hindrance register maintained at BHEL Site Office	PERFORMAN CE	1.33			Cumulative number of days recording or logging was not done/all days of the month	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

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Project		Vendor				Package & Unit	
SL	Parameter for Measurement	Classification	Max Score	Score Obtained		Measurement Key/Scheduled date	Supporting Documents`
#2.19	Erection Agency: Cumulative number of major instances in the month hampering/affecting progress of work due to delayed or non-deployment of separate gang for material handling works OR MM Agency: Cumulative number of major instances in the month hampering/affecting erection work due to not identifying or not locating or not retrieving of materials required by erection agency	PERFORMANCE	3.47			Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#3.01	Number of days of delay in submission of PLAN vis a vis ACTUAL deployment of Manpower for the month under review (as per part B-2 of F-014)	RESOURCES	1.5			Number of days delayed/ Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#3.02	Number of days of non-availability of supporting staff at office for submission of required reports/documentation as required for the contract	RESOURCES	1.5			Cumulative number of days supporting staff not available	Daily Log Book entry/Incident Registers/letter references
#3.03	Number of days of delay in submission of PLAN vs ACTUAL deployment of major T&P for the month under review (as per B-1 of F-14)	RESOURCES	2.5			Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#3.04	Cumulative number of major instances in the month hampering/affecting progress of work due to non availability of operator / fuel in contractor's scope for Major T&P and MME	RESOURCES	2.5			Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#3.05	Cumulative number of major instances in the month hampering/affecting progress of work due to breakdown or non availability of major T&P and MME for the work	RESOURCES	2.5			Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#3.06	Cumulative number of major instances in the month hampering/affecting progress of work due to non-availability of proper T&P/MME (number, capacity adequacy, and working condition) under the scope of contractor	RESOURCES	2.5			Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#3.07	Number of times Contractor's T&P (items common to BHEL and Contractor) was NOT made available before requesting for the same T&P from BHEL	RESOURCES	2.5			Total number of requests from contractor	Daily Log Book entry/Incident Registers/letter references
#3.08	Cumulative number of major instances in the month hampering/affecting progress of work due to non-availability of Consumables under the scope of contractor	RESOURCES	2.5			Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 5 of 8

Project		Vendor				Package & Unit	
SL	Parameter for Measurement	Classification	Max Score	Score Obtained		Measurement Key/Scheduled date	Supporting Documents`
#3.09	Cumulative number of days in the month lost due to use of improper consumables like electrodes, gases, Cement, sand, etc as applicable	RESOURCES	2			Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#4.01	Number of deviations from the site organisation report submitted initially wrt deployment for the current month affecting work progress.	SITE INFRASTRUC TURE & SERVICE	0.94			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#4.02	Cumulative number of days in the month lost due to delayed renewal in respect of Labour license, Insurance, electrical licence, factory inspector etc as applicable	SITE INFRASTRUC TURE & SERVICE	0.94			Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#4.03	Number of non-compliances of Statutory requirements like validity of Labour Licence, Labour Insurance, PF, etc and any other applicable Regulation	SITE INFRASTRUC TURE & SERVICE	0.5			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#4.04	Cumulative number of days in a month poor illumination is reported at storage area, erection area, pre-assy area and other designated areas by BHEL site.	SITE INFRASTRUC TURE & SERVICE	0.44			Total number of non compliances/random checks	Daily Log Book entry/Incident Registers/letter references
#4.05	Number of days of non-availability of well maintained toilets facilities for workers (separate for men and women)	SITE INFRASTRUC TURE & SERVICE	0.44			Total number of non compliances/random checks	Daily Log Book entry/Incident Registers/letter references
#4.06	Number of days of non-availability of potable drinking water stations for workers in specified areas.	SITE INFRASTRUC TURE & SERVICE	0.44			Total number of non compliances/random checks	Daily Log Book entry/Incident Registers/letter references
#4.07	If applicable as per contract, Provision of Water meter for each point of distribution and cumulative number of days of non-submission of water consumption / non-working of water meter	SITE INFRASTRUC TURE & SERVICE	0.44			Total number of non compliances/random checks	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 6 of 8

Project		Vendor				Package & Unit	
SL	Parameter for Measurement	Classification	Max Score	Score Obtained		Measurement Key/Scheduled date	Supporting Documents`
#4.08	Provision of Energy meter for each point of distribution and cumulative number of days of non-submission of energy consumption / non-working of energy meter	SITE INFRASTRUCTURE & SERVICE	0.44			Total number of non compliances/random checks	Daily Log Book entry/Incident Registers/letter references
#4.09	Commitment of Top Management of Contractor for welfare of labour	SITE INFRASTRUCTURE & SERVICE	0.44			Percentage of welfare activities done	Daily Log Book entry/Incident Registers/letter references
#5.01	Number of days delayed in making labour payments of the last month	SITE FINANCE	2.14			Number of days delayed/Scheduled date is 10th day of the month succeeding the month under reference	Daily Log Book entry/Incident Registers/letter references
#5.02	Number of complaints from sub supplier for non receipt of payments	SITE FINANCE	1.43			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#5.03	Number of times the site operations are hampered for want of funds at the disposal of site-in-charge.	SITE FINANCE	1.43			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#6.01	Cumulative number of days in a month the nominated Safety Officer or his authorised nominee is not available	HSE & SA	0.5			Safety Officer or his authorised nominee should be available for all the days	Daily Log Book entry/Incident Registers/letter references
#6.02	Shortfall in number of weekly safety meetings in the month conducted or attended by the Safety Officer or his authorised nominee	HSE & SA	0.25			Safety meetings to be held every week	Copy of Minutes of meeting
#6.03	Level of compliance wrt decisions taken in previous Safety meetings	HSE & SA	0.25			Number of consolidated issues discussed in Safety meetings	Daily Log Book entry/Incident Registers/letter references
#6.04	Delay in submission of monthly report on safety in the prescribed form	HSE & SA	0.25			Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#6.05	Number of days taken for lodging FIRs from date of occurrence/notice of incident of theft / accident etc	HSE & SA	0.25			Number of days delayed/Scheduled date is the next date of occurrence/notice of incidence	Copy of FIR lodged by Contractor

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 7 of 8

Project		Vendor				Package & Unit	
SL	Parameter for Measurement	Classification	Max Score	Score Obtained		Measurement Key/Scheduled date	Supporting Documents`
#6.06	Number of times warnings issued for using scaffoldings other than steel	HSE & SA	0.25			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#6.07	Number of times punitive fines imposed for not complying with use of PPE	HSE & SA	0.375			Total number of non compliances	Non-compliance intimation documents from BHEL site
#6.08	Number of times punitive fines imposed for unsafe practices	HSE & SA	0.345			Total number of non compliances	Copy of fine intimation documents from BHEL site
#6.09	Delay in number of days in submission of monthly report on provisions, maintainance and validity of fire extinguishers	HSE & SA	0.25			Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#6.10	Delay in number of days in submission of monthly report on provisions and maintenance of Electrical Safety for Equipments	HSE & SA	0.25			Number of days delayed/Scheduled date is first working day of next month	copy of report
#6.11	Delay in number of days in submission of monthly report on provisions and maintainance of proper ELCBs for Electrical Safety of Personnel.	HSE & SA	0.25			Number of days delayed/Scheduled date is first working day of next month	copy of report
#6.12	Number of times the agency has defaulted on display of safety posters / safety slogans / safety barriers/emergency numbers etc in identified areas	HSE & SA	0.25			Total number of non compliances	Non-compliance intimation documents from BHEL site
#6.13	Non compliances observed during HSE and Safety Audit	HSE & SA	0.25			Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#6.14	Cumulative number of days in the month, First Aid Kits were not maintained at designated places at site	HSE & SA	0.25			Cumulative number of days	Non-compliance intimation documents from BHEL site
#6.15	Cumulative number of days in the month, there was non-availability of Ambulance or Emergency vehicle (whichever applicable) at Site.	HSE & SA	0.25			Cumulative number of days Ambulance or Emergency vehicle not available	Daily Log Book entry/Incident Registers/letter references
#6.16	Number of days taken for submission of Root Cause analysis (RCA) for the accident /theft/ incidence from the cut off date intimated by BHEL for submission of RCA NOTE: Occurrences of last month to be accounted for in the evaluating month)	HSE & SA	0.25			Number of days delayed/Scheduled date is 7th day of occurrence or notice of incidence NOTE: Occurrences of last month to be accounted for in the evaluating month)	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 8 of 8

Project		Vendor				Package & Unit	
SL	Parameter for Measurement	Classification	Max Score	Score Obtained		Measurement Key/Scheduled date	Supporting Documents`
#6.17	Cumulative number of days in the month Women labour were deployed for office or site works during night hours (anytime between 18.00 hrs to 08.00 hrs)	HSE & SA	0.25			Cumulative number of days	Daily Log Book entry/Incident Registers/letter references
#6.18	Cumulative number of days in the month children under the age of 18 years were deployed for office or site works	HSE & SA	0.25			Cumulative number of days	Daily Log Book entry/Incident Registers/letter references

A

Performance Score Summary for the Month	Total score	Score Obtained
QUALITY	5	
PERFORMANCE	60	
RESOURCES	20	
SITE INFRASTRUCTURE & SERVICE	5	
SITE FINANCE	5	
HSE & SA	5	
OTHERS	0	
TOTAL	100	0

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MILESTONE COMPLETION CERTIFICATE
(issued by BHEL on the specific request of Contractor)

Ref :

Date:

To,

(Name & address of Contractor)

Dear Sir,

References

1. Contract No:
2. Job Description:

This is to hereby confirm that the following Milestone Activity has been achieved in respect of the Contract /Job under reference

Sl No	Milestone Activity	Remarks

This certificate is issued as per your request vide letter no
without any prejudice to the rights of BHEL in line with the terms and conditions of the
above referred Contract

Yours faithfully,

For and on behalf of Bharat Heavy Electricals Limited

Construction Manager/Head (Subcontracts)

CONTRACT COMPLETION CERTIFICATE
(Issued by BHEL/HQ on the specific request of Contractor)

Ref :

Date:

To Whom so ever it may concern

1	DESCRIPTION OF WORK	
2	NAME AND ADDRESS OF THE CONTRACTOR	
3	CONTRACT NO	
4	CONTRACT VALUE	
5	LETTER OF INTENT NO & DATE	
6	CONTRACT PERIOD//CONTRACT DURATION	
7	DATE OF START/COMPLETION	
8	FINAL EXECUTED VALUE	
9	PERFORMANCE	GOOD SATISFACTORY UNSATISFACTORY

This certificate is issued as per your request vide letter no
without any prejudice to the rights of BHEL to use this certificate for evaluation of your offers for future tenders

Yours faithfully,

For and on behalf of Bharat Heavy Electricals Limited

Head (Subcontracts)

INDEMNITY BOND

(To be executed on a Non Judicial Stamp Paper of the requisite value as per Stamp Duty prevalent in the respective State)

 This Indemnity Bond executed by <name of company> having their Registered Office at <xxxxxxxxxx> in favour of M/s Bharat Heavy Electricals Limited, a Company incorporated under the Companies Act, 1956, having its Registered Office at BHEL House, Siri Fort, Asiad, New Delhi - 110049 through its Unit at Power Sector-_____ Region, _____, _____ State. (Hereinafter referred to as the Company)

And whereas the Company has entered into a Contract with M/s xxxxxxxxx, the executants of this Deed (hereinafter referred to as the Contractor) as its contractor in respect of the work of "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx".

AND WHEREAS under the provisions of GCC further stipulates that the Contractor shall indemnify the Company against all claims of whatever nature arising during the course of execution of Contract including defects liability period of <xx Months > i.e till <xx xx xxxx>

Now this deed witness that in case the Company is made liable by any Authority including Court to pay any claim or compensation etc. in respect of all labourers or other matters at any stage under or relating to the Contract with the Contractor, the Contractor hereby covenants and agrees with the Company that they shall indemnify and reimburse the Company to the extent of such payments and for any fee, including litigation charges, lawyers' fees, etc, penalty or damages claimed against the Company by reason of the Contractor falling to comply with Central/States Laws, Rules etc, or his failure to comply with Contract (including all expenses and charges incurred by the Company).

The Contractor further indemnifies the Company for the amount which the Company may be liable to pay by way of penalty for not making deductions from the Bills of the Contractor towards such amount and depositing the same in the Government Treasury.

INDEMNITY BOND

(To be executed on a Non Judicial Stamp Paper of the requisite value as per Stamp Duty prevalent in the respective State)

The Contractor further agree that the Company shall be entitled to with hold and adjust the Security Deposit and/or with hold and adjust payment of Bills of Contractor pertaining to this Contract against any payment which the Company has made or is required to make for which the Contractor is liable under the Contract and that such amount can be withheld, adjusted by the Company till satisfactory and final settlement of all pending matters and the Contractor hereby gives his consent for the same.

The Contractor further agrees that the terms of indemnity shall survive the termination or completion of this contract.

The contractor further agrees that the liability of the contractor shall be extended on actual basis notwithstanding the limitations of liability clause, in respect of :

1. breach of terms of contract by the contractor
2. breach of laws by the contractor
3. breach of Intellectual property rights by the contractor
4. breach of confidentiality by the contractor

Nothing contained in this deed, shall be construed as absolving or limiting the liability of the Contractor under said Contract between the Company and the Contractor. That this Indemnity Bond is irrevocable and the condition of the bond is that the Contractor shall duly and punctually comply with the terms and the conditions of this deed and contractual provisions to the satisfaction of the Company.

In witness where of M/s xxxxxxxxxxxxxx these presents on the day, month and year first, above written at xxxxxxxx by the hand of its signatory Mr. xxxxxxxxxxxx.

Signed for and on behalf of
M/s xxxxxxxxxxxxxxxx

Witness:

1
2

CONSORTIUM AGREEMENT

(To be executed on Rs. 50/- Non – Judicial Stamp Paper)

THIS AGREEMENT is made and executed on this _____ day of _____, by and between (1) M/s _____, (The First Party, i.e, the Bidder) a company incorporated under the Company's Act 1956, having its registered office at _____(herein after called the "Bidder", which expression shall include its' successors, administrators, executors and permitted assigns) and (2) M/s _____, (The Second Party, i.e, the associates), a company incorporated under the Company's Act 1956, having its registered office at _____ (herein after called the " Associates", which expression shall include its' successors, administrators, executors and permitted assigns).

WHEAEAS the Owner, Bharat Heavy Electricals Ltd, a Government of India Undertaking, proposes to issue / issued an NIT (herein after referred to as the said NIT) inviting bids from the individual Bidders for undertaking the work of _____, at _____ (herein after referred to as the said works).

WHEREAS the said NIT enables submission of a bid by a Consortium subject to fulfillment of the stipulations specified in the said NIT.

AND WHEREAS M/s _____ (The First Party, i.e, the Bidder) will submit its proposal in response to the aforesaid invitation to bid by the Owner for _____ as detailed in the Bid doc. no. < TENDER REF----->

AND WHEREAS M/s _____ (The First Party, i.e the Bidder) itself is meeting all the qualifying requirements except the qualifying requirements of _____ (as detailed in the NIT) and in order to fully meet the qualifying requirements of NIT, this tie-up agreement is being entered into with M/s _____ (The Second Party, the Associates) , who fully meet the balance part of the said works (_____).

WHEREAS the First Party and the Second Party are contractors engaged in the business of carrying out various items of works. WHEREAS the two parties have agreed to constitute themselves into a consortium for the purpose of carrying out the said works, and that the consortium will be continued till the completion of the works in all respects.

WHEREAS the parties have agreed to certain terms and conditions in this regard:

CONSORTIUM AGREEMENT

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS :

1. First and Second parties hereby constitute themselves into a Consortium for the purpose of bidding and undertaking the said works pursuant to the said NIT as hereinafter stated.
2. The First Party will be the leader (Lead Partner) and will be responsible for the entire works.

CONSORTIUM AGREEMENT

3. The First Party shall undertake the following part(s) of work detailed in the NIT namely _____

4. The Second Party shall undertake the following part(s) of work detailed in the said NIT namely _____

5. The parties hereby declare and confirm that each of them will fulfill the required minimum qualifying requirements as prescribed in the said NIT for the works agreed to be undertaken by them as stated here-in-above.
6. It is also agreed between the parties hereto that all of them shall be individually and severally responsible for the completion of the said works as per the schedule. Further, if the Employer/Owner sustains any loss or damage on account of any breach of the Contracts, we the, Consortium partners individually and severally undertake to promptly indemnify and pay such losses / damages caused to the Employer/Owner on its written demand without any demur, reservation, contest or protest in any manner whatsoever.
7. The parties hereby agree and undertake that they shall provide adequate finances, suitable Tools, Plants, Tractors, Trailers, other transportation equipment, other Tools & Plants, Measuring & Monitoring Equipments (MMEs), Men and Machinery etc. for the proper and effective execution of the works to be undertaken by them as specified here-in-above.
8. It is agreed interse between the parties hereto that all the consequences liabilities etc., arising out of any default in the due execution of the said works shall be borne by the party in default, that is by party in whose area of works default has occurred, provided however, so far as M/s Bharat Heavy Electricals Limited is concerned, all the parties shall be liable jointly and severally.

CONSORTIUM AGREEMENT

IN WITNESS HEREOF the parties above named have signed this agreement on the day month and year first above written at _____(Place) .

WITNESS

For

- 1. NAME
- 2. OFFICIAL ADDRESS

(FIRST PARTY)

WITNESS

For

- 1. NAME
- 2. OFFICIAL ADDRESS

(SECOND PARTY)

[The successful bidder shall have to execute the " JOINT DEED OF UNDERTAKING " in the format to be made available by BHEL at the time of awarding].

REFUND OF SECURITY DEPOSIT

To,

The Construction Manager
BHEL Site Office

Dear Sir,

Sub : **Refund of Security Deposit**

Ref : Contract No:

Work:.....

I/We have submitted Final Bill in respect of the above Contract/Work vide our letter no:.....
dated In line with Tender conditions (GCC clause no 1.11), kindly arrange to
release/refund the Security Deposit along with Final Bill payments.

The details of Security Deposit are as below:

1. Cash Portion :
2. BG Portion :

Thanking You

Date: _____

Authorised representative of Contractor

To be filled up by BHEL

1. Security Deposit to be refunded:
 - a. Cash Portion:
 - b. BG Portion :
2. Less
 - a. Amount spent by BHEL on behalf of Contractor:
 - b. Payments made by BHEL on behalf of Contractor:
 - c. Other recoveries for Services etc
 - d. Any other recoveries
 - e. Total of 'a' to 'd':
3. Net Amount to be released (1-2) :
4. Certified that
 - a. The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the Contractor
 - b. Contract Guarantee period of Months commenced wef : _____
 - c. All objections raised so far have been settled
 - d. A note for refund of Security Deposit has been made in the Measurement Book

Signature of BHEL Engineer

Construction Manager

Date:-----

REFUND OF GUARANTEE MONEY

BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR, _____ REGION

Ref No:

Date:

1. Name and Address of Contractor :
2. Contract Agreement/LOI No :
3. Date of Contract Agreement/LOI :
4. Name of the Work undertaken :
5. Date of commencement of the Work :
6. Date of Completion of the Work :
7. Period of Maintenance :
(Guarantee Period)
8. Date on which the Final Bill was paid :
9. Last date of making good the defect :
during Maintenance Period
10. Expenditure incurred by BHEL during :
Maintenance Period, if any, recoverable
11. Date on which Guarantee Money refund:
falls due as per Contract
12. Amount of Guarantee Money to be refunded:
13. Less Amounts recoverable (with details)
 - a. Amount spent by BHEL on maintenance :
 - b. Payments made by BHEL on behalf of Contractor:
 - c. Court dues/penalties/compensation :
 - d. Other recoveries for Services, etc :
 - e. Total of 'a' to 'd' :
14. Net Amount recommended for release (12-13) :

Signature of BHEL Engineer

Date: _____

REFUND OF GUARANTEE MONEY

BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR, _____ REGION

CERTIFICATE TO BE FURNISHED BY THE CONTRACTOR

I/We have no claim or demand outstanding against BHEL _____, for the work done or for labour or material supplied or any other account arising out of or connected with the Contract Agreement/LOI (No _____ dated _____) and the payment of this bill shall be in full and final settlement of all my/our claims and demands including the 'Deposits' of the Contract Agreement/LOI referred to.

Signature of Contractor

Date:

CERTIFICATE TO BE FURNISHED BY SENIOR ENGINEER/CONSTRUCTION MANAGER

1. Certified that
 - a. The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the Contractor
 - b. Maintenance period (Contract Guarantee period) is over and the Contractor has carried out the works required to be carried out by him during the period of maintenance (Guarantee) to our satisfaction, and all expenses incurred by the Company on carrying out such works have been included for adjustment
 - c. All objections raised so far have been settled
 - d. A note for refund of Guarantee Amount has been made in the Measurement Book and Contract Agreement/Work Order

Signature of BHEL Engineer

Construction Manager

Date:-----

FOR USE IN ACCOUNTS DEPARTMENT

Passed for Rs _____ (Rupees _____ only)

Accountant

Accounts Officer

ACKNOWLEDGE BY THE CONTRACTOR

Received Rs _____ in full and final settlement of my/our claim

Signature of Contractor

Date:

POWER OF ATTORNEY for SUBMISSION OF TENDER/SIGNING CONTRACT AGREEMENT

(To be typed on non judicial Stamp Papers of appropriate value as applicable and Notarised)

KNOW ALL MEN BY THESE PRESENTS, that I/We do hereby make, nominate, constitute and appoint Mr , whose signature given below herewith to be true and lawful Attorney of M/s..... hereinafter called 'Company', for submitting Tender/entering into Contract and inter alia, sign, execute all papers and to do necessary lawful acts on behalf of Company with M/s Bharat Heavy Electricals Ltd, Power Sector _____ Region, _____, in connection with
.....
.....
..... vide Tender Specification No : _____, dated _____.

And the Company do hereby agree to ratify and confirm all acts, deeds, things or proceedings as may be lawfully done by the said attorney and by or on behalf of the company and in the name of the company, by virtue of the powers conferred herein and the same shall be binding on the company and shall have full force and effect.

IN WITNESS WHEREOF the common seal of the company has been hereunto affixed in the manner hereinafter appearing on the document.

Dated at _____, this _____ day of _____

Director/CMD/Partner/Proprietor

Signature of Mr.....(Attorney)

Attested by: Director/CMD/Partner/Proprietor

Witness

Notary Public

ANALYSIS OF UNIT RATES QUOTED

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

Offer Reference No:.....

Date:.....

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : Analysis of Unit Rates Quoted

Ref : Tender Specification No:

Analysis of Unit Rates quoted by us in respect of above Tender is as detailed

SN	DESCRIPTION	% OF QUOTED RATE	REMARKS
01	SITE FACILITIES VIZ., ELECTRICITY, WATER OTHER INFRASTRUCTURE.		
02	SALARY AND WAGES + RETRENCHMENT BENEFITS		
03	CONSUMABLES		
04	T&P DEPRECIATION & MAINTENANCE		
05	ESTABLISHMENT & ADMINISTRATIVE EXPENSES		
06	OVERHEADS		
07	PROFIT		
	TOTAL	100%	

Yours faithfully,

(Signature, Date & Seal of Authorized Representative of the Bidder)

BHARAT HEAVY ELECTRICALS LIMITED

DIVISION.....

Running Account Bill

(Para 4.31.1 of Works Accounts Manual)

Name of the Contractor:

Name of the Work:

Sanctioned Estimate:

Code No:

Contract Agreement No :

Dated:

Departmental Bill no:

Division:

Date of written order to commence the work :

Date of commencement of the Work:

Due date of completion as per Agreement:

Date:

Sub-Division:

1. ACCOUNT OF WORK EXECUTED

On account payment for work not previously previously measured**			Item No of	Description of Work	Quantity as per agree- ment	Quantity executed up to date	Rate	Unit	Payment on the basis of actual measure- ment up to date	Quantity since last running account bill	Payment on the basis of actual measurement since last running account bill	Remarks
Total	since last	Total										
As per	running	up to										
Running	account	date										
Account	bill											
bill												
Rs.	Rs.	Rs.					Rs.	P.	Rs.	P.	Rs.	P.
1	2	3	4	5	6	7	8	9	10	11	12	13

* *1. Whenever payment is made on 'on account' basis without actual measurements the amount in whole rupees should be entered in columns 1 to 3 only and not in columns 7 to 12.

2. whenever there is an entry in column 12 on the basis of actual measurement, the whole of the amount previously paid without detailed measurement should be adjusted by a minus entry in column 2 equivalent to the amount shown in column 1, so that the total up to date in column 4 may become nil.

Form WAM 6 (contd...)

1	2	3	4	5	6	7	8	9	10	11	12	13
---	---	---	---	---	---	---	---	---	----	----	----	----

Total value of work done up to date (A) ...

Deduct value of work shown on the last
Running Account Bill (B) ...

Net value of work done since last (C) ...

Rupees (in words)only.

II.MEMORANDUM OF PAYMENTS

		I		II	
		Rs.	P.	Rs.	P.
1.Total value of work actually measured as per Account No. I. Column 10	(A)	.....		.....	
2.Total up to date 'on account' payment for work covered by approximate Or plan measurements as per Account No. I, Column 3	(B)	.....		.....	
3.Total up to date secured advances on security of materials as per column 8 Of the enclosed Account (Form WAM 10)	(C)	.....		.....	
4.Total up to date payments [(A) + (B) + (C)]	(D)	.....		.....	
5.Total amount of payments already made as per Entry (D) of last Running Account Bill No..... Dated.....forwarde to the Accounts Office on	(E)				
6.Balance [(D)-(E)]		.....			
7.Payments now to be made:					
a) by cash/cheque			.....		
b) by deduction for value of materials supplied			.....		
c) by BHEL vide Annexure A attached			.....		
d) by deduction for hire of tools and plant vide Annexure B attached			.....		
e) by deduction for other charges vide Annexure C Attached			.....		
f)by deduction on account of security deposit			.....		
h) by deduction on account of Income Tax			.....		.....

Note: Amounts relating to items 4 to 6 above should be entered in column II and those relating to item 7 in column I. The amount shown against item 6 and the total of item 7 should agree with each other.

III.CERTIFICATE OF THE ENGINEER IN CHARGE

Form WAM 6 (contd...)

1. The measurements on which the entries in column 7 to 12 of Part I of this Bill (Account of work executed) are based were made by.....and are recorded at pages.....of

(Name and Designation)

Measurement Book No

2. Certified that the methods of measurement are correct and the work has been carried out in accordance with the terms and conditions, schedules, specifications and drawings etc, forming part of the contract agreement, subject to deviations included in the deviation statement (Annexure D).
3. Certified that in addition to and quite apart from the quantities of work actually executed as shown in column 10 of Part I, some work has actually been done in connection with several items and the value of the such work is, in no case, less than 'on account' payments as per column 3 of Part I, made or proposed to be made, for the convenience of the contractor in anticipation of, and subject to the results of, detailed measurement which will be made as soon as possible.

Signature of Contractor

Date:

Signature of Engineer in charge

Designation:

Date:

IV. CERTIFICATE OF THE SENIOR ENGINEER

1. Certified that measurements have been check measured to the prescribed extent byat site and also by the undersigned and the relevant entries have been intialled in the Measurement book. (vide pages.....)

(Name and Designation)

2. Certified that all the measurements recorded in the measurement book have been correctly billed for
3. Certified that all recoberable amounts in respect of materials tools and plant etc, and other charges have been correctly made vide Annexures A to C attached.
- Certified for payment * of Rs.....(Rupees.....only)
- To be paid in cash/by cheque in the presence of

ALLOCATION

The expenditure is chargeable as under and to be included in the accounts for.....20.....

Ledger Head

Debit (Gross amount)

Credit (Deductions)

Rs. P.

Rs. P.

Total

* Here specify the net amount payable.

Signature of Senior Engineer

Date:

V.ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE

Accounts Bill NoDated.....
 Entered in Journal Book vide entry No.....Dated.....
 Passed for.....Rs.....
 Less Deductions.....Rs.....
 Net Amount Payable.....Rs.....
 (Rupees.....only)
 Payable to Shri/M/s.....by cheque/cash
 Entered in Contractor's Ledger No.....Page.....

ALLOCATION		
Estimate No:	Code no:	
Name of the Work:		
Ledger Head	Debit	
	(Gross amount)	
	Rs.	P.
-----	-----	-----
	-----	-----
Total	-----	-----

Assistant Accountant Account Officer
 Date: Date: Date:

VI. Received Rs.....(Rupees.....only) as per
 Memorandum of Payments on account of this work.

Signature of witness
 Address :

Date:

Revenue
 Stamp
 Signature of Contractor
 Date:

VII. ENTRIES TO BE MADE BY TREASURY SECTION

Cash Book entry No. and date:

Amount paid Rs.....
 Amount unpaid Rs.....
 Total Rs.....

Signature of Cashier
 Date:

ANNEXURE A

Statement showing details of materials issued to the contractor Shri/M/s.....

In respect of Contract Agreement NoDated.....

Sl. No.	Stores issue Voucher No. and date	Issue voucher No. and date allotted by stores to the SIV	Description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Whether recoverable from the contractor or supplied free	If recoverable from the contractor				R E M A R K S
							Rate at which recoverable	Amount recoverable	Amount recovered up to previous bill	Balance now recovered	
							Rs. P.	Rs. P.	Rs. P.	Rs. P.	
1	2	3	4	5	6	7	8	9	10	11	12

Total

Signature of contractor
Date:Signature of Engineer in Charge
Date:Signature of Senior Engineer
Date:

ANNEXURE B

Statement showing tools and plant issued to the contractor Shri/M/s.....

In respect of Contract Agreement NoDated.....

Sl. No	Description of tools and plant issued	Period for which Issued	Rate at which recovery Is to be Made		Amount recover- able		Amount recovered upto previous bill		Balance now recovered		Remarks
			Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	
1	2	3	4	5	6	7	8	9	10	11	12

Total

Signature of contractor

Date:

Signature of Engineer in Charge

Date:

Signature of Senior Engineer

Date:

ANNEXURE C

Statement showing details of other recoveries to be made from the contractor Shri/M/s.....
 In respect of Contract Agreement NoDated.....

Sl. No	Particulars	Unit	Quantity	Rate	Amount recover-able	Amount recovered upto pre-vious bill	Amount now recovered	Remarks
				Rs. P.	Rs. P.	Rs. P.	Rs. P.	
1	2	3	4	5	6	7	8	9
1.			Water Charges					
2.			Electricity charges					
3.			Seignorage charges					
4.			Medical charges					
5.			Cost of empty gunny bags and					
	Empty containers not returned							
6.								
7.								
8.								
9.								
10.								
				Total	-----			

Signature of contractor
Date:

Signature of Engineer in Charge
Date:

Signature of Senior Engineer
Date:

ANNEXURE D

Name of the Contractor:

Contract Agreement No:

Name of the Work:

Date:

Sl. No.	Description of item	Unit	Quantity as per Agreement	Quantity as executed	Quantity further anticipated	Total quantity anticipated on completion	Rate as per agreement Rs. P.
1	2	3	4	5	6	7	8

Rate as executed	Amount as per agreement	Amount as executed	Amount further anticipated	Total amount anticipated on completion	Difference				Reason for the deviation with authority, if any
Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Excess Rs. P.	savings Rs. P.			
9	10	11	12	13	14	15			16

Signature of Engineer in Charge

Date:

Signature of Senior Engineer

Date:

BHARAT HEAVY ELECTRICALS LIMITED DIVISION..... And Final bill (Para 4.3.2 Of Works Accounts Manual)												
Name of Contractor			Departmental Bill no				Date					
Name of the Work			Division				Division					
Sanctioned Estimate			Date of written order to commence the work									
Contract Agreement/work Order No			Date of commencement of work									
				Due date of completion as per agreement								
				Date of actual completion of the work								
I. ACCOUNT OF WORK EXECUTED												
On Account payment for the work not previously measured **			Item No of the agreement/work order	Descripti on of work	Quantity as per agreement	Quantity executed up to date	Rate Rs. P	Unit	Payment on the basis of actual measurement up to date Rs P	Quantity since last running account bill	Payment on the basis of actual measurement since last running account bill Rs P	Remarks
Total as per last running account bill Rs.	Since last running account bill Rs	Total up to date Rs										
1	2	3	4	5	6	7	8	9	10	11	12	13

1	2	3	4	5	6	7	8	9	10	11	12	13
---	---	---	---	---	---	---	---	---	----	----	----	----

Total Value of Work Done up to date	(A)	
Deduct Value of work shown on the last running account bill	(B)	
Net value of work done since last running account bill	(C)	
Rupees (In Words).....Only		

II MEMORANDUM OF PAYMENT

		Rs.	P
1	Total Value of work actually measured as per Account no I coloumn 10	(A)	
	Deduct amount of paym,ents already made as per last running account bill No Dated.....		
2	Forwarded to the Accounts Office on	(B)	
3	Payments now to be made { (A) - (B)}	(C)	
4	Deduct ammounts recoverable from the contractor on account of :	Rs	P
	a Material suplied by BHEL vide annexure A attached		
	b Hire of Tools & Plants vide Annexure B attached		
	c Other charges vide Annexure C attached		
	d Income Tax		
	Total deduction		
5	Balance		
6	Refund of 50% of security deposite on completion of work		
7	Net amount to be paid to the Contractor		

III. CERTIFICATE OF THE ENGINEER IN CHARGE

The measurement on which the entries in coulms 7 to 12 of Part I of this bill (Account of work executed) are based were made by

.....

- 1 (Name and designation)
- 2 A statement showing the quantities of stores issued to the contractor (whether free or on recovery basis) and their disposal is attached.

Date:

Signature of Engineer in charge
Designation

IV CERTIFICATE OF THE SENIOR ENGINEER

- 1 Certified that I have personally inspected the work and that the work has been physically completed on the due date in accordance with the terms and
Cretified that the measurements have been check measured to the prescribed extent by
..... (Name & designation). And by the the undersigned at site and relevent entries have been initiated in the measurement book
- 2 (vide pages.....)
- 3 Certified that the methods of measurement are correct
- 4 Certified that the measurements have been technically checked with reference to contract drawings, deviations etc
- 5 Certified that all the measurements recorded in the measurement book have been correctly billed for at the contract rates or approved rates.
- 6 Certified that all the recoverable amounts in respect of stores, tools and pallant, elwater, electricity charges etc, have been correctly made vide Annexures A
- 7 Certified that the issues of all stores as per statement atytached (whether charged to the contractor or direct to the work) have been technically checked and

Certified for payment of * Rs (Rupees.....) (Only). To be paid in
cash/by cheque in the presence of

ALLOCATION

The expenditure as under and to be included in the accounts for19

Ledger Head	Debit (Gross Amount)		Credit (Deduction)	
	Rs.	P	Rs.	P
.....				
Total				

* Here specify the net amount payable

Signature of Senior Engineer
Date

V. ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE

Account Bill no..... Dated
 Entered in Journal book vide entry No.....Dated.....
 Passed for.....Rs.....
 Less Deductions.....Rs.....
 (Rupees.....Only)
 Payable to Shri/M/s..... by cheque/cash
 Entered in contractors' Ledger no..... Page

ALLOCATION
 Estimate No: Code No
 Name of the Work
 Ledger Head Debit Credit
 (Gross Amount) (Deduction)
 Rs P Rs

 Total

Assistant Accountant Accounts officer
 Date: Date: Date:

VI. Received Rs.....(Rupees.....Only) in full and final settlement of all moneys due under this contract and I / we have no further claims of this contract.

Signature of Witness
 Address

Revenue Stamp
 Signature of Contractor
 Date:

VII . ENTRIES TO BE MADE BY TREASURY SECTION

Cash book entry no and date :

Amount Paid Rs.....
 Amount unpaid Rs.....
 Total Rs.....

Signature of Cashier
 Date:

ANNEXURE A

Part I

Statement showing details of material issued to the contractor Shri/M/s..... In respect of Contract

Agreement/Work Order No..... Dated

SI No	Stores Issue voucher No and date	Issue voucher No and date alloted by stores to the SIV	description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Whether recoverabl e from the contractor or supplied free	Rate at which recoverable		Amount Recoverabl e		Amount recoverable upto previous bill		Balance Now recovered		Remarks
							Rs	P	Rs	P	Rs	P	Rs	P	
1	2	3	4	5	6	7	8		9		10		11		12

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE A

Part II

Statement showing details of material issued to the contractor Shri/M/s..... in respect of Contract Agreement/Work Order No..... Datedand not covered by the agreement

SI No	Stores Issue voucher No and date	voucher No and date alloted by stores to the SIV	description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Issue Rate		Amount Recoverabl e		Amount recoverable upto previous bill		Balance Now recovered		Remarks
						Rs	P	Rs	P	Rs	P	Rs	P	
1	2	3	4	5	6	7		8		9		10		11

Total

Add Departmental Charges

Add Sales Tax (wherever applicable)

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE B

Statement showing TOOLS & PLANTS issued to the contractor Shri/M/s..... in respect of Contract Agreement/Work Order No..... Datedand not covered by the agreement

Sl No 1	Description of tools & plants issued 2	Period for which issued 3	Rate at which Recivory is to be made 4	Amount recoverabl e		Amount recoverable upto previous bill		Balance Now recovered		Remarks 8
				Rs	P	Rs	P	Rs	P	
				5		6		7		

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE C

Showing detail of other recoveries to be made from the contractor Shri/M/s.....
 Client/Work Order No.....Dated.....

Sr.No	Particulars	Unit	Quantity	Rate Rs. P.	Amount recoverable Rs. P	Amount recovered upto previous bill Rs. P.	Amount now recovered Rs. P.	Remarks
1	2	3	4	5	6	7	8	9
	1 Water Charges							
	2 Electricity Charges							
	3 Seignorage Charges							
	4 Medical Charges							
	Cost of empty gunny bags and empty containers not 5 returned							
	6							
	7							
	8							
	9							
	10							
Total								

Signature of Contractor
Date

Signature of Engineer Incharge
Date

Signature of Sr. Engineer
Date

ANNEXURE F

Statement showing detail of materials issued to the contractor Shri/M/s.....
 t of Contract Agreement/Work Order No..... Dated.....

Name of Contract Agreement/Work Order No.....Dated.....
 Name of work; FREE OF COST

Name of work;	FREE OF COST
---------------	--------------

FREE OF COST

Sr.No	Stores issue voucher No.	Description of material	Unit	Quantity issued	Quantity required as per data	Quantity consumed in the work	Balance(If any)	Nature of disposal for the balance	Rate chargeable for material not returned Rs.P.	Amount recoverable for material not returned Rs. P	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Total	
-------	--

Signature of Contractor	Signature of Engineer Incharge	Signature of Sr. Engineer
Date	Date	Date

Signature of Engineer Incharge	Signature of Sr. Engineer
Date	Date

Signature of Sr. Engineer
Date

Note: Data statement of therotical consumption should be attached in support of the quantity specified in coloumn 6

BHARAT HEAVY ELECTRICALS LIMITED

DIVISION.....

.....And Final bill

(Para 4.3.2 Of Works Accounts Manual)

Name of Contractor		Departmental Bill no		Date	
Name of the Work		Division		Division	
Sanctioned Estimate		Date of written order to commence the work			
Contract Agreement/work Order No		Date of commencement of work			
		Due date of completion as per agreement			
		Date of actual completion of the work			

I. ACCOUNT OF WORK EXECUTED

On Account payment for the work not previously measured **												
Total as per last running account bill Rs.	Since last running account bill Rs	Total up to date Rs	Item No of the agreement/work order	Description of work	Quantity as per agreement	Quantity executed up to date	Rate Rs. P	Unit	Payment on the basis of actual measurement up to date Rs P	Quantity since last running account bill	Payment on the basis of actual measurement since last running account bill Rs P	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13

1	2	3	4	5	6	7	8	9	10	11	12	13
---	---	---	---	---	---	---	---	---	----	----	----	----

Total Value of Work Done up to date	(A)	
Deduct Value of work shown on the last running account bill	(B)	
Net value of work done since last running account bill	(C)	

Rupees (In Words).....Only

II MEMORANDUM OF PAYMENT

1	Total Value of work actually measured as per Account no I coloumn 10	(A)	Rs.	P
	Deduct amount of paym,ents already made as per last running account bill No Dated.....			
2	Forwarded to the Accounts Office on	(B)		
3	Payments now to be made { (A) - (B)}	(C)		
4	Deduct ammounts recoverable from the contractor on account of :		Rs	P
	a Material suplied by BHEL vide annexure A attached			
	b Hire of Tools & Plants vide Annexure B attached			
	c Other charges vide Annexure C attached			
	d Income Tax			
	Total deduction			
5	Balance			
6	Refund of 50% of security deposite on completion of work			
7	Net amount to be paid to the Contractor			

III. CERTIFICATE OF THE ENGINEER IN CHARGE

The measurement on which the entries in coulms 7 to 12 of Part I of this bill (Account of work executed) are based were made by

- 1 (Name and designation)
- 2 A statement showing the quantities of stores issued to the contractor (whether free or on recovery basis) and their disposal is attached.

Date:

Signature of Engineer in charge
Designation

IV CERTIFICATE OF THE SENIOR ENGINEER

1 Certified that I have personally inspected the work and that the work has been physically completed on the due date in accordance with the terms and
Cretified that the measurements have been check measured to the prescribed extent by
..... (Name & designation). And by the the undersigned at site and relevent entries have been initiated in the measurement book (vide
2 pages.....)

3 Certified that the methods of measurement are correct

4 Certified that the measurements have been technically checked with reference to contract drawings, deviations etc

5 Certified that all the measurements recorded in the measurement book have been correctly billed for at the contract rates or approved rates.

6 Certified that all the recoverable amounts in respect of stores, tools and pallant, e\water, electricity charges etc, have been correctly made vide Annexures A

7 Certified that the issues of all stores as per statement atyatched (whether charged to the contractor or direct to the work) have been technically checked and

Certified for payment of * Rs (Rupees.....) (Only). To be paid in cash/by cheque in the presence of

ALLOCATION

The expenditure as under and to be included in the accounts for19

Ledger Head	Debit (Gross Amount)	Credit (Deduction)
	Rs.	P
.....		
Total		

* Here specify the net amount payable

Signature of Senior Engineer
Date

V. ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE

Account Bill no..... Dated
 Entered in Journal book vide entry No.....Dated.....
 Passed for.....Rs.....
 Less Deductions.....Rs.....
 (Rupees.....Only)
 Payable to Shri/M/s..... by cheque/cash
 Entered in contractors' Ledger no..... Page

Assistant Accountant Accounts officer
 Date: Date: Date:

ALLOCATION
 Estimate No: Code No
 Name of the Work

Ledger Head	Debit (Gross Amount) Rs P	Credit (Deduction) Rs
.....		
Total		

VI. Received Rs.....(Rupees.....Only) in full and final settlement of all moneys due under this contract and I / we have no further claims of this contract.

Signature of Witness
 Address

Revenue Stamp
 Signature of Contractor
 Date:

VII . ENTRIES TO BE MADE BY TREASURY SECTION

Cash book entry no and date :

Amount Paid Rs.....
 Amount unpaid Rs.....
 Total Rs.....

Signature of Cashier
 Date:

ANNEXURE A

Part I

Statement showing details of material issued to the contractor Shri/M/s..... In respect of Contract Agreement/Work Order No..... Dated

SI No	Stores Issue voucher No and date	Issue voucher No and date alloted by stores to the SIV	description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Whether recoverabl e from the contractor or supplied free	Rate at which recoverable		Amount Recoverabl e		Amount recoverable upto previous bill		Balance Now recovered		Remarks
							Rs	P	Rs	P	Rs	P	Rs	P	
1	2	3	4	5	6	7	8		9		10		11		12

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE A

Part II

Statement showing details of material issued to the contractor Shri/M/s..... in respect of Contract Agreement/Work Order No..... Datedand not covered by the agreement

SI No	Stores Issue voucher No and date	Issue voucher No and date alloted by stores to the SIV	description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Issue Rate		Amount Recoverabl e		Amount recoverable upto previous bill		Balance Now recovered		Remarks
						Rs	P	Rs	P	Rs	P	Rs	P	
1	2	3	4	5	6	7		8		9		10		11

Total

Add Departmental Charges

Add Sales Tax (wherever applicable)

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE B

Statement showing TOOLS & PLANTS issued to the contractor Shri/M/s..... in respect of Contract Agreement/Work Order No..... Datedand not covered by the agreement

SI No 1	Description of tools & plants issued 2	Period for which issued 3	Rate at which Recivory is to be made 4	Amount recoverabl e Rs P 5		Amount recoverable upto previous bill Rs P 6		Balance Now recovered Rs P 7		Remarks 8

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE C

showing detail of other recoveries to be made from the contractor Shri/M/s.....
 nent/Work Order No.....Dated.....

Sr.No	Particulars	Unit	Quantity	Rate Rs. P.	Amount recoverable Rs. P	Amount recovered upto previous bill Rs. P.	Amount now recovered Rs. P.	Remarks
1	2	3	4	5	6	7	8	9
	1 Water Charges							
	2 Electricity Charges							
	3 Seignorage Charges							
	4 Medical Charges							
	Cost of empty gunny bags and empty containers not 5 returned							
	6							
	7							
	8							
	9							
	10							
Total								

Signature of Contractor
Date

Signature of Engineer Incharge
Date

Signature of Sr. Engineer
Date

ANNEXURE D -
DEVIATION STATEMENT :

Name of the Contractor :

Contract Agreement/Work Order No. :

Name of the Work :

Date :

Sl. No.	Description of item	Unit	Quantity as per agreement	Quantity as executed	Rate as per agreement Rs. P.	Rate as executed Rs. P.	Amount as per agreement Rs. P.	Amount as executed Rs. P.	Difference		Reason for the deviation with authority, if any
									Excess	Savings	
1	2	3	4	5	6	7	8	9	10	11	12

Signature of Engineer in Charge

Date :

Signature of Senior Engineer

Date :

ANNEXURE E

Statement showing the consumption of materials issued to the contractor Shri/M/s.....
in respect of Contract Agreement/Work Order No..... Dated.....

Name of the Work :

ON RECOVERY BASIS

Sl. No.	Description of material	Unit	Quantity actually issued	Quantity actually incorporated in the work	Balance	Particulars of disposal of balance	Quantity to be issued as per approved data for work actually done	Variation in consumption (Difference between column 5 and 8)		Rate chargeable for excess/short consumption, if any	Amount recoverable for excess/short consumption, including materials not returned	
								More	Less	Rs. P.	Rs. P.	
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Cement											
2.	Bricks											
3.	Wood.....											
4.	Asbestos Sheet											
5.	Iron Materials											
6.												
7.												
8.												
9.												
10.												

Signature of Contractor

Date :

Signature of Engineer in Charge

Date :

Signature of Senior Engineer

Date :

Note : 1. The quantities shown in columns 4 and 5 above should tally with those shown in columns 5 and 6 respectively of Annexure A (Part I and II).

2. Data statement of theoretical consumption should be attached in support of quantity specified in column 8.

ANNEXURE F

Statement showing detail of materials issued to the contractor Shri/M/s.....

Subject of Contract Agreement/Work Order No.....Dated.....

Name of work;

FREE OF COST

Sr.No	Stores issue voucher No.	Description of material	Unit	Quantity issued	Quantity required as per data	Quantity consumed in the work	Balance(If any)	Nature of disposal for the balance	Rate chargeable for material not returned Rs.P.	Amount recovera ble for material not returned Rs. P	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Total

Signature of Contractor
Date

Signature of Engineer Incharge
Date

Signature of Sr. Engineer
Date

Note: Data statement of theoretical consumption should be attached in support of the quantity specified in column 6

QUESTIONNAIRE TO BE ANSWERED BY ENGINEER IN CHARGE AND SENIOR ENGINEER	
(Correct particulars and answers to be recorded)	
Name of the work :	
Name of the Contractor :	
Date of commencement of the work:	
Contract agreement/work ordered no. and date:	
Reference to supplementary agreement no,if any :	
Whether administrative approval and technical sanction has been accorded by the competent authority ? If so ,cite reference	
Whether sanction of the competent authority and financial concurrence of the Accounts Department for award of the work has been accorded ? If so,cite reference.	
Whether the work has been completed in time ? If not ,whether penalty has been levied or sanction of the competent authority for extension of time granted and communicated to the Accounts Department with reasons for grant of extension? (Due and actual date of completion of the work and reference to letter no. and date granting the extension of time should be given)	
(a) Whether the rates allowed in the bill have been checked with the contract agreement ? (b) Whether the rates for extra/supplemental items have been approved by the competent authority and the sanction communicated to the accounts Department together with rate analysis? If so,cite reference.	
Whether deviations have been approved by the competent authority? If yes, give reference to the approval; if not, give reasons.	
Whether the rates of recovery of stores issued to the contractor which are not provided for in the Contract Agreement have been settled in consultation with Finance?	
Whether discrepancies pointed out by the Accounts Department in the store statement have been reconciled and accepted by the Accounts Department?	

QUESTIONNAIRE TO BE ANSWERED BY ENGINEER IN CHARGE AND SENIOR ENGINEER	
(Correct particulars and answers to be recorded)	
Whether materials issued to the contractor in excess of the theoretical requirements have been returned to the Stores Department and the no. and date of such returned stores vouchers have been shown in stores statement? If not, whether the cost of such excess material has been recovered at the prescribed rate? Whether consumption statements in respect of materials chargeable to the work have been attached to the bill?	
Whether consumption of materials shown has been technically checked by Senior Engineer?	
Whether materials issued and used in the work is not less than that required for consumption in work according to our specification? If consumption is less, whether necessary recovery has been made in the bill?	
Whether measurements have been checked by the Engineer and Sr. Engineer to the extent required and certificates of check recorded in the measurement books?	
Whether contractor has signed the bill and the measurement books without reservations? If not, whether reasons have been intimated to the Accounts Department?	
Whether arithmetical calculations have been checked and certificate recorded in the measurement books by a person other than the one who calculated initially	
Whether any work was done at the risk and cost of the contractor and whether such cost has been recovered from him? Give particulars.	
Whether all advance payments on running Accounts have been recovered?	
Whether all the recoveries due to services given to the contractor like rent of accommodation, water charges, electricity charges etc. have been recovered and whether payments made by the company on behalf of the contractor have been adjusted?	
Whether the files containing abstracts from measurement books/ standard measurement books have been completed/ updated?	
Whether hire charges of tools and plant have been recovered and the statement of hire charges with full details attached?	

QUESTIONNAIRE TO BE ANSWERED BY ENGINEER IN CHARGE AND SENIOR ENGINEER	
(Correct particulars and answers to be recorded)	
Whether the certificate of workmanship and completion of work according to specifications, drawings etc. is recorded by Engineer/ Sr. Engineer and whether recoveries have been made for defective works, if any?	
Whether all corrections in the bill/measurement books etc. have been neatly made and attested and there are no overwriting?	
Whether final measurements have been taken as soon as possible after completion of work and the certificate of completion issued? If not, whether reasons for delay have been recorded and communicated to Accounts?	
In respect of quantities reduced in the final bill as compared to the running payment, whether adequate reasons have been recorded and communicated to Accounts	
Whether the expenditure has been classified correctly according to heads of Account recorded in the sanctioned estimate?	
Whether the work has been completed within the estimated cost? If not, what is the percentage of excess over the sanctioned estimate/ administrative approval? In case the excess is beyond the competency of Sr. Engineer, what action has been taken for the obtaining the approval of the authority competent to sanction the excess?	
(a) If the contractor has furnished bank guarantee in lieu of cash security deposit towards proper execution of works and guarantee against defects during the maintenance period, whether the period of currency of the bank guarantee covers the entire maintenance period? (b) If not, whether security deposit has been proposed to be recovered from the final bill?	
Whether all the previous audit objections raised on running Account bills have been settled? If so, cite reference.	
Signature of Engineer in Charge	Signature of Engineer in Charge
Date:	Date: