



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

Ref: PSER:SCT:NBN-E1965:7553

Date: 10-05-2019

NOTICE INVITING TENDER

NOTE: INTENDING BIDDER TO PARTICIPATE MAY DOWNLOAD FROM WEB SITES

Sealed offers in two part bid system are invited from reputed & experienced bidders meeting PRE QUALIFICATION CRITERIA as mentioned in Annexure-1 **through E-Procurement Portal <https://bhel.abcprocure.com> only**, for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Issue/ forwarding intimation regarding tender to any bidder shall not construe that the bidder is considered to be qualified. Consideration of their offer is subject to compliance of loading criteria as per clause no. 8.0 of NIT etc. specified below. 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 | PSER:SCT:NBN-E1965:19 |
| ii | Broad Scope of job | Handling at site/ storage yard, transportation to site of work, pre-assembly, erection, testing, commissioning and handing over of Electrical & C&I system for Boiler, ESP, TG sets for Unit-IV of 4x250 MW BRBCL, Nabinagar Project, Bihar |
| iii | DETAILS OF TENDER DOCUMENT | |
| a | Volume-IA | General conditions of contract (Supply) <i>Not Applicable.</i> |
| b | Volume-IB | General conditions of contract (Service) <i>Applicable.</i> |
| c | Volume-IC | Special conditions of contract (Supply) <i>Not Applicable.</i> |
| d | Volume-ID | Special conditions of contract (Service) <i>Applicable.</i> |
| e | Volume-IE | Forms and Procedures etc. <i>Applicable.</i> |
| f | Volume-IF | Technical Conditions of Contract (TCC) <i>Applicable.</i> |
| g | Volume-III | Price Schedule (Absolute value) – Rev-00 <i>Applicable.</i> |
| iv | ISSUE OF TENDER DOCUMENTS | This is an E-tender floated online through our E-Procurement Site https://bhel.abcprocure.com . Start date of the tender: 10-05-2019 <i>Applicable.</i> |
| v | DUE DATE & TIME OF OFFER SUBMISSION | Date: 31-05-2019, Time: 15-00 Hrs. The bidder should respond by submitting their offer online in our e-Procurement platform at https://bhel.abcprocure.com only. Offers are invited in two-parts only. Hard copy bid or bids through email/fax shall not be accepted. <i>Applicable.</i> |
| vi | OPENING OF TENDER | Date: 31-05-2019 1 hour after the latest due date and time of Offer submission Notes: (1) In case the due date of opening of tender becomes a non-working day, tenders shall be opened on next working day at the same time. (2) Bidder may depute representative to witness the opening of tender. <i>Applicable.</i> |

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| | | | |
|------|--|---|---|
| vii | EMD AMOUNT | Rs. 4,37,140/-. | Applicable. |
| viii | COST OF TENDER | Rs. 2,500/-. | Applicable. |
| ix | LAST DATE FOR SEEKING CLARIFICATION | Date: 20-05-2019 Along with soft version also, addressing to undersigned & to others as per contact address given below | Applicable. |
| x | SCHEDULE OF Pre Bid Discussion (PBD) | -- | Not Applicable (In case BHEL decides to conduct PBD, date, time & venue of PBD will be intimated suitably thru TCN.) |
| xi | INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM) | - | Not applicable. |
| xii | Latest updates | Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com) ; CPP portal & E-Procurement Site https://bhel.abcprocure.com only. Bidders to keep themselves updated with all such information. | Shall be intimated to bidder. |

- 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 digitally 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 (non-refundable) and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at Kolkata, issuing the Tender, along with techno-commercial offer.
- 4.0 Unless specifically stated otherwise, bidder shall have to deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Kolkata. For other details please refer General Conditions of Contract.
Bidders may please be noted that "OEMD" provision stands deleted. Hence, bidders who have deposited Rs. 2 Lakh as OEMD are also requested to submit fresh EMD as mentioned in sl no vii under clause no 1.0 of NIT.
- 5.0 Procedure for Submission of Tenders: The Tenderers must submit their Tenders as detailed below:

DOCUMENTS TO BE UPLOADED & MODALITY OF UPLOADING

| Sl no | Description | Remarks |
|----------|---|---------|
| PART-I A | (TECHNO COMMERCIAL BID) | |
| | CONTAINING THE FOLLOWING:- | |
| i. | Covering letter/Offer forwarding letter of Tenderer. (To be attached in relevant Attachment section) | |
| ii. | Duly filled-in 'No Deviation Certificate' as per prescribed format. (To be | |

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| | attached in relevant Attachment section) Note: a. In case of any deviation, the same should be submitted separately for technical & commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be attached in relevant attachment section of the e -procurement portal. It shall be specifically noted that deviation recorded elsewhere shall not be entertained. b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding. i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender | |
| iii. | Supporting documents/ annexures / schedules/ drawing etc as required in line with Pre-Qualification criteria. It shall be specifically noted that all documents as per above shall be attached in relevant attachment section 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. (To be attached in relevant Attachment section) | |
| v. | Integrity Pact Agreement (Duly signed by the authorized signatory) | Not applicable. |
| vi. | Duly filled-in annexures, formats etc as required under this Tender Specification/NIT (To be attached in relevant Attachment section) | |
| vii. | Notice inviting Tender (NIT) (To be attached in relevant Attachment section) | |
| viii. | Volume – I F: Technical Conditions of Contract (TCC) (To be attached in relevant Attachment section) | |
| ix. | Volume – I D: Special Conditions of Contract (SCC)-Service (To be attached in relevant Attachment section) | |
| x. | Volume – I B : General Conditions of Contract (GCC)-Service (To be attached in relevant Attachment section) | |
| xii. | Volume – I E: Forms & Procedures etc. (To be attached in relevant Attachment section) | |
| xiii. | Volume–III - (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item. (To be attached in Unpriced Bid Attachment section) | |
| xiv. | Any other details preferred by bidder with proper indexing. (To be attached in relevant Attachment section) | |

| | | |
|-----------------|---|--|
| PART-I B | EMD/ COST OF TENDER (To be submitted offline within due date of offer submission) | |
| | CONTAINING THE FOLLOWING:- | |
| i. | 1. Earnest Money Deposit (EMD) in the form as indicated in this 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 (TO BE ATTACHED IN PRICE BID ATTACHMENT SECTION) | |
| | CONTAINING THE FOLLOWING:- | |
| i | Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I | |
| ii | Volume III – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures) Any other document uploaded in the price bid, apart from above tender format, shall not be taken into cognizance for evaluation of offer. | |

SPECIAL NOTE:

- A) Your offer & documents submitted along with offer shall be digitally signed & stamped in each page by your authorised representative. No overwriting/ correction in tender documents by bidders shall be allowed. However, if correction is unavoidable, the same may be signed by authorized signatory.
- B) The credentials/ documents submitted towards compliance of Pre-qualification requirement shall be physically signed by the authorized signatory & stamped before uploading/submission with the offer in the e-procurement portal.
- C) All documents/ annexures submitted with the offer shall be properly attached in the respective sections. BHEL shall not be responsible for any missing documents.

6.0 No Deviation with respect to tender clauses and no additional clauses/ suggestions/ in Techno-commercial bid/ Price bid shall normally be considered by BHEL. Bidders are requested to positively comply with the same.

7.0 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).

8.0 Assessment of Capacity of Bidders:

Bidder's 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 cut off month for reckoning 'Load' shall be the 3rd Month preceding the month corresponding to the 'latest date of bid submission', in the following manner -

(**Note:** For example, if latest bid submission is in Jan 2017, then the 'load' shall be calculated up to and inclusive of Oct 2016)

Total number of Packages in hand = Load (P)

Where 'P' is the sum of all unit wise identified packages (refer table-1) under execution with BHEL Regions as on the cut off month defined above, including packages yet to be commenced, excepting packages which are on Long Hold.

- II. **PERFORMANCE:** Here 'Monthly Performance' of the bidder for all the packages (under execution/ executed during the 'Period of Assessment' in all 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 and including the cut off month. The cut off month for reckoning 'Period of Assessment' shall be the 3rd Month preceding the month corresponding to 'latest date of bid submission', in the following manner:

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(Note: For example, if 'latest date of bid submission' is in Jan 2017, then the 'performance' shall be assessed for a 6 months' period up to and inclusive of Oct 2016 (i.e. from May 2016 to Oct 2016), for all the unit wise identified packages (refer Table I))

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

This shall be obtained by summing up the 'Monthly Performance Evaluation' scores obtained by the bidder in all Regions for all the similar Package/packages', divided by the total number of Package months for which evaluation should have been done, as per procedure below:

- $P_1, P_2, P_3, P_4, P_5, \dots, P_N$ etc. be the packages (under execution/ executed during the 'Period of Assessment' in all Regions of BHEL) 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 ($S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots, S_{1-T_1}$) for similar package P_1 , for the 'period of assessment' ' T_1 ' (i.e. $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots + S_{1-T_1}$). 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. ' $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots + S_N$ ')
- Overall Performance Rating ' R_{BHEL} ' for the Similar Package/Packages (under execution/ executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL

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

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

- 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.
- Table showing methodology for calculating 'a', 'b' and 'c' above

| Sl. No. | Item Description | Details for all Regions | | | | | | | Total |
|---------|---|-------------------------|-------|-------|-------|-------|--------|-------|---|
| (i) | (ii) | (iii) | (iv) | (v) | (vi) | (vii) | (viii) | (ix) | (x) |
| | Similar Packages for all Regions → (under execution/ executed during period of assessment) | P_1 | P_2 | P_3 | P_4 | P_5 | ... | P_N | Total No. of similar packages for all Regions = P_T i.e. Sum (Σ) of columns (iii) to (ix) |

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| Sl. No. | Item Description | Details for all Regions | | | | | | | Total |
|---------|---|--|--|--|--|--|------------------|--|---|
| (i) | (ii) | (iii) | (iv) | (v) | (vi) | (vii) | (viii) | (ix) | (x) |
| 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 Packages (as in row 1) | T ₁ | T ₂ | T ₃ | T ₄ | T ₅ | ... | T _N | Sum (Σ) of columns (iii) to (ix) = T _T |
| 3 | Monthly performance scores for the corresponding period (as in Row 2) | S ₁₋₁ , S ₁₋₂ , S ₁₋₃ , S ₁₋₄ , ... S _{1-T1} | S ₂₋₁ , S ₂₋₂ , S ₂₋₃ , S ₂₋₄ , ... S _{2-T2} | S ₃₋₁ , S ₃₋₂ , S ₃₋₃ , S ₃₋₄ , ... S _{3-T3} | S ₄₋₁ , S ₄₋₂ , S ₄₋₃ , S ₄₋₄ , ... S _{4-T4} | S ₅₋₁ , S ₅₋₂ , S ₅₋₃ , S ₅₋₄ , ... S _{5-T5} | .. ... ... | S _{N-1} , S _{N-2} , S _{N-3} , S _{N-4} , ... S _{N-TN} | ----- |
| 4 | Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3) | S ₁ | S ₂ | S ₃ | S ₄ | S ₅ | ... | S _N | Sum (Σ) of columns (iii) to (ix) = S _T |

- ii). Calculation of Overall 'Performance Rating' (R_{BHEL}) in case at least 6 evaluation scores for 'similar Package/Packages' for the tendered scope ARE NOT AVAILABLE, during the 'Period of Assessment':

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

- 'Period of Assessment' i.e. 6 months preceding and including the cut-off month
- 12 months preceding and including the cut-off month
- 24 months preceding and including the cut-off month
- 36 months preceding and including the cut-off month

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

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

| Sl. no. | Overall Performance Rating (R _{BHEL}) | Corresponding value of 'L' |
|---------|---|----------------------------|
| 1 | =60 | NA |
| 2 | > 60 and ≤ 65 | 0.4 |
| 3 | > 65 and ≤ 70 | 0.35 |
| 4 | > 70 and ≤ 75 | 0.25 |
| 5 | > 75 and < 80 | 0.2 |
| 6 | ≥ 80 | NA |

III. 'Assessment of Capacity of Bidder':

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

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

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Note:

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

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

IV. Explanatory note:

- i). Similar package means Boiler or ESP or Piping or Turbine or Civil or Structure or Electrical or C&I 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, C&I, 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 (i.e. Boiler, ESP and Power Cycle Piping) and finally the Bidder's capacity to execute the tendered scope is assessed in line with III above.
- ii). Identified Packages (Unit wise)

Table-1

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

- iii). Bidders who have not been evaluated for at least six package months in the last 36 months preceding and including the Cut-off month in the online BHEL system for contractor performance evaluation in BHEL PS Regions, shall be considered "NEW VENDOR".

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

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

The "FIRST TIMER" tag shall remain till completion of all the contracts against which vendor has been tagged as First Timer or availability of 6 evaluation scores within last 36 months preceding and including the Cut-off month in the online BHEL system for contractor performance evaluation in BHEL PS Regions.

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

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

- iv). Consequent upon applying the criteria of 'Assessment of Capacity of Bidders' detailed above on all the bidders qualified against Technical and Financial Qualification criteria, if the number of qualified bidders reduces to less than four, then for further processing of the Tender, BHEL at its discretion reserves the right to also consider the bidders who are "not qualified" as per criteria of 'Assessment of Capacity of Bidders' and for this, procedure described in following three options shall be followed:
- All the bidders having Overall Performance Rating ('R_{BHEL}') ≥ 60 shall be considered qualified against criteria of 'Assessment of Capacity of Bidders'.
 - If even after using option "a", the number of qualified bidders remains less than four, then in addition to bidders considered as per option "a", "First timer" bidders having average of available performance scores ≥ 60 upto and including the Cut Off month shall also be considered qualified against criteria of 'Assessment of Capacity of Bidders'.
 - If even after using option "a" and "b", the number of qualified bidders remains less than four, then in addition to bidders considered as per option "a" and "b", "First timer" bidders for whom no performance score is available in the system upto and including the Cut Off month, shall also be considered qualified against criteria of 'Assessment of Capacity of Bidders'.

Note:- In case, the number of bidders qualified against Technical and Financial Qualification criteria itself is less than four, then all bidders (a)- having Overall Performance Rating ('R_{BHEL}') ≥ 60 , (b)- "First timer" bidders having average of available performance scores ≥ 60 upto and including the Cut Off month, (c)- "First timer" bidders for whom no performance score is available in the system upto and including the Cut Off month, shall be considered qualified against criteria of 'Assessment of Capacity of Bidders' for further processing of tender.

- v). 'Under execution' shall mean works in progress as per the following:
- Up to execution of 90% of anticipated Contract Value in case of Civil, MM, Structural and Turbo Blower Packages
 - Up to Steam Blowing in case of Boiler/ESP/Piping Packages
 - Up to Synchronization in all Balance Packages

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

- vi). Contractor shall provide the latest contact details i.e. mail-ID and Correspondence Address to SCT Department, so that same can be entered in the Contractor Performance Evaluation System, and in case of any change/discrepancy same shall be informed immediately. Login Details for viewing scores in Contractor Performance Evaluation System shall be provided to the Contractor by SCT Department.
- vii). Performance Evaluation for Activity Month shall be completed in Evaluation Month (i.e. month next to Activity Month) or in rare cases in Post Evaluation Month (i.e. month next to Evaluation Month) after approval from Competent Authority. In case scores are not acceptable, Contractor can submit Review Request to GM Site/ GM Project latest by 25th of Evaluation Month or 3 days after approval of score, whichever is later. However, acceptance/rejection of 'Review Request' solely depends on the discretion of GM Site/GM Project. After acceptance of Review Request, evaluation score shall be reviewed at site and the score after completion of review process shall be acceptable and binding on the contractor.
- viii). Project on Hold due to reasons not attributable to bidder -
- Short hold:** Evaluation shall not be applicable for this period, however Loading will be considered.
 - Long hold:** Short hold for continuous six months and beyond or hold on account of Force Majeure shall be considered as Long Hold. Evaluation as well as Loading shall not be considered for this period.

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- ix). Performance evaluation in CL 8 above is applicable to prime bidder and Consortium partner (or Technical tie up partner) for their respective scope of work.
- 9.0 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.
- 10.0 For any clarification on the tender document, the bidder may seek the same in writing, through e-mail or through E-Procurement Site <https://bhel.abcprocure.com>, 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 any delay. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 11.0 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.
- 12.0 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.
- 13.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 14.0 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 (xi) of 1 above.
- 15.0 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-1 (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.
- 16.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the PRICE BID shall be intimated to the qualified bidders and in such as case, price bid (Volume-III) uploaded in E-procurement Site <https://bhel.abcprocure.com> will be opened.
- 17.0 Validity of the offer shall be for six months from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 18.0 BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.

However, if reverse auction process is not adopted or is unsuccessful for whatsoever reason, absolute value

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price bid (Volume-III) uploaded in E-Procurement Site <https://bhel.abcprocure.com> will be opened for deciding the successful bidder. BHEL's decision in this regard will be final & binding on bidder.

Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'Process compliance form' (to the designated service provider) as well as 'Online sealed bid' in the Reverse Auction. Non-submission of 'Process compliance form' or 'Online sealed bid' by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with the offer. The envelope sealed price bid of successful L 1 bidder in RA, if conducted, shall also be opened after RA and the order will be placed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rates.

If it is found that L 1 bidder has quoted higher in online seal bid in comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender in the unit, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

As a reminder to the bidders, system will flash following message (in Red Color) during the course of 'online sealed bid':

"Bidders to submit online sealed bid less than or equal to their envelope sealed bid already submitted to BHEL"

In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

- 19.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 20.0 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.
- 21.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 22.0 Consortium Bidding (or Technical Tie up) shall be allowed only if specified in Pre Qualifying Requirement (PQR) criteria, and in such a case the details to be complied with is enclosed herewith as per Annexure-5 UNLESS SPECIFIED OTHERWISE IN PQR.
- 23.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self certified and stamped/ digitally signed (as applicable) 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.
- 24.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 25.0 The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL Website (www.bhel.com).

I) Integrity commitment, performance of the contract and punitive action thereof:

a) Commitment by BHEL:

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BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity.

b) Commitment by Bidder/ Supplier/ Contractor:

b.i) The bidder/ supplier/ contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India.

b.ii) The bidder/ supplier/ contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL.

b.iii) The bidder/ supplier/ contractor will perform/ execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business/ money/ reputation, to BHEL.

If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage includes in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal code, 1860 or any other law in force in India, then, action may be taken against such bidder/ supplier/ contractor as per extant guidelines of the company available on www.bhel.com and/ or under applicable legal provisions.

26.0 It may please be noted that Guidelines/Rules in respect of Suspension of business dealings (Hold- 12 to 24 Months/ Banning – 3 years etc), Vendor Evaluation formats, quality, safety and HSE guidelines , standard T&P hire charges of BHEL etc may undergo change from time to time and the latest one shall be followed. Latest "Guidelines for Vendor Evaluation" is web based, quality, safety & HSE"; standard T&P hire charges shall be available at site and shall be given to the successful vendors/ subcontractors during execution.

27.0 MSE suppliers can avail the intended benefits in respect of the procurements related to the Goods and Services only (Definition of Goods and Services as enumerated by Govt. of India vide Office Memorandum F. No. 21(8)/2011-MA dtd. 09/11/2016 office of AS & DC, MSME) if they submit along with the offer, attested copies of either EM II certificate having deemed validity (five years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or Udyog Aadhar Memorandum (UAM) & Acknowledgement or EM II certificate along with attested copy of a CA certificate (Format enclosed at Annexure – C where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer.

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

| Type under MSME | SC/ST owned | Women owned | Others |
|-----------------|-------------|-------------|--------|
| Micro | | | |
| Small | | | |
| Medium | | | |

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

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- 28.0 The bidder along with its associates/collaborators/sub-contractors/sub-vendors/consultants/service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.
- 29.0 Annexure-A -Amendment to GCC/SCC shall be read in conjunction with GCC-Volume-IB & SCC-Volume-ID. This Annexure-A (Amendment to GCC/SCC) of NIT shall not be considered as part of the NIT but addendum/corrigendum to the GCC/SCC only.
- 30.0 Annexure-B - Terms & conditions of Reverse Auction is enclosed herewith.
- 31.0 Annexure-D – Specific Clause w.r.t. BOCW Act & Cess Act is enclosed herewith.
- 32.0 Annexure-E- Statewise GST Registration nos. is enclosed herewith.
- 33.0 Duly filled & signed Annexure- CPP-GST/I to be submitted by bidders along with their techno-commercial offer.
- 34.0 Integrity Pact (IP) –

(a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

| SI | IEM | Address | Phone & Email |
|---------------------------------|-----|---------|---------------|
| NOT APPLICABLE FOR THIS TENDER. | | | |

(b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.

(c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

| | | |
|---------|---|---|
| Name | Aditya Kumar/Anish Kumar | Subrata Sen |
| Dept | SCT Dept, BHEL PSER, Kolkata | SCT Dept, BHEL PSER, Kolkata |
| Address | DJ-9/1, Sector – II, Salt Lake, Kolkata – 700091 | DJ-9/1, Sector – II, Salt Lake, Kolkata – 700091 |
| Phone | 033-2339 8237/8235 | 033-2339 8226 |

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| | | |
|-------|---|--|
| Email | aditya.kr@bhel.in / k.anish@bhel.in | subrata.sen@bhel.in |
| FAX | 033-2321 1960 | 033-2321 1960 |

35.0 For this procurement, Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017 & 28.05.2018 and subsequent Orders issued by the respective Nodal Ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/ PO/ WO against this NIT.
In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and/ or local content in respect of this procurement, same shall be applicable.

36.0 Bidders are requested to submit their best price as per latest price schedule of the tender.

37.0 It may please be noted that Bid should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid, else bid shall be liable for rejection.

All overwriting/ cutting, etc will be numbered by bid opening officials and announced during bid opening.

38.0 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-Volume-III
- d. Technical Conditions of Contract (TCC) -- Volume-IF
- e. Special Conditions of Contract (SCC) —Volume-ID
- f. General Conditions of Contract (GCC) —Volume-IB
- g. Forms and Procedures —Volume-IE

for BHARAT HEAVY ELECTRICALS LTD

Sr. Engr (SCT)

| Agency | Contact details | |
|---------------------|-----------------|--|
| BHEL, PSER, Kolkata | Address | DJ-9/1, Sector – II, Salt Lake, Kolkata – 700 091 |
| | Phone no | 033-2339 8231/ 8237/ 8000 |
| | FAX no | 033-23211960 |
| | E-mail | aditya.kr@bhel.in ; subrata.sen@bhel.in , k.anish@bhel.in |

Enclosure

01. Annexure-1: Pre Qualification Criteria.
02. Annexure-2: Format for No deviation Certificate.
03. Annexure-3: Format for seeking clarification.
04. Annexure-4: Check List.
05. Annexure-5: Conditions for consortium/tie up.
06. Annexure –A- Amendment to GCC/SCC.
07. Annexure -B- Terms & conditions of Reverse Auction.
08. Annexure –C- CA certificate Format.
09. Annexure-D – Specific Clause w.r.t. BOCW Act & Cess Act.
10. Annexure-E- Statewise GST Registration nos.
11. Annexure– CPP-GST/I.
12. Other Tender documents as per this NIT.

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ANNEXURE-1PRE QUALIFICATION CRITERIA

| | |
|-----------|--|
| JOB | HANDLING AT SITE/ STORAGE YARD, TRANSPORTATION TO SITE OF WORK, PRE-ASSEMBLY, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF ELECTRICAL & C&I SYSTEM FOR BOILER, ESP,TG SETS FOR UNIT-IV OF 4X250 MW BRBCL, NABINAGAR PROJECT, BIHAR |
| TENDER NO | PSER:SCT:NBN-E1965:19 |

BIDDER SHALL NOTE & COMPLY WITH THE POINTS REFERRED UNDER 'NOTE' BELOW.

| SL NO | CRITERIA |
|-------|--|
| 1.0 | BIDDER SHOULD HAVE AVERAGE MINIMUM ANNUAL FINANCIAL TURNOVER RS. 65.57 LAKH DURING LAST 3 (THREE) YEARS, ENDING ON 31.03.2018 AND HAVING POSITIVE NET WORTH AS ON LATEST AUDITED ACCOUNTS AS SUBMITTED FOR PARA 1(C). |
| (a) | |
| (b) | BIDDER MUST HAVE EARNED PROFIT IN ANY ONE OF THE LAST THREE FINANCIAL YEARS ENDING ON 31.03.2018. AUDITED BALANCE SHEET AND PROFIT & LOSS ACCOUNT OF THE COMPANY FOR LAST 3 (THREE) FINANCIAL YEARS, ENDING ON 31.03.2018 NEED TO BE SUBMITTED IN SUPPORT OF ABOVE. |
| (c) | IN CASE AUDITED BALANCE SHEET AND PROFIT & LOSS ACCOUNT HAS NOT BEEN SUBMITTED FOR ALL THREE YEARS INDICATED ABOVE THEN THE APPLICABLE FINANCIAL AUDITED STATEMENTS SUBMITTED BY THE BIDDERS AGAINST THE REQUISITE THREE YEARS WILL BE AVERAGED FOR THREE YEARS. |
| (d) | IF FINANCIAL STATEMENTS ARE NOT REQUIRED TO BE AUDITED STATUTORILY, THEN INSTEAD OF AUDITED FINANCIAL STATEMENTS, FINANCIAL STATEMENTS ARE REQUIRED TO BE CERTIFIED BY CHARTERED ACCOUNTANT. |
| 2.0 | BIDDER SHOULD HAVE EXECUTED C&I WORK OR C&I AND ELECTRICAL WORK OR ELECTRICAL WORK IN THE CONSTRUCTION OF INDUSTRIAL/ POWER PROJECTS DURING LAST 7 (SEVEN) YEARS, ENDING ON LATEST DUE DATE OF SUBMISSION OF OFFER, VALUE OF WHICH SHOULD BE EITHER OF THE FOLLOWING. RELEVANT DOCUMENT IN SUPPORT OF ABOVE SHALL BE SUBMITTED. |
| 2.1 | 1 (SINGLE) WORK OF VALUE NOT LESS THAN 174.86 LAKH. |
| | OR |
| 2.2 | 2 (TWO) WORKS OF VALUE NOT LESS THAN 109.29 LAKH EACH |
| | OR |
| 2.3 | 3 (THREE) WORKS OF VALUE NOT LESS THAN 87.43 LAKH EACH |
| NOTE | A) FOR CRITERIA 2.0, ACTUAL EXECUTED VALUE SHALL BE CONSIDERED. B) VALUE OF WORK IS TO BE UPDATED AS PER ANNEXURE-A PROCEDURE.. |
| 3.0 | TECHNICAL CRITERION: |
| | BIDDER SHOULD HAVE EXECUTED THE FOLLOWING (3.1 and 3.2) DURING LAST 7 (SEVEN) YEARS, ENDING ON LAST DUE DATE OF SUBMISSION OF THE BID RELEVANT DOC IN SUPPORT OF ABOVE SHALL BE SUBMITTED. |
| 3.1a. | C&I WORKS FOR BTG/GT OR C&I WORKS CONSISTING OF DCS/DDC/STATION C&I IN ONE UNIT OF AT LEAST 100 MW RATING. |
| | OR |
| 3.1b | EXECUTION OF ATLEAST ONE CONTRACT OF C&I WORKS CONSISTING OF DCS/DDC/STATION C&I IN ANY INDUSTRY WITH ITS EXECUTED VALUE OF RS. 140 LACS OR MORE. |
| 3.2 | ELECTRICAL WORKS CONSISTING OF FOLLOWING: |
| | a) HT/LT BUSDUCTS |

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| | |
|--------|---|
| | <p>b) HT/LT SWITCHGEARS c) HT/LT CABLING</p> <p>THE TERM "EXECUTED" HERE MEANS CHARGING.</p> |
| 4.0 | CONSORTIUM BIDDING IS PERMITTED EITHER FOR ELECTRICAL SCOPE OR FOR C&I SCOPE. |
| 5.0 | <p>BIDDER AS WELL AS CONSORTIUM PARTNER (AS APPLICABLE) SHOULD HAVE VALID PAN NO.</p> <p>RELEVANT DOCUMENT IN SUPPORT OF ABOVE SHALL BE SUBMITTED.</p> |
| 6.0 | BIDDER SHALL SPECIFICALLY NOTE THE FOLLOWING POINTS WHICH ALSO FORM MANDATORY REQUIREMENT FOR CONSIDERATION OF OFFER |
| 6.1 | FOR THE PURPOSE OF PQR, ONE MW SHALL BE CONSIDERED EQUIVALENT TO 3.5TPH |
| 6.2 | IN CASE OF CONSORTIUM BIDDING, FOLLOWING POINTS SHALL BE COMPLIED |
| 6.2.1 | THE PRIME BIDDER AND CONSORTIUM PARTNER(S) ARE REQUIRED TO ENTER IN TO A CONSORTIUM AGREEMENT WITH A VALIDITY PERIOD OF SIX MONTHS INITIALLY. THEREAFTER, THE PRIME BIDDER AND CONSORTIUM PARTNER(S) SHALL CERTIFY TO BHEL REGARDING EXISTENCE AND VALIDITY OF THEIR CONSORTIUM AGREEMENT ON SIX MONTHLY BASIS. |
| 6.2.2 | NUMBER OF PARTNERS INCLUDING PRIME BIDDER SHALL BE NOT MORE THAN 2 (TWO). |
| 6.2.3 | PRIME BIDDER ALONE SHALL NECESSARILY COMPLY WITH "TECHNICAL CRITERIA" GIVEN AT SRL. NO. 2.0 |
| 6.2.4 | PRIME BIDDER AND CONSORTIUM PARTNER SHALL TOGETHER COMPLY WITH THE 'PRE-QUALIFICATION REQUIREMENTS' SPECIFIED AT SRL. NO. 3.1a/3.1b AND 3.2. |
| 6.2.5 | PRIME BIDDER SHALL COMPLY WITH ALL OTHER PRE QUALIFYING CRITERIA FOR THE TENDER UNLESS OTHERWISE SPECIFIED. |
| 6.2.6 | PRIME BIDDER SHALL BE THE BIDDER WHO HAS A MAJOR SHARE OF WORK. |
| 6.2.7 | PRIME BIDDER SHALL BE RESPONSIBLE FOR THE OVERALL EXECUTION OF THE CONTRACT. |
| 6.2.8 | PERFORMANCE SHALL BE EVALUATED FOR PRIME BIDDER AND THE CONSORTIUM PARTNER FOR THEIR RESPECTIVE SCOPE OF WORK. |
| 6.2.9 | IN CASE THE CONSORTIUM PARTNER BACKS OUT, ANOTHER CONSORTIUM PARTNER MEETING THE QRs, HAS TO BE ENGAGED BY PRIME BIDDER AND IF NOT, THE RESPECTIVE WORK WILL BE WITHDRAWN AND EXECUTED ON RISK AND COST BASIS OF THE PRIME BIDDER. |
| 6.2.10 | IN CASE PRIME BIDDER WITHDRAWS, THE WHOLE CONTRACT SHALL BE CONSIDERED CANCELLED AND SHORT CLOSED. |
| 6.2.11 | AFTER SUCCESSFUL EXECUTION OF ONE WORK IN CONSORTIUM WITH THE CONSORTIUM PARTNER UNDER DIRECT ORDERS OF BHEL, THE PRIME BIDDER SHALL BE ELIGIBLE FOR BECOMING A 'STANDALONE' BIDDER FOR WORKS SIMILAR TO THAT FOR WHICH CONSORTIUM PARTNER WAS ENGAGED, FOR SUBSEQUENT TENDERS. |
| 6.2.12 | THE CONSORTIUM 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. |
| 6.3 | BIDDER SHOULD FURNISH INFORMATION REGARDING PROJECTS IN HAND, CURRENT LITIGATION, ORDERS REGARDING EXCLUSION/ EXPULSION OR BLACK LISTING. |
| 6.4 | BIDDER MUST NOT BE UNDER BANKRUPTCY CODE PROCEEDINGS (IBC) BY NCLT OR UNDER LIQUIDATION / BIFR, WHICH WILL RENDER HIM INELIGIBLE FOR PARTICIPATION IN THIS TENDER, AND SHALL SUBMIT UNDERTAKING TO THIS EFFECT. |

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ANNEXURE-A-PQ

1. Value of work is to be updated with indices for "All India Avg. Consumer Price index for industrial workers" and "Monthly Whole Sale Price Index for All Commodities" with base month as per last month of work execution and indexed up to three (3) months prior to the month of latest due date of bid submission as per following formula-

$$P = R + 0.425 \times R \times \frac{(X_N - X_0)}{X_0} + 0.425 \times R \times \frac{(Y_N - Y_0)}{Y_0}$$

Where

P = Updated value of work

R = Value of executed work

X_N = All India Avg. Consumer Price index for industrial workers for three months prior to the month of latest due date of bid submission (e.g. If latest bid submission date is 02-Mar-17, then bid submission month shall be reckoned as March'17 and index for Dec'2016 shall be considered).

X_0 = All India Avg. Consumer Price index for industrial workers for last month of work execution

Y_N = Monthly Whole Sale Price Index for All Commodities for three months prior to the month of latest due date of bid submission (e.g. If latest bid submission date is 02-Mar-17, then bid submission month shall be reckoned as March'17 and index for Dec'2016 shall be considered).

Y_0 = Monthly Whole Sale Price Index for All Commodities for last month of work execution

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

2. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated along with all annexures.
3. In case audited Financial statements have not been submitted for all the three years as indicated, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e total divided by three.
4. NETWORTH : Shall be calculated based on the latest Audited Accounts as furnished. Net worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies)
5. PROFIT : shall be NET profit (PAT + Non cash expenditure viz depreciation) earned during any one of the three financial years.
6. 'Additional' Criteria in respect of 'Technical' criteria of PQR for Civil, Electrical, CI, unless otherwise specified:
 - i) 'Similar' work means
 - a. Piling or Civil or Structure or 'Civil and Structural works' or RCC Chimney or RCC Cooling Tower or RCC Silo or Mill Bunker or any combination of these shall be considered similar works for all packages mentioned under 'CIVIL WORKS'
 - b. Electrical or C&I or 'Electrical and C&I' shall be considered similar works for all packages mentioned under 'ELECTRICAL AND C&I WORKS'
7. Completion date for achievement of the 'Technical' criteria of PQR will be the last 7 years ending on the 'latest date of Bid submission' of Tender irrespective of date of the start of work
8. 'EXECUTED' means the bidder should have achieved the criteria specified in the Technical criteria of PQR even if the Contract has not been completed or closed
9. Unless otherwise specified, for the purpose of 'Technical' criteria of PQR, the word 'EXECUTED' means achievement of milestones as defined below:
 - a. "ACHIEVEMENT OF PHYSICAL QUANTITIES" as per respective PQRs.
 - b. "READINESS FOR COAL FILLING" in respect of Mill Bunker.
 - c. "CHARGING" in respect of Power Transformers / Bus Ducts / "HT/LT Switchgears" / "HT / LT Cabling".
 - d. For C&I works: "SYNCHRONISATION" in case of power project and "WORK COMPLETION of the value as defined in PQR" in case of industry.
 - e. "BOILER LIGHT UP" in respect of Boiler / CFBC / ESP.
 - f. "GAS IN" in respect of HRSG.
 - g. "STEAM BLOWING COMPLETION" in respect of Power Cycle Piping.
 - h. "HYDRAULIC TEST" of the system in respect of Pressure parts / LP Piping / CW Piping.
 - i. "FULL LOAD OPERATION OF THE UNIT" in respect of Insulation work.
 - j. "SYNCHRONISATION" in respect of STG / GTG.
 - k. "SPINNING" in respect of HTG.
 - l. "COMPLETION AND HANDING OVER FOR MECHANICAL ERECTION" in respect of STG Deck and Machine/Equipment foundation.
10. Boiler means HRSG or WHRB or any other types of Steam Generator
11. Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass
12. For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5TPH where ever rating of HRSG/BOILER is mentioned in MW. Similarly, where ever rating of Gas Turbine is mentioned in terms of Frame size, ISO rating in terms of MW shall be considered for evaluation.
13. In case the experience/PO/WO certificate enclosed by bidders do not have separate break up prices for the E&C portion of Electrical and CI Works, (i.e. the certificates enclosed are for composite order for supply and erection of Electrical & CI and other works if any), then value of Erection and Commissioning for the Electrical & CI portion shall be considered as 15% of the supply & erection of Electrical & CI, unless otherwise specifically indicated in the PQR.
14. Scope for capital overhaul of STG shall cover Bearing Inspection work and overhauling of all cylinders of the Turbine.
15. In case the tendered scope is not a Pulverised Fuel Boiler, experience of Oil/Gas Fired Boilers also can be considered.
16. Value of work is to be updated with indices for "All India Avg. Consumer Price index for industrial workers" and "Monthly Whole Sale Price Index for All Commodities" with base month as per last month of work execution and indexed up to three (3) months prior to the month of latest due date of bid submission as per following formula-

$$P = R + 0.425 \times R \times \frac{(X_N - X_0)}{X_0} + 0.425 \times R \times \frac{(Y_N - Y_0)}{Y_0}$$

Where

P = Updated value of work

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R = Value of executed work

X_N = All India Avg. Consumer Price index for industrial workers for three months prior to the month of latest due date of bid submission (e.g. If latest bid submission date is 02-Mar-17, then bid submission month shall be reckoned as March'17 and index for Dec'2016 shall be considered).

X_0 = All India Avg. Consumer Price index for industrial workers for last month of work execution

Y_N = Monthly Whole Sale Price Index for All Commodities for three months prior to the month of latest due date of bid submission (e.g. If latest bid submission date is 02-Mar-17, then bid submission month shall be reckoned as March'17 and index for Dec'2016 shall be considered).

Y_0 = Monthly Whole Sale Price Index for All Commodities for last month of work execution

17. PROFIT shall be PBT earned during any one year of last three financial years as mentioned in PQR.
18. For evaluation of PQR, the credentials of the Bidder alone, and not that of the Group Company shall be considered.
19. "Executed" means the bidder should have achieved the criteria specified in the PQR even if the Contract has not been completed or closed.
20. Bidder must not be under Bankruptcy Code Proceedings (IBC) by NCLT or under Liquidation / BIFR, which will render him ineligible for participation in this tender, and shall submit undertaking to this effect.

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ANNEXURE - 2**FORMAT FOR NO DEVIATION CERTIFICATE**
(To be submitted in the bidder's letter head)

BHARAT HEAVY ELECTRICALS LIMITED,
Power Sector - Eastern Region,
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,
Kolkata – 700 091

| | | |
|-----|--|--|
| Sub | No Deviation Certificate. | |
| Job | Handling at site/ storage yard, transportation to site of work, pre-assembly, erection, testing, commissioning and handing over of Electrical & C&I system for Boiler, ESP, TG sets for Unit-IV of 4x250 MW BRBCL, Nabinagar Project, Bihar. | |
| Ref | 1.0 | Tender no PSER:SCT:NBN-E1965:19 |
| | 2.0 | BHEL's NIT, vide reference no PSER:SCT:NBN-E1965:7553 Date: 10-05-2019 |
| | 3.0 | All other pertinent issues till date. |

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification, integrity pact (if applicable) and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted/uploaded offer/documents in accordance with tender instructions with acceptance of the terms & conditions of the tender by us and as per aforesaid references.

Thanking you,

Yours faithfully,

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

ANNEXURE - 3**FORMAT FOR SEEKING CLARIFICATION**

| | |
|------------------|--|
| JOB | Handling at site/ storage yard, transportation to site of work, pre-assembly, erection, testing, commissioning and handing over of Electrical & C&I system for Boiler, ESP, TG sets for Unit-IV of 4x250 MW BRBCL, Nabinagar Project, Bihar. |
| TENDER NO | PSER:SCT:NBN-E1965:19 |

| Sl no | Reference clause of tender document | Existing provision | Bidder's query | BHEL's clarification |
|--------------|--|---------------------------|-----------------------|-----------------------------|
| | | | | |
| | | | | |
| | | | | |

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ANNEXURE - 4**CHECK LIST**

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

| | | | |
|-----|---|--|--------------------|
| 1 | Name and Address of the Tenderer | | |
| 2 | Details about type of the Firm/Company | | |
| 3.a | Details of Contact person for this Tender | Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No: | |
| 3.b | Details of alternate Contact person for this Tender | Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No: | |
| 4 | EMD DETAILS | DD No: Date : Bank : Amount: Please tick (√) whichever applicable:- ONE TIME EMD / ONLY FOR THIS TENDER | |
| 5 | Validity of Offer | TO BE VALID FOR SIX MONTHS FROM DUE DATE | |
| | | APPLICABILITY(BY BHEL) | ENCLOSED BY BIDDER |
| 6 | Whether the format for compliance with PRE QUALIFICATION CRITERIA (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format | Applicable | YES / NO |
| 7 | Audited profit and Loss Account for the last three years | Applicable/Not Applicable | YES/NO |
| 8 | Copy of PAN Card | Applicable/Not Applicable | YES/NO |
| 9 | Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed | Applicable/Not Applicable | YES/NO |
| 10 | Integrity Pact | Applicable/Not Applicable | YES/NO |
| 11 | Declaration by Authorised Signatory | Applicable/Not Applicable | YES/NO |
| 12 | No Deviation Certificate | Applicable/Not Applicable | YES/NO |
| 13 | Declaration confirming knowledge about Site Conditions | Applicable/Not Applicable | YES/NO |
| 14 | Declaration for relation in BHEL | Applicable/Not Applicable | YES/NO |
| 15 | Non Disclosure Certificate | Applicable/Not Applicable | YES/NO |
| 16 | Bank Account Details for E-Payment | Applicable/Not Applicable | YES/NO |
| 17 | Capacity Evaluation of Bidder for current Tender | Applicable/Not Applicable | YES/NO |
| 18 | Tie Ups/Consortium Agreement are submitted as per format | Applicable/Not Applicable | YES/NO |
| 19 | Power of Attorney for Submission of Tender/Signing Contract Agreement | Applicable/Not Applicable | YES/NO |
| 20 | Analysis of Unit rates | Applicable/Not Applicable | YES/NO |
| 21 | Bankruptcy Code Proceedings (IBC) by NCLT or under Liquidation / BIFR (Undertaking to be enclosed if not applicable) | Applicable/Not Applicable | YES/NO |

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

DATE :

AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

| |
|--|
| <p>पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)</p> <p>POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091</p> <p>फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211691/ 23398000</p> |
|--|

ANNEXURE-5CONDITIONS TO BE COMPLIED WITH FOR CONSORTIUM BIDDING (TECHNICAL TIE UP)

- 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. The Prime Bidder and Consortium Partner(s) shall certify to BHEL regarding existence and validity of their consortium agreement on six monthly basis.
- 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.
- 3 Number of partners for a consortium Bidding (or Technical Tie up) shall be as specified in the PQR.
- 4 Prime Bidder shall be as specified in the Pre Qualification Requirement, else the bidder who has the major share of work.
- 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 8.0
- 6 Prime Bidder shall comply with additional 'Technical' criteria of PQR as defined in 'Explanatory Notes for the PQR'
- 7 Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified
- 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.
- 9 Prime Bidder shall be responsible for the overall execution of the contract
- 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.
- 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.
- 12 In case the prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.
- 13 After successful execution of one work with a consortium partner under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'standalone' bidder for works similar to that for which consortium partner was engaged, for subsequent tenders.
- 14 The consortium 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.
- 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.

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Annexure - AAmendment to GCC/SCC

1. Introduction of Clause No 1.15.13 in GCC as below:

Clause No 1.15.13: Additional security deposit (SD) has to be submitted by the successful bidder with value as follows:

“If the final price of successful bidder is lesser by ‘more than 20%’ of BHEL’s estimate - ‘Additional Security Deposit’ will be required to be submitted by the successful bidder with value as follows:

Additional Security Deposit = 30 % of (A-B) limited to a maximum of 10% of the ‘Total Price/Contract Value’, where,

A = 80% of BHEL estimate

B = The final offered price of successful bidder through RA (In case of RA)

OR

Sealed paper price bid of successful bidder (in case of paper bid)

This ‘Additional Security Deposit’ shall have the same validity as that of the ‘Security Deposit’ and shall be revalidated/released in the manner as spelt out for the ‘Security Deposit’ as per relevant clause of GCC.

The BHEL’s estimated value shall be disclosed to the successful bidder (on their request) at appropriate juncture in case ‘Additional Security Deposit’ is applicable.”

2. Clause no. 1.9.1(ii) of GCC shall be read as below:

The EMD may be accepted only in the following forms:

(a) Cash deposit as permissible under the extant Income Tax Act (before tender opening)

(b) Electronic Fund Transfer credited in BHEL account (before tender opening)

(c) Banker’s cheque/ Pay order/ Demand draft, in favour of BHEL (along with offer)

(d) Fixed Deposit Receipt (FDR) issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL).

In addition to above, the EMD amount in excess of Rs. 2 Lakh may also be accepted in the form of Bank Guarantee from scheduled bank. The Bank Guarantee in such cases shall be valid for atleast six months. EMD of successful tenderer will be retained as part of Security Deposit.

Clause no. 1.9.1(iv) & (v) of GCC stands deleted.

3. Clause no. 1.10.1 of GCC shall be read as below:

The total amount of Security Deposit will be 5% of the contract value. EMD of the successful tenderer shall be converted and adjusted towards the required amount of Security Deposit.

4. Clause no. 1.10.2 of GCC shall be read as below:

At least 50% of the required Security Deposit, including the EMD, should be furnished before start of the work. Balance of the Security Deposit can be deposited by deducting 10% of the gross amount progressively from each of the running bills of the Contractor till the total amount of the required Security Deposit is collected.

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The recoveries made from running bills (cash deduction towards balance SD amount) can be released against submission of equivalent Bank Guarantee in acceptable form, but only once, before completion of work, with the approval of competent authorities.

5. Clause no. 1.10.3 of GCC shall be read as below:

The balance amount to make up the required Security Deposit of 5% of the contract value may be accepted in the following forms:

- a) Cash (as permissible under the extant Income Tax Act)
- b) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL
- c) Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL
- d) Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL)
- e) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL)

(Note: 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)

6. Introduction of Clause No. 1.10.8 in GCC as below:

Clause No 1.10.8: SDBG to be furnished by the vendor before start of work. No payment will be released till SDBG is submitted by the vendor.

If requested by the vendor, cash recovery equivalent to SDBG value to be made from bills submitted by the vendor.

Also recovery of interest calculated @SBI PLR +2% on amount equivalent to SDBG / PBG value to be made for the gap period (difference between date of start of work and date of submission of BG / cash recovery).

In case of delay in extension of SDBG, in case of validity expiry, SDBG shall be invoked. However if the vendor submits a new BG after invocation of the previous BG then, it shall be refunded and recovery for the gap period, i.e. the duration for which BG is not available shall be made as stated above.

7. Clause no. 1.11 of GCC shall be read as below:

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 upon fulfilment of contractual obligations as per terms of the contract.

8. Clause no. 2.8.3, 2.8.4 and 2.8.5 of GCC shall be read as below:

Clause no. 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, Employers Provident Act, Employees State Insurance Scheme, Contract Labour (Regulation and Abolition) Act, 1970, Payment of Bonus & Gratuity Act, Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, The 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 having force or jurisdiction at Site. The Contractor shall also comply with provisions of and give all such notices to the local Governing Body, Police and other relevant Authorities as may be required by the Law.

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Clause no. 2.8.4: 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.

Clause no. 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.

9. Clause 2.12 of GCC (Overrun Compensation)

2.12 OVERRUN COMPENSATION (ORC)

2.12.1 ORC during original contract period: No ORC shall be applicable during the original contract period.

2.12.2 ORC during extended period for the reasons solely attributable to contractor: No ORC shall be applicable during the extended period granted for the reasons solely attributable to contractor and work executed during this period shall be paid as per original contract rates.

2.12.3 ORC during extended period for the reasons not attributable to contractor: ORC shall be payable as per following procedure:

2.12.3.1 For initial period of twelve months of extended period, ORC rate applicable over executed value shall be 5%. For every subsequent period of twelve months, ORC rate shall be further increased by 5% over the previous rate. For example, ORC rates applicable for initial period of 12 months and subsequent period of 12 months are given below.

| Sl. No. | Extended Period for the reasons attributable to BHEL | ORC rate applicable over executed value |
|---------|--|---|
| 1 | First 12 months | 5% |
| 2 | 13th-24th month and so on | 10.25% $\{[(1.05 \times 1.05) - 1] \times 100\}$ |

This process of increasing ORC rate for each subsequent period of 12 months shall continue till applicability of ORC.

2.12.3.2 On completion of original contract period as well as on completion of each subsequent period of twelve months i.e. at the time of change in applicable ORC rate, Delay Analysis shall be carried out and percentage shortfall attributable to both BHEL & Contractor shall be calculated.

2.12.3.3 For the purpose of calculation of ORC, executed value of work in the month shall be divided in Part-1 and Part-2 in proportion of percentage shortfall attributable to BHEL and contractor respectively, based on the last delay analysis as worked out in 2.12.3.2.
ORC shall be payable only on Part-1 and no ORC shall be payable on Part-2.

Value of Part-1 shall be further limited to the value of actual inputs provided by BHEL i.e. "Plan - Shortfall attributable to BHEL" for the month, as per Form-14 for calculation of ORC.

2.12.3.4 Payment of ORC amount shall be further regulated as follows:

(i) 50% of the ORC is allocated for deployment of matching resources (with weightages) agreed as per the joint programme drawn vide 2.11.4. ORC Payment against resources shall be calculated in proportion to percentage of resources actually deployed w.r.t. planned resources, as per Form-14.

(ii) 50% of ORC is allocated for achieving of planned progress agreed as per the joint programme drawn vide 2.11.4. ORC Payment shall be reduced in proportion to percentage

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shortfall attributable to contractor w.r.t. "Plan - Shortfall attributable to BHEL" for the month, as per Form-14.

- 2.12.3.5 The maximum amount of ORC payable for the month shall be limited to Rs. 5,00,000/-.
- 2.12.3.6 In case, there is no shortfall attributable to contractor for the month and also contractor has deployed the resources as agreed in Form-14 but ORC amount payable for the month worked out as per procedure mentioned in clause 2.12.3.3, 2.12.3.4 and 2.12.3.5, is less than Rs.1,00,000/-, then ORC amount payable for the month shall be Rs.1,00,000/- otherwise ORC amount payable for the month shall remain same.
- 2.12.3.7 In case execution is on HOLD (Other than Force Majeure), ORC shall be payable as per following:
- i). Contractor has not been permitted by BHEL to de-mobilize
 - a) ORC amount of Rs. 1,00,000/- per month shall be applicable during the period of HOLD provided resources as planned are deployed (not demobilised) during the period of hold.
 - b) Subsequent to lifting of HOLD, Period of HOLD shall not be excluded in calculation of period for deciding applicable ORC rate as per clause 2.12.3.1.
 - ii). Contractor has been permitted to demobilize and to remobilize after lifting of HOLD
 - a) No ORC shall be payable to contractor for the period of HOLD.
 - b) Subsequent to lifting of HOLD, Period of HOLD shall not be excluded in calculation of period for deciding applicable ORC rate as per clause 2.12.3.1.
- 2.12.3.8 In case Force Majeure is invoked:
- (i) No ORC shall be applicable during the period of Force Majeure.
 - (ii) Subsequent to revocation of Force Majeure, period of Force Majeure shall be excluded in calculation of period for deciding applicable ORC rate as per clause 2.12.3.1.
- 2.12.4 Applicability of ORC: ORC shall not be applicable for following activities.
- (i) Area cleaning, removal of temporary structures and return of scrap.
 - (ii) Punch list points / pending points liquidation pending due to reasons attributable to contractor
 - (iii) Submission of "As built Drawing"
 - (iv) Material Reconciliation
 - (v) Completion of Contract Closure formalities like HR Clearance/ No dues from various dept./ Statutory Authorities etc.
- 2.12.5 Total Over Run Compensation shall be limited to 10% of the cumulatively executed contract value till the month (excluding Taxes and Duties if payable extra). For this purpose, executed contract value excludes PVC, ORC and Extra/Supplementary Works.

10. Clause 2.14 of GCC (Quantity Variation)

- a) Existing Clause 2.14.1 of GCC stands revised as follows:

"The quantities given in the contract are tentative and may change to any extent (both in plus side and minus side). The quoted rates for individual items 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 limit of Minus (-) 15% of awarded contract value"

- b) Existing Clause 2.14.2 ii). of GCC stands revised as follows:

"In case the finally executed contract value increases above the awarded Contract Value due to quantity variation, there will be no upward revision in the rates for the individual items and also contractor is not eligible for any compensation."

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11. Clause 2.17 of GCC (Price Variation Compensation) stands revised as follows:

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 (only for works executed during extended period, if any, subject to other conditions as described in this section)

2.17.2 85% component of Contract Value shall be considered for PVC calculations and remaining 15% shall be treated as fixed component. The basis for calculation of price variation in each category, their component, Base Index shall be as under:

| SL NO | CATEGORY | BASE INDEX | PERCENTAGE COMPONENT ('K') | | | | |
|-------|--|---|-----------------------------------|----|----|---------------------|---|
| | | | CIVIL PACKAGES (See Note AB/C) | | | MECHANICAL PACKAGES | Electrical, C&I Material Management/Handling and other labour oriented packages |
| | | | 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 DIESEL OIL | Name of Commodity: HSD Commodity Code: 1202000005 (See Note E) | 5 | 3 | 5 | 5 | 5 |
| iii) | WELDING ROD | Name of Commodity: MANUFACTURE OF BASIC METALS Commodity Code: 1314000000 (See Note E) | | | | 15 | |
| iv) | CEMENT | Name of Commodity: ORDINARY PORTLAND CEMENT Commodity Code: 1313050003 (See Note E) | | 20 | 30 | | |
| v) | STEEL (Structural and Reinforcement Steel) | Name of Commodity: MILD STEEL: LONG PRODUCTS Commodity Code: 1314040000 (See Note E) | | 25 | | | |
| vi) | All OTHER MATERIALS (Other than Cement & Steel) | Name of Commodity: ALL COMMODITIES Commodity Code: 1000000000 (See Note E) | 40 | 12 | 20 | | |

Note: A) Cement & Steel: Free Issue (BHEL Scope)
 B) Cement & Steel : In Contractor Scope
 C) Cement in Contractor Scope, and Steel is Free Issue (BHEL Scope)
 D) For Composite packages (i.e. Civil+Mechanical+Electrical and/or CI or Civil+Mechanical or Mechanical+Electrical and/or CI), the COMPONENT ('K') for various categories shall be as per respective packages as above.
 E) 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: <http://eaindustry.nic.in/home.asp>). Revisions in the index or commodity will be re adjusted accordingly.

2.17.3 #

2.17.4 Payment/recovery due to variation in index shall be determined on the basis of the following notional formula in respect of the identified COMPONENT ('K') 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 ('K') 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)

X_N = Revised Index for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials for the billing month under consideration

X₀ = Index for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials as on the Base date

2.17.5 Base date shall be the calendar month of the schedule completion date (i.e. Actual start date+ Scheduled Contractual completion period as per Letter of Intent/award and/or work order).

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

However, PVC will be payable for items executed under quantity variation of BOQ items under originally awarded contract.

2.17.7 The contractor shall furnish necessary monthly bulletins in support of the requisite 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 only, during the extended period of contract (if any) after the scheduled completion period and for the portion of work delayed / backlog for the reasons not attributable to the Contractor.

However total quantum of Price Variation amount payable/recoverable shall be regulated as follows:

- i. For the portion of shortfall / backlog not attributable to contractor, PVC shall be worked out on the basis of indices applicable for the respective month in which work is done. Base index shall be applicable as defined in clause 2.17.5
- ii. In case of Force majeure, PVC shall be regulated as per (a) or (b) below:
 - a) Force majeure is invoked before "base date"/ "revised base date" (as explained below) OR immediately after "base date"/ "revised base date" in continuation (i.e. during the period when PVC is not applicable):
 1. Base date shall be revised: Revised base date =Previous base date+ duration of Force majeure.
No PVC will be applicable for the work done till revised base date.
 2. PVC will be applicable for the work done after "base date"/ "revised base date" as the case may be (during extended period when delay is not attributable to contractor). PVC shall be worked out on the basis of indices applicable for the respective month in which work is done with base index as on "base date"/"revised base date" as the case may be.
 - b) Force majeure is invoked after "base date"/ "revised base date" as the case may be (during extended period when delay is not attributable to contractor) -
 1. PVC shall be applicable for the work done after revocation of force majeure.

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2. PVC for the work done after revocation of force majeure shall be worked out on the basis of indices applicable for the respective month in which work is done excluding the effect of change in indices during total period of Force majeure(s) invoked after "base date"/ "revised base date" as the case may be. Base index shall be taken as on "base date"/ "revised base date" as the case may be.
- iii. The total amount of PVC shall not exceed 15% of the cumulatively executed contract value. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works except extra items due to quantity variation.

12. Clause 2.2 of GCC (Law governing the contract and court jurisdiction) stands revised as follows:

"The contract shall be governed by the Law for the time being in force in the Republic of India. Subject to Clause 2.21.1 or 2.21.2 of this Contract, 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 matters in respect of the Contract."

13. Existing Clause 2.21 "ARBITRATION" of GCC has been amended as follows:

2.21 ARBITRATION & CONCILIATION

2.21.1 ARBITRATION:

2.21.1.1 Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in Clause 2.21.2 herein below or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, commence arbitration in respect of such Dispute by issuance of a notice in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice'). The Notice shall contain the particulars of all claims to be referred to arbitration in sufficient detail and shall also indicate the monetary amount of such claim. The arbitration shall be conducted by a sole arbitrator to be appointed by the Head of the BHEL Power Sector Region issuing the Contract within 60 days of receipt of the complete Notice. The language of arbitration shall be English.

The Arbitrator shall pass a reasoned award.

Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder as in force from time to time shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Kolkata (the place from where the contract is Issued). The Contract shall be governed by and be construed as per provisions of the laws of India. Subject to this provision 2.21.1.1 regarding ARBITRATION, the principal civil court exercising ordinary civil jurisdiction over the area where the seat of arbitration is located shall have exclusive jurisdiction over any DISPUTE to the exclusion of any other court.

2.21.1.2 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 commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution of CPSEs Disputes) as mentioned in DPE OM No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22-05-2018 as amended from time to time.

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2.21.1.3 The cost of arbitration shall initially be borne equally by the Parties subject to the final allocation thereof as per the award/order passed by the Arbitrator.

2.21.1.4 Notwithstanding the existence of any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner unless the dispute inter-alia relates to cancellation, termination or short-closure of the Contract by BHEL.

2.21.2 CONCILIATION:

If at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract), which the Parties are unable to settle mutually, arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee (IEC) to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Procedure 2.3 to this GCC. The Procedure 2.3 together with its Formats will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this GCC.

The Contractor hereby agrees that BHEL may make any amendments or modifications to the provisions stipulated in the Procedure 2.3 to this GCC from time to time and confirms that it shall be bound by such amended or modified provisions of the Procedure 2.3 with effect from the date as intimated by BHEL to it.

2.21.3 No Interest payable to Contractor

Notwithstanding anything to the contrary contained in any other document comprising in the Contract, no interest shall be payable by BHEL to Contractor on any moneys or balances including but not limited to the Security Deposit, EMD, Retention Money, RA Bills or the Final Bill, or any amount withheld and/or appropriated by BHEL etc., which becomes or as the case may be, is adjudged to be due from BHEL to Contractor whether under the Contract or otherwise.

14. Clause no. 2.7.2 and 2.7.3 of Volume-IB-GCC shall be revised as follows:

2.7.2.1 To terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor after due notice of a period of 14 days' by BHEL in any of the following cases:

- i). Contractor's poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor including unexecuted portion of work does not appear to be executable within balance available period considering its performance of execution.
- ii). Withdrawal from or abandonment of the work by contractor before completion of the work as per contract.
- iii). Non-completion of work by the Contractor within scheduled completion period as per Contract or as extended from time to time, for the reasons attributable to the contractor.

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- iv). Termination of Contract on account of any other reason (s) attributable to Contractor.
- v). Assignment, transfer, subletting of Contract without BHEL's written permission.
- vi). Non-compliance to any contractual condition or any other default attributable to Contractor.

Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows: Risk

$$\& \text{ Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Work (*) as per rates of new contract

B= Value of Balance scope of Work (*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

* Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount. Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose. Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: In case portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk & Cost amount.

LD against delay in executed work in case of Termination of Contract:

LD against delay in executed work shall be calculated in line with LD clause no. 2.7.9 of GCC, for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract.

Method for calculation of "LD against delay in executed work in case of termination of contract" is given below.

- i). Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
- ii) Let the value of executed work till the time of termination of contract= X
- iii) Let the Total Executable Value of work for which inputs/fronts were made available to contractor and were planned for execution till termination of contract = Y
- iv) Delay in executed work attributable to contractor i.e. $T2 = [1 - (X/Y)] \times T1$
- v) LD shall be calculated in line with LD clause (clause 2.7.9) of the Contract for the delay attributable to contractor taking "X" as Contract Value and "T2" as period of delay attributable to contractor.

2.7.2.2 In case Contractor fails to deploy the resources as per requirement, BHEL can deploy own/hired/otherwise arranged resources at the risk and cost of the contractor and recover the expenses incurred from the dues payable to contractor. Recoveries shall be actual expenses incurred plus 5% overheads or as defined in TCC.

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2.7.3 Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor

Following sequence shall be applicable for recoveries from contractor:

- a) Dues available in the form of Bills payable to contractor, SD, BGs against the same contract.
- b) Demand notice for deposit of balance recovery amount shall be sent to contractor, if funds are insufficient to effect complete recovery against dues indicated in (a) above.
- c) If contractor fails to deposit the balance amount to be recovered within the period as prescribed in demand notice, following action shall be taken for balance recovery:
 - i) Dues payable to contractor against other contracts in the same Region shall be considered for recovery.
 - ii) If recovery cannot be made out of dues payable to the contractor as above, balance amount to be recovered, shall be informed to other Regions/Units for making recovery from the Unpaid Bills/Running Bills/SD/BGs/Final Bills of contractor.
 - iii) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.

15. Clause 2.24 of GCC (Performance Guarantee for Workmanship)

Term "Special Conditions of Contract" appearing in 3rdline of the current clause 2.24.1, is replaced by "Technical Conditions of Contract"

16. Clause 4.2.1.7 of Special Condition of Contract (SCC)

At the end of Clause 4.2.1.7 (i.e. after the line "Decision of BHEL shall be final and binding on the contractor") following para is to be added

"It is not obligatory on the part of BHEL to provide any tools and tackles or other materials other than those specifically agreed to do so by BHEL. However, depending upon the availability, BHEL /BHEL's Customer handling equipment and other plants may be made available to the contractor on payment of hire charges as fixed, subject to the conditions laid down by BHEL/Customer from time to time. Unless paid in advance, such hire charges, if applicable, shall be recovered from contractor's bill / security deposit or any other due payment in one installment."

17. Clause 9.61 of SCC (NON-COMPLIANCE)

Under NON-COMPLIANCE, at the end of Clause 9.61 (i.e. after the line "Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.") following para is to be added:

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

18. Clause 9.1 & 9.2 to 9.62 of SCC (HSE & OHSAS Obligations)

| | |
|---------------------|---|
| Cl. no. 9.0 | No change |
| Cl. no. 9.1 | HSE (Health, safety & Environment): Contractor will comply with HSE (Health, safety & Environment) requirements of BHEL as per "HSE Plan for Site Operations by Sub-contractors" (Document no. HSEP:14, Rev.00) attached with this tender. |
| Cl. no. 9.2 to 9.62 | Deleted |

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Annexure -BTerms & Conditions of Reverse Auction

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

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit "online sealed bid" in the Reverse Auction. Non-submission of "online sealed bid" by the bidder for any of the eligible items for which techno- commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained for participation in the reverse auction.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Compliance form (annexure III) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" which is inclusive of all cost elements in line with terms & conditions of the tender for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure IV) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL"s standard practice.
12. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the "Business Rules of Reverse Auction", which will be communicated before the Reverse Auction.
13. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action *as per extant BHEL guidelines*, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) will not be allowed to participate in further RA process provided minimum three bidders are left after removal of H1 bidder. In case of tie for H1 bid (identical online sealed bids), 15 minutes' additional time shall be provided and all the participating bidders shall be informed by mail/message on bidding screen to enable bidders submit revised online sealed bids so as to break the tie.

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Annexure -C**Certificate by Chartered Accountant on letter head**

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

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

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

(Strike off whichever is not applicable)

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

Or

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

Date:

(Signature)

Name-

Membership number-

Seal of Chartered Accountant

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Annexure –D**Specific Clause w.r.t. BOCW Act & Cess Act**

1. It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under the 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 and the rules made thereunder.
2. It shall be sole responsibility of the contractor engaging Building Workers in connection with the building or other construction works in the capacity of employer to apply and obtain registration certificate specifying the scope of work under the relevant provisions of the Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 from the appropriate Authorities.
3. It shall be responsibility of the contractor to furnish a copy of such Registration Certificate within a period of one month from the date of commencement of Work.
4. It is responsibility of the contractor to register under the Building and other Construction Workers' Welfare Cess Act, 1996 and deposit the required Cess for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 at such rate as the Central Government may, by notification in the Official Gazette, from time to time specify. However, before registering and deposit of Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, the contractor will seek written prior approval from the Construction Manager.
5. In case where the contractor has been accorded written approval by the Construction Manager and the contractor is required to furnish information in Form I and deposit the Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, fails to do so, BHEL reserves right to impose penalty at the rate of 30% of Cess Amount.
6. It shall be sole responsibility of the contractor as employer to get registered every Building Worker, who is between the age of 18 to 60 years of age and who has been engaged in any building or other construction work for not less than ninety days during the preceding twelve months as Beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996.
7. It shall be sole responsibility of the contractor as employer to maintain all the registers, records, notices and submit returns under the 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 and the rules made thereunder.
8. It shall be sole responsibility of the contractor as employer to provide notice of poisoning or occupation notifiable diseases, to report of accident and dangerous occurrences to the concerned authorities under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the rules made thereunder and to make payment of all statutory payments & compensation under the Employees' Compensation Act, 1923.
9. It shall be responsibility of the Contractor to furnish BHEL on monthly basis, Receipts/ Challans towards Deposit of the Cess under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder along with following statistics :
 - (i) Number of Building Workers employed during preceding one month.
 - (ii) Number of Building workers registered as Beneficiary during preceding one month.
 - (iii) Disbursement of Wages made to the Building Workers for preceding wage month.
 - (iv) Remittance of Contribution of Beneficiaries made during the preceding month
10. BHEL shall reimburse the contractor the Cess amount deposited for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder. However, BHEL shall not reimburse the Fee paid towards the registration of establishment, fees paid towards registration of Beneficiaries and Contribution of Beneficiaries remitted.
11. It shall be responsibility of the Building Worker engaged by the Contractor and registered as a beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 to contribute to the Fund at such rate per mensem as may be specified by the State government

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by notification in the Official Gazette. Where such beneficiary authorizes the contractor being his employer to deduct his contribution from his monthly wages and to remit the same, the contractor shall remit such contribution to the Building and other construction Workers' Welfare Board in such manner as may be directed by the Board, within the fifteen days from such deduction.

12. If any point of time during the contract period, non-compliance of the provisions of the 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 and the rules made thereunder is observed, BHEL reserves the right to withhold a reasonable amount from the payables to discharge any obligations on behalf of Contractors. The reasonable amount shall be decided by the Construction Manager in consultation with Resident Accounts Officer & Head HR and shall be final.
13. The contractor shall declare to undertake any liability or claim arising out of employment of building workers and shall indemnify BHEL from all consequences / liabilities / penalties in case of non compliance of the provisions of the 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 and the rules made thereunder.

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ANNEXURE-E**Statewise GST Registration nos.**

| Sl. No. | State / UT | GST Reg. No. |
|----------------|-------------------|---------------------|
| 1 | Andhra Pradesh | 37AAACB4146P7Z8 |
| 2 | Assam | 18AAACB4146P1ZE |
| 3 | Bihar | 10AAACB4146P1ZU |
| 4 | Chandigarh | 04AAACB4146P1ZN |
| 5 | Chattishgarh | 22AAACB4146P1ZP |
| 6 | Daman & Diu | 25AAACB4146P1ZJ |
| 7 | Delhi | 07AAACB4146P1ZH |
| 8 | Gujarat | 24AAACB4146P1ZL |
| 9 | Haryana | 06AAACB4146P1ZJ |
| 10 | HP | 02AAACB4146P1ZR |
| 11 | Jharkhand | 20AAACB4146P5ZP |
| 12 | Karnataka | 29AAACB4146P1ZB |
| 13 | Kerala | 32AAACB4146P1ZO |
| 14 | Maharashtra | 27AAACB4146P1ZF |
| 15 | MP | 23AAACB4146P1ZN |
| 16 | Punjab | 03AAACB4146P2ZO |
| 17 | Rajasthan | 08AAACB4146P1ZF |
| 18 | Tamil Nadu | 33AAACB4146P2ZL |
| 19 | Telangana | 36AAACB4146P1ZG |
| 20 | Tripura | 16AAACB4146P1ZI |
| 21 | UP | 09AAACB4146P2ZC |
| 22 | Uttarakhand | 05AAACB4146P1ZL |
| 23 | West Bangal | 19AAACB4146P1ZC |
| 24 | Mizoram | 15AAACB4146P1ZK |
| 25 | Orissa | 21AAACB4146P1ZR |
| 26 | Arunachal Pradesh | 12AAACB4146P1ZQ |

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

फोन/Phone : बोर्ड/EPABX : 23211691/ 23398000

Annexure- CPP-GST/I**Please arrange to submit this filled-up format along with Tender**

| | |
|---|--|
| Name of the Company | |
| Address of Company* | |
| Company Registration Number* | |
| Name of Partners / Directors | |
| | |
| | |
| ALL THE STATES WHERE BIDDER HAS A PLACE OF BUSINESS* | |
| ALL ADDRESS OF VENDOR MENTIONING THEIR PIN AS PER THE LATEST GST REGISTRATION* | |
| GSTN OF ALL THE ABOVE NOTED PLACES OF VENDOR* | |
| | |
| | |
| | |
| Bidder Type: Indian/ Foreign* | |
| City* | |
| State* | |
| Country* | |
| Postal Code* | |
| PAN/TAN Number* | |
| Company's Establishment Year | |
| Company's Nature of Business* | |
| Company's Legal Status* {limited /undertaking/joint venture/partnership/other} | |
| Company Category* {micro unit as per MSME/small unit as per MSME/medium unit as per MSME/ UAN as per Udyog Aadhaar Memorandum/ Ancillary unit/project affected person of this company/ssi/ other} | |
| Relevant documents to be submitted as applicable. | |
| Enter Company's Contact Person Details | |
| Title(Mr. / Mrs. / Ms. / Dr. / Shri)* | |
| Contact Name* | |
| Date Of Birth* | |
| Correspondence Email* | |
| (Correspondence Email ID can be same as your Login ID. All the mail correspondence will be sent only to the Correspondence Email ID.) | |
| Designation | |
| Phone* | |
| Fax* | |
| Mobile* | |

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

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TENDER NO: PSER:SCT:NBN-E1965:19

VOLUME -IB

GENERAL CONDITIONS OF CONTRACT
(SERVICE)

FOR

Handling at site/ storage yard, transportation to site of work, pre-assembly, erection, testing, commissioning and handing over of Electrical & C&I system for Boiler, ESP, TG sets for Unit-IV of 4x250 MW BRBCL, Nabinagar Project, Bihar

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVT. OF INDIA UNDERTAKING)

POWER SECTOR – EASTERN REGION

PLOT NO. – 9 / 1, DJ – BLOCK,

SECTOR – II, KARUNAMOYEE,

SALT LAKE CITY,

KOLKATA – 700091.

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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.

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| <p>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</p> <p>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.</p> <p>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.</p> <p>1.3. <u>LANGUAGE</u></p> <p>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.</p> <p>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.</p> <p>1.4 <u>PRICE DISCREPANCY:</u></p> <p>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:</p> <ul style="list-style-type: none"> 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. <p>1.4.2 Reverse Auction: In case of Reverse Auction, the successful bidder shall undertake to execute</p> |
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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

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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.

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- 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

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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

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| | <p>conditions, specifications etc., are liable to be rejected.</p> <p>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 <u>in line with clause no. 9.0 of the 'NIT'</u>. The decision of BHEL will be final in this regard.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>1.15.7 Canvassing in any form in connection with the tenders submitted by the Tenderer shall make his offer liable to rejection.</p> <p>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.</p> <p>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.</p> <p>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</p> <p>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.</p> <p>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.</p> |
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CHAPTER-2

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

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| 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. |

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| 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. |

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| 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 Tender |
| 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 Service of notice on contractor

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 Service of notice on BHEL

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| <p>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.</p> | |
| 2.4 | <p>USE OF LAND</p> <p>No land belonging to BHEL or their Customer under temporary possession of BHEL shall be occupied by the contractor without written permission of BHEL.</p> |
| 2.5 | <p>COMMENCEMENT OF WORK</p> |
| 2.5.1 | <p>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.</p> |
| 2.5.2 | <p>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.</p> |
| 2.5.3 | <p>All the work shall be carried out under the direction and to the satisfaction of BHEL.</p> |
| 2.6 | <p>MEASUREMENT OF WORK AND MODE OF PAYMENT:</p> |
| 2.6.1 | <p>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</p> |
| 2.6.2 | <p>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.</p> |
| 2.6.3 | <p>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.</p> |
| 2.6.4 | <p>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.</p> |
| 2.6.5 | <p>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.</p> |
| 2.6.6 | <p>Measurement shall be restricted to that portion of work for which it is required to ascertain the financial liability of BHEL under this contract.</p> |

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| 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 <u>of a period of two weeks by BHEL,</u> in the event of:- <ul style="list-style-type: none"> 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 |

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- 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 Sl.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:
- 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.
 - 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)
 - 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

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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 Manday 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 etc. such as Payment of Wages Act, Minimum Wages Act, Workmen Compensation Act, Employer's Liability Act, Industrial Disputes Act, Employers Provident Act, Employees State Insurance Scheme, Contract Labour (Regulation and Abolition) Act 1970, Payment of Bonus & Gratuity Act and other Acts, Rules and Regulations for labour as may be enacted by the Government during the tenure of the Contract and having force or jurisdiction at Site. The Contractor shall also give to the local Governing Body, Police and other relevant Authorities all such notices as may be required by the Law.
- 2.8.4 The contractor shall obtain independent License under the Contract Labour (Regulations and Abolition Act, 1970) as required from the concerned Authorities based on the certificate (Form-V) issued by the Principal Employer/Customer
- 2.8.5 The contractor shall pay all taxes, fees, license charges, deposits, duties, 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/

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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

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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

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| | <p>payable in not less than two installments with any of the installment not exceeding 60% of the total eligible advance.</p> |
| 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: <ul style="list-style-type: none"> a. Not less than 10% of Running Bill amount b. 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: <ul style="list-style-type: none"> i) 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. ii) In case the finally executed contract value increases above the upper limit of Contract Value |

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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:

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- 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 |

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| | | | A | B** | C | | PACKAGES (See Note D) |
|------|---|---|----|-----|----|----|--------------------------|
| 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 DIESEL OIL | Name of Commodity : HSD OIL. Type : INDIVIDUAL COMMODITY (See Note F) | 5 | 3 | 5 | 5 | 5 |
| 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.

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| <p>2.17.5 Base date shall be calendar month of the latest date of submission of Tender.</p> <p>2.17.6 PVC shall not be payable for the ORC amount, Supplementary/Additional Items, Extra works.</p> <p>2.17.7 The contractor shall furnish necessary monthly bulletins for the necessary indices from the relevant websites along with his Bills.</p> <p>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.</p> <p>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:</p> <ol style="list-style-type: none"> i) 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. ii) For the period of Force Majeure, the PVC will be limited to the indices applicable at the beginning of the force majeure period. iii) For the portion of backlog attributable to BHEL, the PVC will be as per the indices applicable for the respective months iv) 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. |
| <p>2.18 INSURANCE</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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</p> |

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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 :

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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

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| | <p>binding on the contractor.</p> <p>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</p> |
| 2.23.2 | <p>Final Bill</p> <p>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.</p> <p>i) 'No Claim Certificate' by contractor</p> <p>ii) Clearance certificates where ever applicable viz Clearance Certificates from Customer, various Statutory Authorities like Labour department, PF Authorities, Commercial Tax Department, etc</p> <p>iii) Indemnity bond as per prescribed format</p> <p>BHEL shall settle the final bills after deducting all liabilities of Contractor to BHEL</p> |
| 2.24 | <p>PERFORMANCE GUARANTEE FOR WORKMANSHIP</p> |
| 2.24.1 | <p>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.</p> |
| 2.24.2 | <p>BHEL shall release the guarantee money subject to the following</p> <p>i) Contractor has submitted 'Final Bill'</p> <p>ii) Guarantee period as per contract has expired</p> <p>iii) Contractor has furnished 'No Claim Certificate' in specified format</p> <p>iv) BHEL Site Engineer/Construction Manager has furnished the 'No Demand Certificate' in specified format</p> <p>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.</p> |
| 2.25 | <p>CLOSING OF CONTRACTS</p> <p>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.</p> |
| 2.26 | <p>REVERSE AUCTION:</p> <p>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.</p> |
| 2.27 | <p>SUSPENSION OF BUSINESS DEALINGS</p> <p>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</p> |

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| 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

FOR

Handling at site/ storage yard, transportation to site of work, pre-assembly, erection, testing, commissioning and handing over of Electrical & C&I system for Boiler, ESP, TG sets for Unit-IV of 4x250 MW BRBCL, Nabinagar Project, Bihar

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVT. OF INDIA UNDERTAKING)

POWER SECTOR – EASTERN REGION

PLOT NO. – 9 / 1, DJ – BLOCK,

SECTOR – II, KARUNAMOYEE,

SALT LAKE CITY,

KOLKATA – 700091.

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SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter - I : General Intent of Specifications

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| 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

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| 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

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| 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)

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| 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

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| 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 |

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

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| | electrode without a valid test certificate will to be used. |
| 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 |

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Chapter - IV : Obligations of Contractor

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| | equipments at site for the execution of work under this contract. |
| 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. |

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Chapter - IV : Obligations of Contractor

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| | <p>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.</p> <p>BHEL reserves the right to permit only new slings up to 20 mm and lifting tackles up to 3 MT capacities.</p> |
| 4.2.1.12 | <p>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.</p> |
| 4.2.1.13 | <p>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.</p> |
| 4.2.1.14 | <p>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.</p> |
| 4.2.1.15 | <p>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.</p> |
| 4.2.2 | Obligations in respect of T&Ps and MMEs provided by BHEL |
| 4.2.2.1 | <p>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.</p> |
| 4.2.2.2 | <p>BHEL T&P will be issued in basic assembled condition. Additional loose components / sub-assemblies / attachments as and when necessary, will be</p> |

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| | 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 / 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 | <p>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.</p> <p>*: for operation and maintenance of ESP Huck bolting machine, BHEL shall provide the basic power rig and hose. Balance toolingsie Guns, chuck jaws etc are to be arranged by contractor.</p> |
| 4.2.2.7 | void |

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Chapter - IV : Obligations of Contractor

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| 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, 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 |

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| | contractor's running / final bills |
| 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) | <p>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.</p> <p>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.</p> <p>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.</p> |
| 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 |

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Chapter - IV : Obligations of Contractor

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| | requirements at site. However no claim whatsoever will be entertained on account 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. |

SPECIAL CONDITIONS OF CONTRACT (SCC)
**Chapter – V : Responsibilities of Contractor in respect of Labour,
Supervisory Staff, etc.**

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| 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 |

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

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| | requirements. Contractor shall enable such facilities to BHEL / Customer. |
| 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

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| 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 |

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| | be equipped and ideal for smooth transportation of the equipment. Contractor 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 |

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| | the concerned BHEL engineer. |
| 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 |

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| | and from damage or defacement and shall cover the finished parts then and there for their protection. |
| 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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| 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

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| 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 | <p>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.</p> <p>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.</p> <p>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.</p> <p>Record of heat treatments performed shall be maintained as prescribed by BHEL</p> |
| 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 |

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| | BHEL/customer/consultant shall be engaged on the work. |
| 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 |

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| | contractor's account. He shall be responsible to take all corrective actions, 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 et 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: <ul style="list-style-type: none"> 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 |

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| | The scope includes getting the approvals from the statutory authorities, which includes arranging for inspection visits of statutory authority periodically as per 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 |

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| | 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 such non-conformities, & maintain the relevant quality records. The nonconformities 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 | <p>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.</p> |
| 9.1 | <p>HSE (Health, safety & Environment): Contractor will comply with HSE (Health, safety & Environment) requirements of BHEL. HSE requirements in brief, are given below :-</p> |
| 9.1.1 | <p>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.</p> <p>Contractor should highlight the requirement of safety to staff and labour through daily tool box meeting before start of the days job.</p> <p>Contractor to also submit monthly safety reports as per the format/procedure of BHEL.</p> |
| 9.1.2 | <p>The contractor shall arrange induction and regular health check of their employees as per schedule VII of BOCW rules by aregistered 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</p> |
| 9.1.3 | <p>Following personnel protective equipments (PPEs), in adequate numbers, will</p> |

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| | be made available at site & their regular use by all concerned will be ensured :- |
| | - 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 colourclothings. 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 . |

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| 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 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 |

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| | <p>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 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.</p> |
| ■ | 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 |

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| | <ul style="list-style-type: none"> ■ OCP for drilling, reaming and grinding(machining) etc. ■ OCP for hydraulic test ■ OCP for spray insulation ■ 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 | <p>SAFETY AND CLEANLINESS :</p> <p>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</p> |

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| | 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 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 |

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| | 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. |
| 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 |

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| | 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. |
| 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 |

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| 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 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 ad 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 |

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| | 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, 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 |

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| | 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 than 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 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 ¼ 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. |

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| 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 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 |

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| | 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. |
| 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 Contractor 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 |

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| | 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. |
| 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, insulating 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 |

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| | 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. |
| 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 |

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| | all consequences, damages, or losses arising by reason of any safety code shall be met with by the Contractor. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|--|---------------------|----|---------------------------|--------------|----|---------------------------|--------|-----|--|---------|----|-------------------------|---------|----|--------------------------------------|-------|----|--------------------------------|------|----|--------------------|--------|-----|--------------------------|--------|-----|---|-------|-----|--|-------|-----|-----------------------|-------|-----|---------------------|-------|-----|--------------------------------|-------|-----|---|-------|-----|---|-------|-----|---|-------|-----|---|-------|-----|-------------------------------------|-------|----|----------------------------|-------|-----|--|--------|-----|--|---------------------|
| 9.61 | <p><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></p> <table border="1"> <thead> <tr> <th>SN</th> <th>Violation of Safety Norms</th> <th>Fine (in Rs)</th> </tr> </thead> <tbody> <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> <tr> <td>04</td> <td>Not keeping gas cylinders vertically</td> <td>100/-</td> </tr> <tr> <td>05</td> <td>Not using flash back arrestors</td> <td>50/-</td> </tr> <tr> <td>06</td> <td>Not wearing gloves</td> <td>50/- *</td> </tr> <tr> <td>07.</td> <td>Grinding Without Goggles</td> <td>50/- *</td> </tr> <tr> <td>08.</td> <td>Not using 24 V Supply For Internal Work</td> <td>500/-</td> </tr> <tr> <td>09.</td> <td>Electrical Plugs Not used for hand Machine</td> <td>100/-</td> </tr> <tr> <td>10.</td> <td>Not Slinging property</td> <td>200/-</td> </tr> <tr> <td>11.</td> <td>Using Damaged Sling</td> <td>200/-</td> </tr> <tr> <td>12.</td> <td>Lifting Cylinders Without Cage</td> <td>500/-</td> </tr> <tr> <td>13.</td> <td>Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.</td> <td>200/-</td> </tr> <tr> <td>14.</td> <td>Not Removing Small Scrap From Platforms</td> <td>200/-</td> </tr> <tr> <td>15.</td> <td>Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting</td> <td>200/-</td> </tr> <tr> <td>16.</td> <td>Not Maintaining Electric Winches Which are Operated Dangerously</td> <td>500/-</td> </tr> <tr> <td>17.</td> <td>Improper Earthing Of Electrical T&P</td> <td>500/-</td> </tr> <tr> <td>18</td> <td>No or improper barricading</td> <td>500/-</td> </tr> <tr> <td>19.</td> <td>Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case)</td> <td>1000/-</td> </tr> <tr> <td>20.</td> <td>Accident Resulting in Partial Loss in Earning Capacity</td> <td>25,000/- per victim</td> </tr> </tbody> </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/- * | 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 Slinging 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 |
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| 01 | Not Wearing Safety Helmet | 50/- * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 02. | Not wearing Safety Belt or not anchoring life line | 100/- * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 03 | Not wearing safety shoe | 100/- * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 Slinging 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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

| | | |
|--|---|--------------------------------|
| | <p>21. Fatal Accident/Accidents Resulting in total loss in Earning Capacity</p> | <p>1,00,000/- per victim #</p> |
| <p>Legend:- *: per head, #: or as deducted by Customer whichever is higher</p> <p>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.</p> | | |
| 9.61 | <p>CITATION:-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</p> | |
| 9.62 | <p>MEMORANDUM OF UNDERSTANDING After Award Of Work, Contractors Are Required To Enter Into A Memorandum Of Understanding As Given Below:</p> <p style="text-align: center;"><u>Memorandum of Understanding</u></p> <ul style="list-style-type: none"> ➤ 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. <p>Signed by authorized representative of M/s -----</p> | |

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

| | |
|--|-----------------------------|
| | 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 | <p>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.</p> <p>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.</p> |
| 10.6 | <p>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:</p> <p>Note: BHEL may also choose to release payment by other alternative modes as applicable</p> |
| 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 | <p>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:</p> <ul style="list-style-type: none"> 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 | <p>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:-</p> <ul style="list-style-type: none"> 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 | <p>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:</p> <ul style="list-style-type: none"> 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

| | |
|------|---|
| | <p>d) The Bidder has indulged in malpractices or misconduct such as bribery, corruption and fraud, pilferage etc which are contrary to business ethics.</p> <p>e) The Bidder is found guilty by any court of law for criminal activity/ offences involving moral turpitude in relation to business dealings.</p> <p>f) The Bidder is declared bankrupt, insolvent, has wound up or been dissolved; i.e ceases to exist for all practical purposes.</p> <p>g) Bidder is found to have obtained Official Company information/ documentation by questionable means.</p> <p>h) Communication is received from the administrative Ministry of BHEL to ban the Bidder from business dealings.</p> |
| 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 |

TENDER NO: PSER:SCT:NBN-E1965:19

VOLUME -IE

FORMS & PROCEDURES

FOR

Handling at site/ storage yard, transportation to site of work, pre-assembly, erection, testing, commissioning and handing over of Electrical & C&I system for Boiler, ESP, TG sets for Unit-IV of 4x250 MW BRBCL, Nabinagar Project, Bihar

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVT. OF INDIA UNDERTAKING)

POWER SECTOR – EASTERN REGION

PLOT NO. – 9 / 1, DJ – BLOCK,

SECTOR – II, KARUNAMOYEE,

SALT LAKE CITY,

KOLKATA – 700091.

FORMS & PROCEDURES

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- BANK GUARANTEE FORMATS FOR "RELEASE OF AMOUNTS WITHED/ LIQUIDATED DAMAGES AMOUNT", "SUPPLY FREE ISSUE MATERIAL" & "EARNEST MONEY" IS ALSO GIVEN.

: will be released later

FORMS & PROCEDURES

Form No: F-01 (Rev 00)

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:

FORMS & PROCEDURES

Form No: F-02 (Rev 00)

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

FORMS & PROCEDURES

Form No: F-03 (Rev 00)

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)

FORMS & PROCEDURES

Form No: F-04 (Rev 00)

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:

FORMS & PROCEDURES

Form No: F-05 (Rev 00)

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 Proprietor/Partner(s)/Director(s) employed in BHEL

Tick(✓) any one as applicable:

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

OR

2. The Proprietor, 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 action against the Bidder/Contractor.

FORMS & PROCEDURES

Form No: F-06 (Rev 00)

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:

FORMS & PROCEDURES

Form No: F-07 (Rev 00)

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

FORMS & PROCEDURES

Form No: F-08 (Rev 00)

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 | | | | |

Yours faithfully,

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

FORMS & PROCEDURES

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Form No: F-09 (Rev 00)

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 COMPLETED | VALUE OF BALANCE WORK (Rs. Lacs) |
|--------|--|-----------------------|------------------------------|-------------------------|--|------------------------|-------------------------------------|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |

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.

Signature

DATE :

PLACE:

Name, Designation & Seal of Bidder

FORMS & PROCEDURES

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)

FORMS & PROCEDURES

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.-----e xecuted 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

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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.

FORMS & PROCEDURES

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 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

(CONT

RACTOR)

FORMS & PROCEDURES

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

2.

WITNESS (For and on behalf of BHEL)

1.

2.

PROFORMA OF BANK GUARANTEE (in lieu of SECURITY DEPOSIT)

In consideration of the Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its Unit at Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700091 having agreed to exempt (Name of the Vendor / Contractor / Supplier) having its registered office at _____¹ (hereinafter called the said Contractor which term includes supplier), from demand under the terms and conditions of the Contract reference No. _____² dated _____² valued at Rs.....² (Rupees -----)² for <Nature of the Work>³ (hereinafter called the said Contract) of Security Deposit for the due fulfilment by the said contractor of the terms and conditions contained in the said Contract, on production of a Bank Guarantee for Rs. _____⁴ (Rupees _____ only), we ____ (indicate the name and address of the Bank) having its Head Office at _____ (address of the head Office) (hereinafter referred to as the Bank) at the request of _____ [Name of Contractor(s)] do hereby undertake to pay to the Employer an amount not exceeding Rs. _____ in the event of any breach by the said Contractor(s) of any of the terms and conditions contained in the said Contract.

We, _____ (indicate the name of the Bank), do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Employer. Any such demand made on the bank, shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this guarantee shall be a valid discharge of our liability for payment hereunder and the Contractor(s) shall have no claim against us for making such payment.

We, further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claim satisfied or discharged or till _____⁵ or till the office/Department/Division of Bharat Heavy Electricals Limited certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said contractor(s) and also including the satisfactory performance of the equipment during guarantee period and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the _____⁶, (3 months more than the present date of validity of Bank Guarantee) we shall be discharged from all the liability under this guarantee thereafter.

We, _____ (indicate the name of the Bank) _____ further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by any reason of any such variation or extension being granted to the said contractor(s) or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

We,..... BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁷
- b) This Guarantee shall be valid up to⁸
- c) Unless the Bank is served a written claim or demand on or before _____⁹ (3 months more than the present date of validity of Bank Guarantee) all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ (indicate the name of the Bank) _____ lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

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

Date _____ Day of _____
for _____ (indicate the name of the Bank) _____

(Signature of Authorised signatory)

¹ NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER .

² DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

³ PROJECT/SUPPLY DETAILS

⁴ BG AMOUNT IN FIGURES AND WORDS

⁵ VALIDITY DATE

⁶ DATE OF EXPIRY OF CLAIM PERIOD

⁷ BG AMOUNT IN FIGURES AND WORDS.

⁸ VALIDITY DATE

⁹ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.
2. In Case of Bank Guarantees submitted by Foreign Vendors-
 - a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India) can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
 - b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)
 - b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter-Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.

- b.2** In case, Foreign Vendors intend to provide **BG** from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
- b.3** The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
- b.4** The BG should clearly specify that the demand or other document can be presented in electronic form.

BANK GUARANTEE FOR ADVANCE

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its Unit at Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700091 having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at _____¹ (hereinafter called "the Contractor" which expression shall include its successors and permitted assigns) a contract Ref No.....dated²valued at Rs.....(Rupees -----) for <Nature of Work> ³(hereinafter called the 'Contract')

AND WHEREAS the Employer has agreed to advance to the Contractor, a sum of Rs..... (Rupees..... only), equivalent to _____% of the said value of the Contract (hereinafter called "the said Advance"), upon the condition, that the said Advance shall be secured by undertaking guarantee for Rs ----- (Rupees -----)⁴ from a Bank as hereinafter appearing.

We,, (hereinafter referred to as the Bank), having registered/Head office at and a branch at being the Guarantor under this Guarantee, hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer without any demur, merely on your first demand any sum or sums upto a maximum amount but not exceeding Rs ----- (Rupees -----).

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment hereunder and the Contractors/Supplier shall have no claim against us for making such payment.

We theBank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We Bank further agree that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor/Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Contractor/Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

This Guarantee shall remain in force upto and including.....⁵ and shall be extended from time to time on the request of the Employer for such period as may be desired by the Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor/Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms hereof. However, unless a demand or claim under this Guarantee is made on us in writing on or before the⁶ (3 months more than the present date of validity of Bank Guarantee) we shall be discharged from all liabilities under this Guarantee.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁷
- b) This Guarantee shall be valid up to⁸
- c) Unless the Bank is served a written claim or demand on or before _____⁹ (3 months more than the present date of validity of Bank Guarantee) all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

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

For and on behalf of
(Name of the Bank)

Date.....

Place of Issue.....

¹ NAME OF VENDOR /CONTRACTOR / SUPPLIER

² DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

³ PROJECT/SUPPLY DETAILS

⁴ BG AMOUNT IN FIGURES AND WORDS

⁵ VALIDITY DATE

⁶ DATE OF EXPIRY OF CLAIM PERIOD

⁷ BG AMOUNT IN FIGURES AND WORDS

⁸ VALIDITY DATE

⁹ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. **Units are advised that expiry of claim period may be kept 2/3 months after validity date.**
2. **In Case of Bank Guarantees submitted by Foreign Vendors-**
 - a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
 - b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
 - b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2 **In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank** (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
 - b.4 The BG should clearly specify that the demand or other document can be presented in electronic form.

FORMS & PROCEDURES

Form No: F-13 (Rev 00)

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

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO. PSER:SCT:NBN-E1965:19

| Project | | Vendor | | | Package/Unit | |
|---------|--|----------------|-----------|----------------|--|---|
| Sl. No. | 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 | 1.5 | | Quality Officer or his authorised nominee should be available for all the days of working at site | Daily Log Book entry/Incident Registers/letter references |
| #1.02 | Number of instances of non-compliance wrt FQP, Standard Drawings, Specifications, E&C Manuals etc. | QUALITY | 1.5 | | No deviation from FQP, Standard Drawings, Specifications, E&C Manuals etc. is allowed without BHEL Engineer's approval. | Daily Log Book entry/Incident Registers/letter references |
| #1.03 | Percentage submission of test certificates for batches of welding electrodes, cement, sand, aggregate, consumable, Paints etc. as applicable for this month OR In case of MM & MH package, monthly checks for Storage/Preservation of material. | QUALITY | 1 | | Submission of 100% Test certificates for materials as per FQP is mandatory. MM & MH package: Storage/Preservation as per manual/procedure. | Daily Log Book entry/Incident Registers/letter references |
| #1.04 | Number of incidences of improper storage & preservation (not in accordance to the guidelines of BHEL MUs or approved FQP) of materials, consumables (viz. gases, welding electrodes & fluxes, fuel etc.) & bought-out items (paints, fasteners etc.) under the custody of the contractor | QUALITY | 1 | | Total number of non-compliances | Daily Log Book entry/Incident Registers/letter references |
| #1.05 | Rework/ Rejection instances in a month necessitated due to deviation from Standard Drawings /Specifications /Manuals /E&C procedures /FQPs or due to Poor Workmanship by contractor | QUALITY | 2 | | Reworks/ Rejection should be as minimum as possible. Total number of reworks/ rejections due to reasons attributable to contractor. | Daily Log Book entry/Incident Registers/letter references |
| #1.06 | Delay in preparation & submission of signed protocols / log sheets / site register / NDT test reports as per approved FQP/ Qualified Welder List along with photocopies of Welder ID cards / Welder Performance Evaluation records etc. in the month OR in case of MM / MH package reconciliation statement / verification report. | QUALITY | 1 | | Within 2 days of measurements taken or within first 3 working days of next month, as advised by BHEL Engineer | Daily Log Book entry/Incident Registers/letter references |
| #1.07 | Number of instances for Major equipment/product failure due to negligence/improper work/poor workmanship by contractor | QUALITY | 1 | | No such event should happen | Daily Log Book entry/Incident Registers/letter references |
| #1.08 | Total number of complaints received in the month on the quality of finish / aesthetics | QUALITY | 1 | | Total number of non-compliances | Daily Log Book entry/Incident Registers/letter references |

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO. PSER:SCT:NBN-E1965:19

| Project | | Vendor | | | Package/Unit | |
|---------|---|----------------|-----------|----------------|--|---|
| Sl. No. | Parameter for Measurement | Classification | Max Score | Score Obtained | Measurement Key/Scheduled date | Supporting Documents |
| #2.01 | Cumulative number of days of delay in submission of Plan FOR THE MONTH supported by deployment plan of Major T&Ps and Manpower (as per Form F-14) and 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. | PERFORMANCE | 5 | | Number of days delayed from second working day of the month | Daily Log Book entry/Incident Registers/letter references |
| #2.02 | Percentage of timely submission of Daily Reports for Progress of work, Resources, Consumables etc. | PERFORMANCE | 1.5 | | Percentage of timely submission of daily reports/ Scheduled date is successive next day for each day | Daily Log Book entry/Incident Registers/letter references |
| #2.03 | Number of days delayed for submission of FQP log sheets / protocols / Monthly Progress Reports for the work executed during the month under measurement | PERFORMANCE | 1.5 | | Number of days delayed/Scheduled date is first 2 working days of next month | Daily Log Book entry/Incident Registers/letter references |
| #2.04 | Percentage Shortfall attributable to contractor w.r.t. "Plan - Shortfall attributable to BHEL" for the month as per Form-14 | PERFORMANCE | 35 | | As per Part-A of Form-14 | Progress review formats |
| #2.05 | Number of days delayed in submission of Running bills with complete supporting documents (including updated reconciliation statement of BHEL issued material) for the month | PERFORMANCE | 2 | | Number of days delayed / Scheduled date is 7th day of next month | Daily Log Book entry/Incident Registers/letter references |
| #2.06 | Number of times the Top Management of contractor did not respond to critical issues of site, for the month | PERFORMANCE | 1 | | Total number of instances | Daily Log Book entry/Incident Registers/letter references |
| #2.07 | 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 | PERFORMANCE | 2 | | Cumulative number of days lost | Daily Log Book entry/Incident Registers/letter references |
| #2.08 | Number of times rework was refused by contractor | PERFORMANCE | 1 | | Total number of non-compliances | Daily Log Book entry/Incident Registers/letter references |

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO. PSER:SCT:NBN-E1965:19

| Project | | Vendor | | | Package/Unit | |
|---------|---|-------------------------------|-----------|----------------|---|---|
| Sl. No. | Parameter for Measurement | Classification | Max Score | Score Obtained | Measurement Key/Scheduled date | Supporting Documents |
| #2.09 | Cumulative number of days in the month recording / logging was not done in daily log / history register / hindrance register / soft form in a PC maintained at BHEL Site Office | PERFORMANCE | 1 | | Cumulative number of days recording or logging was not done / all days of the month | Daily Log Book entry/Incident Registers/letter references |
| #3.01 | Percentage of Manpower Deployed w.r.t. Plan for the month as per Form-14. | RESOURCES | 7 | | As per Part-B2 of Form-14 | Daily Log Book entry/Incident Registers/letter references |
| #3.02 | Percentage of T&P Deployed w.r.t. Plan for the month as per Form-14. | RESOURCES | 7 | | As per Part-B1 of Form-14 | Daily Log Book entry/Incident Registers/letter references |
| #3.03 | 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, under the scope of Contractor | RESOURCES | 3 | | Cumulative number of instances | 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 Consumables/ use of improper consumables under the scope of contractor | RESOURCES | 3 | | Cumulative number of instances | Daily Log Book entry/Incident Registers/letter references |
| #4.01 | Number of non-compliances during the month for Statutory requirements like validity of Labour Licence, Insurance Policy, Labour Insurance, PF, BOCW Compliance etc. and any other applicable laws/ Regulation, Electrical Licence, T&P fitness certificate, Contractors' All Risk Policy etc. as applicable | SITE INFRASTRUCTURE & SERVICE | 1 | | Total number of non-compliances | Daily Log Book entry/Incident Registers/letter references |
| #4.02 | Cumulative number of days in a month poor illumination is reported at storage area, erection area, pre-assembly area and other designated areas by BHEL site. | SITE INFRASTRUCTURE & SERVICE | 0.5 | | Total number of non-compliances/random checks | Daily Log Book entry/Incident Registers/letter references |
| #4.03 | Cumulative number of days of non-availability of well-maintained toilets facilities for workers (separate for men and women) and non-availability of potable drinking water stations for workers in specified areas. | SITE INFRASTRUCTURE & SERVICE | 1 | | Total number of non-compliances/random checks | Daily Log Book entry/Incident Registers/letter references |

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO. PSER:SCT:NBN-E1965:19

| Project | | Vendor | | | Package/Unit | |
|---------|---|-------------------------------|-----------|----------------|--|--|
| Sl. No. | Parameter for Measurement | Classification | Max Score | Score Obtained | Measurement Key/Scheduled date | Supporting Documents |
| #4.04 | Total number of instances in the month, Housekeeping NOT attended to in spite of instructions by BHEL -i.e. 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 | SITE INFRASTRUCTURE & SERVICE | 2 | | Total number of non-compliances/random checks | Daily Log Book entry/Incident Registers/letter references |
| #4.05 | Total number of instances in a month, Site Office with reasonably good facilities including enough nos. of computers and printers etc. for use by office and supporting staff was not made available/maintained. | SITE INFRASTRUCTURE & SERVICE | 0.5 | | No discrepancy during regular or surprise visits | Photograph and report of the Engineer |
| #5.01 | Number of days delayed in making labour payments for the last month | SITE FINANCE | 2 | | Number of days delayed / Scheduled date is 7th day of next month | Daily Log Book entry/Incident Registers/letter references |
| #5.02 | Number of complaints from labour/ sub supplier/ sub-contractor for non-receipt of payments from contractor | SITE FINANCE | 1.5 | | Total number of complaints or reporting | Daily Log Book entry/Incident Registers/letter references |
| #5.03 | Number of times the site operations were hampered for want of funds at the disposal of site-in-charge. | SITE FINANCE | 1.5 | | 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 was not available | HSE & SA | 1 | | Safety Officer 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 | HSE & SA | 0.5 | | Safety meetings to be held every week | Copy of Minutes of meeting |
| #6.03 | Level of compliance w.r.t decisions taken in previous Safety meetings | HSE & SA | 0.5 | | Number of consolidated issues discussed in Safety meetings | Copy of Minutes of meeting, Non-compliance intimation documents from BHEL site |
| #6.04 | Delay in submission of monthly report on safety (including electrical safety for equipment & personnel etc.) in the prescribed form | HSE & SA | 1 | | Number of days delayed/Scheduled date is third 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 | 0.5 | | Number of days delayed/Scheduled date is within 24 Hrs of occurrence/notice of incidence | Copy of FIR lodged by Contractor |

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO. PSER:SCT:NBN-E1965:19

| Project | | Vendor | | | Package/Unit | |
|--------------|---|----------------|------------|----------------|--|---|
| Sl. No. | Parameter for Measurement | Classification | Max Score | Score Obtained | Measurement Key/Scheduled date | Supporting Documents |
| #6.06 | Number of times written(email, letters etc.) warning issued for non-availability/ use of improper Fall protection and rescue arrangement as lifeline, fall arrestors, safety net, hand-railings, covered floors, man-basket, rescue basket & kit etc. by the contractor | HSE & SA | 2 | | Total number of non-compliances | Daily Log Book entry/Incident Registers/letter references |
| #6.07 | Number of times punitive fines imposed for unsafe practices as per contract like non-availability/use of PPEs as safety shoes, helmets, goggles, gloves, lifeline, safety belts etc. | HSE & SA | 1 | | Total number of non-compliances | Non-compliance intimation documents from BHEL site |
| #6.08 | Percentage compliance to Emergency preparedness and response plan: Portable Fire-extinguishers, Buckets, Fire-wardens, display of emergency numbers, mock-drills, Hazard Identification and Risk Assessment(HIRA) etc. | HSE & SA | 1 | | Compliance should be 100% as per HSE Plan or as finalized in Safety Meetings | Non-compliance intimation documents from BHEL site |
| #6.09 | Number of times the agency has defaulted on display of safety posters / safety slogans / safety barriers/emergency numbers etc. in identified areas | HSE & SA | 0.5 | | Total number of instances | Non-compliance intimation documents from BHEL site |
| #6.10 | Non compliances observed during HSE and Safety Audit | HSE & SA | 0.5 | | Total number of non-compliances | Non-compliance intimation documents from BHEL site, Audit Reports |
| #6.11 | Cumulative number of days in the month, non-availability of First Aid Kit, First Aider & Emergency Vehicles/Ambulance. | HSE & SA | 0.5 | | Cumulative number of days | Non-compliance intimation documents from BHEL site |
| #6.12 | Number of days taken for submission of Root Cause analysis (RCA) for the accident from the cut-off date intimated by BHEL for submission of RCA | HSE & SA | 0.5 | | Number of days delayed/Scheduled date is cut-off date intimated by BHEL | Daily Log Book entry/Incident Registers/letter references |
| #6.13 | Non conductance of training (induction, job specific, height work etc.), tool box meeting and health check-up as per Contract requirements | HSE & SA | 0.5 | | Number of incidences of non-conductance during the month | Daily Log Book entry/Incident Registers/letter references |
| Total | | | 100 | | | |

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO. PSER:SCT:NBN-E1965:19

| Project | | Vendor | | Package/Unit | | |
|--|---------------------------|----------------|-----------|----------------|--------------------------------|----------------------|
| Sl. No. | Parameter for Measurement | Classification | Max Score | Score Obtained | Measurement Key/Scheduled date | Supporting Documents |
| Less Deduction in Score Due to Major Accidents (Fatal, Permanent Disability or bodily injury by which person injured is prevented to resume to work within 48 hours or more after accident,, Major Damage to Equipment etc.) attributable to the contractor @ 3 points/ accident | | | | | | |
| Less Deduction in Score Due to Minor Accidents attributable to the contractor @ 1 point/ accident | | | | | | |
| Less Deduction in Score Due to not Maintaining of Labour Colony (if applicable) as per BHEL HSE policy @2 points in a month on verification any day | | | | | | |
| Final Score | | | | | | |

| Performance Score Summary for the Month | Total Score | Score Obtained |
|---|-------------|----------------|
| QUALITY | 10 | |
| PERFORMANCE | 50 | |
| RESOURCES | 20 | |
| SITE INFRASTRUCTURE & SERVICE | 5 | |
| SITE FINANCE | 5 | |
| HSE & SA | 10 | |
| OTHERS (deductions if any) | 0 | |
| TOTAL | 100 | |

Note:

- 1) It is only indicative and shall be as per the online format issued by BHEL time to time.
- 2) No request will be entertained after specified date of current month w.r.t. changes requested in the scores of immediate previous month.

FORMS & PROCEDURES

Form No: F-19 (Rev 00)

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)

FORMS & PROCEDURES

Form No: F-20 (Rev 01)

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)

FORMS & PROCEDURES

Form No: F-21 (Rev 00)

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 <xxxxxxxxxxx> in favour of M/s Bharat Heavy Electricals Limited, a Company incorporated under the Companies Act, 1956, having its Registered Office at BH EL 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 "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx".

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 witnesses 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.

FORMS & PROCEDURES

The Contractor further agree that the Company shall be entitled to with hold and adjust the Security Deposit and/or with ho ld and adjust payment of Bills of Contractor pertaining to this Contract against any payme nt which the Company has made or is required to mak e 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 s urvive 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 c omply with the terms and the conditions of this deed and contractu al 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 xxxxxxxxxxxxxxxxxxxx

Witness:

- 1
- 2

FORMS & PROCEDURES

Form No: F-22 (Rev 00)

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----->

FORMS & PROCEDURES

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:

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.

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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.

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8. It is agreed interse between t he 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.

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 (FIRST PARTY)

2. OFFICIAL ADDRESS

WITNESS

For

1. NAME (SECOND PARTY)

2. OFFICIAL ADDRESS

[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].

FORMS & PROCEDURES

Form No: F-23 (Rev 00)

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:-----

FORMS & PROCEDURES

Form No: F-24 (Rev 00)

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) :

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Signature of BHEL Engineer

Date: _____

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: _____

FORMS & PROCEDURES

Form No: F-25 (Rev 00)

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

FORMS & PROCEDURES

Form No: F-26 (Rev 00)

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)

FORMS & PROCEDURES

Form WAM 6

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 measured** | | | Item No of | Description of Work | Quantity as per agreement | Quantity executed up to date | Rate | Unit | Payment on the basis of actual measurement up to date | Quantity since last running account bill | Payment on the basis of actual measurement since last running account bill | Remarks | |
|---|---------------------------------|------------------|------------|---------------------|---------------------------|------------------------------|------|------|---|--|--|---------|--|
| Total As per Running Account bill | since last running account bill | Total up to date | | | | | | | | | | | |
| 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.

FORMS & PROCEDURES

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) ...

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

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

Rupees (in words)

.....only.

FORMS & PROCEDURES

Form WAM 6 (contd...)

II.MEMORANDUM OF PAYMENTS

| | | | | I | | II | |
|---|-----|-------|----|-------|----|-------|----|
| | | Rs. | P. | 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 | | | | | | | |

FORMS & PROCEDURES

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

Signature of Engineer in charge

Date:

Designation:

Date:

FORMS & PROCEDURES

IV. CERTIFICATE OF THE SENIOR ENGINEER

1. Certified that measurements have been check measured to the prescribed extent by at 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:

Form WAM 6 (contd...)

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: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%; text-align: left;">Ledger Head</th> <th style="width: 35%; text-align: center;">Debit (Gross amount)</th> <th style="width: 35%; text-align: center;">Credit (Deductions)</th> </tr> <tr> <td></td> <th style="text-align: center;">Rs. P.</th> <th style="text-align: center;">Rs. P.</th> </tr> </thead> <tbody> <tr> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">-----</td> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">-----</td> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">-----</td> </tr> </tbody> </table> | Ledger Head | Debit (Gross amount) | Credit (Deductions) | | Rs. P. | Rs. P. | ----- | ----- | ----- |
|---|---|------------------------|-------------------------|------------------------|--|-----------|-----------|-------|-------|-------|
| Ledger Head | Debit (Gross amount) | Credit (Deductions) | | | | | | | | |
| | Rs. P. | Rs. P. | | | | | | | | |
| ----- | ----- | ----- | | | | | | | | |

FORMS & PROCEDURES

| | | | | | |
|--------------------|---------------------|--------------------------|-------|-------|-------|
| Assistant Date: | Accountant Date: | Account Officer Date: | Total | ----- | ----- |
|--------------------|---------------------|--------------------------|-------|-------|-------|

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

| | | |
|-----------------------------------|---------|---|
| Signature of witness Address : | Revenue | Stamp Signature of Contractor Date: |
|-----------------------------------|---------|---|

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:

Form WAM 6 (contd...)

ANNEXURE A

FORMS & PROCEDURES

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

Signature of Engineer in Charge

Signature of Senior Engineer

Date:

Date:

Date:

FORMS & PROCEDURES

Form WAM 6 (contd...)

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 | | Amount recovered upto previous bill | | Balance now recovered | | Remarks |
|--------|---------------------------------------|-------------------------|------------------------|----|-------------------------------------|----|-----------------------|----|---------|
| | | | Rs. | P. | Rs. | P. | Rs. | P. | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Total -----

Signature of contractor

Signature of Engineer in Charge

Signature of Senior Engineer

Date:

Date:

Date:

FORMS & PROCEDURES

Form WAM 6 (contd...)

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. | | |
| 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.

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10.

Total

Signature of contractor

Signature of Engineer in Charge

Signature of Senior Engineer

Date:

Date:

Date:

FORMS & PROCEDURES

Form WAM 6 (contd...)

ANNEXURE D

Name of the Contractor:
 Name of the Work:

Contract Agreement No:
 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 the executed with any Rs. P. | Amount as per agreement Rs. P. | | Amount as executed Rs. P. | | Amount further anticipated Rs. P. | | Total amount anticipated on completion Rs. P. | | Difference Excess savings Rs. P. Rs. P. | | Reason for deviation authority, if |
|---|-----------------------------------|----|------------------------------|----|--------------------------------------|----|--|----|---|--|------------------------------------|
| | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | | |

Signature of Engineer in Charge
 Date:

Signature of Senior Engineer
 Date:

FORMS & PROCEDURES

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO. PSER:SCT:NBN-E1965:19

| II MEMORANDUM OF PAYMENT | | | | | | | | | | | | |
|--|--|---|--|--|--|--|--|--|--|-----|---------------------------------|---|
| | | | | | | | | | | Rs. | P | |
| 1 | Total Value of work actually measured as per Account no I coloumn 10 | | | | | | | | | | (A) | |
| 2 | Deduct amount of paym,ents already made as per last running account bill No Dated..... 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 am amount to be paid to the Contractor | | | | | | | | | | | |
| III. CERTIFICATE OF THE ENGINEER IN CHARGE | | | | | | | | | | | | |
| 1 | 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 (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 | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

| V. ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE | | | | | | | | | | | | |
|--|--|--|--|------------|--|------------------------|--|-------|----------------|--|-------------|--|
| Account Bill no..... Dated | | | | | | ALLOCATION | | | | | | |
| Entered in Journal book vide entry No..... Dated..... | | | | | | Estimate No: | | | Code No | | | |
| Passed for.....Rs..... | | | | | | Name of the Work | | | | | | |
| Less Deductions.....Rs..... | | | | | | | | | | | | |
| (Rupees.....Only) | | | | | | Ledger Head | | | Debit | | Credit | |
| Payable to Shri/M/s..... by cheque/cash | | | | | | | | | (Gross Amount) | | (Deduction) | |
| Entered in contractors' Ledger no..... Page | | | | | | | | | Rs | | P | |
| | | | | | | | | | | | | |
| Assistant | | | | Accountant | | Accounts officer | | Total | | | | |
| 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: | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO. PSER:SCT:NBN-E1965:19

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

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO. PSER:SCT:NBN-E1965:19

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|
| 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

V. ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE

| | | | |
|--|----------------|------------------------|----------------|
| Account Bill no..... | Dated | | ALLOCATION |
| Entered in Journal book vide entry No..... | Dated..... | Estimate No: | Code No |
| Passed for..... | Rs..... | Name of the Work | |
| Less Deductions..... | Rs..... | | |
| (Rupees.....Only) | | Ledger Head | Debit |
| Payable to Shri/M/s..... | by cheque/cash | | (Gross Amount) |
| Entered in contractors' Ledger no..... | Page | | Rs P |
| | | | Credit |
| | | | (Deduction) |
| | | | Rs |
| Assistant | Accountant | Accounts officer | Total |
| 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 allotted by stores to the SIV | description of material issued to the contractor | Quantity issued | Quantity incorporated in the work | Whether recoverable from the contractor or supplied free | Rate at which recoverable | | If recoverable from contractor | | | | Remarks | | |
|-------|----------------------------------|---|--|-----------------|-----------------------------------|--|---------------------------|---|--------------------------------|---------------------------------------|-----------------------|---|---------|---|----|
| | | | | | | | Rs | P | Amount Recoverable | Amount recoverable upto previous bill | Balance Now recovered | | | | |
| | | | | | | | | | 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 allotted by stores to the SIV | description of material issued to the contractor | Quantity issued | Quantity actually incorporated in the work | Issue Rate | | Amount Recoverable | | 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 | 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 Recivry is to be made 4 | Amount recoverabl e 5 | | Amount recoverable upto previous bill 6 | | Balance Now recovered 7 | | Remarks 8 |
|------------|---|------------------------------|--|--------------------------|---|--|---|----------------------------|---|--------------|
| | | | | Rs | P | Rs | P | Rs | P | |
| | | | | 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 :
Name of the Work :

Contract Agreement/Work Order No. :
Date :

| Sl. No. | Description of item | Unit | Quantity as per agreement | Quantity as executed | Rate as per agreement | Rate as executed | Amount as per agreement | Amount as executed | Difference | | Reason for the deviation with authority, if any |
|---------|---------------------|------|---------------------------|----------------------|-----------------------|------------------|-------------------------|--------------------|------------|---------|---|
| | | | | | Rs. P. | Rs. P. | Rs. P. | Rs. P. | Excess | Savings |  | Rs. P. | Rs. P. |
| 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 charge-able for excess/short consumption, if any | Amount recover-able for excess/short consum-ption, 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.....
 ct 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 recoverable 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: |



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 1 of 6

| | | | |
|-----------------|--|--------------------|--|
| Name of Project | | Contract No. | |
| Name of Work | | Name of Contractor | |

PART- A: PLAN/ REVIEW OF WORK FOR THE MONTH OF

Date of Plan/ Review.....

| SN. | Description of Work | Unit of Measurement | Unit Rate | Planned | | Cumulative Shortfall attributable to contractor upto last month (Refer Note 1) | | Achieved | | Shortfall attributable to BHEL w.r.t Plan (as per Col. 3 of Part-D) | | Cumulative Shortfall attributable to Contractor upto & including this month | | REMARKS (Reasons for Shortfall attributable to Contractor. Supporting documents to be kept as record.) |
|-------|---|---------------------|-----------|--|-----------|--|-----------|----------|-----------|---|-----------|---|-----------|---|
| | | | | (QTY Planned for the month as per Part -C of last month) | | | | | | | | | | |
| (a) | (b) | (c) | (d) | A | | B | | C | | D | | E=A+B-C-D | | |
| | | | | Phy. | Financial | Phy | Financial | Phy. | Financial | Phy. | Financial | Phy. | Financial | |
| | | | | | | | | | | | | | | |
| | Value of Other Items not mentioned above but planned to be executed in this month | | | | | | | | | | | | | |
| Total | | | | | ΣA | | ΣB | | ΣC | | ΣD | | ΣE | |

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

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| | | | |
|-----------------|--|--------------------|--|
| Name of Project | | Contract No. | |
| Name of Work | | Name of Contractor | |

PART- A: Contd.....

Note 1: **In addition to the work planned as per Col. 'A', Contractor shall also make full efforts to minimize the 'Cumulative shortfall attributable to contractor upto the month' as mentioned in Col. 'B' by enhancing its resources, so as to achieve the completion of activities as per agreed schedule. In case contractor is not able to execute the entire shortfall, then BHEL 'Engineer in-charge', shall decide the priority of work to be executed and it shall be binding on the contractor.**

Note 2: Percentage Shortfall attributable to contractor w.r.t. "Plan - Shortfall attributable to BHEL" for the month = $[(\Sigma E - \Sigma B) / (\Sigma A - \Sigma D)] \times 100$
In case, $(\Sigma E - \Sigma B)$ is negative, then it shall be treated as zero percent."

Note 3: Form 14 should include all items being planned in the current month, and all items against which shortfall was attributable to contractor till previous month. However, for practical reason, if it is not possible to mention some of the items in Form-14 being planned to be executed in this month, then also value of such items shall necessarily be included in calculation of Total Value.

Note 4: In case reason for shortfall attributable to contractor is w.r.t. T&P and Manpower, it should be in conformity with Part B1 and B2.

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page **3** of **6**

| | | | |
|-----------------|--|--------------------|--|
| Name of Project | | Contract No. | |
| Name of Work | | Name of Contractor | |

PART – B-1: PLAN/REVIEW OF DEPLOYMENT OF MAJOR T&Ps FOR THE MONTH OF

Date of Plan/ Review.....

CONTRACTOR'S SCOPE: -

| SN. | PLAN | | | | DEPLOYMENT STATUS | | | REMARKS (Works affected due to non-deployment of T&Ps) |
|-----|--|-----|-----------------------------|---|--------------------------|------------------------------------|--|---|
| | Major T&P to be deployed as per work planned for the month | QTY | Deployment Period (in days) | Weightage assigned to planned T&P (in fraction such that $\Sigma C = 1$) | Actual Deployed Quantity | Actual Deployment Period (in days) | Weighted T&P Deployed | |
| | | A | B | C | D | E | $F = (C \times D \times E) / (A \times B)$ | |
| | | | | | | | | |

Note: In case, $E > B$, it shall be considered as $E = B$. Similarly, in case $D > A$, it shall be considered as $D = A$.
Percentage of T&P Deployed = $\Sigma F \times 100$

BHEL SCOPE: -

| SN. | PLAN | | | DEPLOYMENT STATUS | | | REMARKS (Works affected due to non-deployment of T&Ps) |
|-----|--|-----|-----------------------------|--------------------------|------------------------------------|--|---|
| | Major T&P to be deployed as per work planned for the month | QTY | Deployment Period (in days) | Actual Deployed Quantity | Actual Deployment Period (in days) | | |
| | | | | | | | |

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

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| | | | |
|-----------------|--|--------------------|--|
| Name of Project | | Contract No. | |
| Name of Work | | Name of Contractor | |

PART – B-2: PLAN/ REVIEW OF DEPLOYMENT OF MANPOWER FOR THE MONTH OF

Date of Plan/ Review.....

CONTRACTOR'S SCOPE: -

| SN. | Area of Work | Category of Labour | No. of Labour required as per category | Deployment Period (in days) | No. of Labour actually deployed | Actual Deployment Period (in days) | REMARKS (Works affected due to non-availability of labour) |
|-----|--------------|--------------------|--|-----------------------------|---------------------------------|------------------------------------|---|
| | | | A | B | C | D | |
| | | | | | | | |

Percentage of Manpower Deployed= $100 \times \frac{\sum(C \times D)}{\sum(A \times B)}$

BHEL
 (Sign with name, designation and date)

CONTRACTOR
 (Sign with name, designation and date)



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

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| | | | |
|-----------------|--|--------------------|--|
| Name of Project | | Contract No. | |
| Name of Work | | Name of Contractor | |

PART – C: PLAN(PHYSICAL) FOR THE NEXT MONTH i.e.

Date of Plan

| SN. | Description of work | Original Planned Quantity | Planned Quantity (excluding shortfalls attributable to contractor till date) | Unit of Measurement | T&Ps Required | | | | Manpower Required | | REMARKS (Reasons for difference in Original Planned Quantity w.r.t. Planned quantity to be given) |
|-----|---------------------|---------------------------|--|---------------------|--|----------|--|----------|--------------------|--|--|
| | | | | | Contractor Scope | | BHEL Scope | | Category of Labour | No. of Labour required as per Category | |
| | | | | | Major T&P to be deployed as per work planned for the month | Quantity | Major T&P to be deployed as per work planned for the month | Quantity | | | |
| | | | | | | | | | | | |

Note 1: Planned quantity should be based on available/ expected fronts/ inputs in the next month

Note 2: “Original Planned Quantity” shall be as per latest jointly agreed programme between BHEL and Contractor before commencement of work or at the time of latest Time Extension, as the case may be.

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

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| | | | |
|-----------------|--|--------------------|--|
| Name of Project | | Contract No. | |
| Name of Work | | Name of Contractor | |

PART – D: REASONS FOR SHORTFALL ATTRIBUTABLE TO BHEL IN RESPECT OF PLAN FOR THE MONTH.....

| SN. | Description of Work (from Part-A) | Quantities Affected | | Reasons for Shortfall attributable to BHEL | Agency responsible for reasons for Shortfall | Remarks (Supporting Documents in respect of agency responsible) |
|-----|--------------------------------------|------------------------|-----------------------------|---|---|--|
| | | (Physical Quantity) | Unit of Measu- rement | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | | | | | | |

Note1: Reasons for shortfall shall include non-availability of fronts/ drawings/ materials/ T&P (BHEL Scope)/ clearances etc. and other hindrances for which contractor is not responsible.

Note2: Agency responsible may be BHEL Site/ MUs/ Design Centre/ BHEL Customer/ other Contractors etc.

BHEL
(Sign with name, designation and date)

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its Unit at Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700091 having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at _____¹ hereinafter referred to as the 'Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated² valued at Rs.....² (Rupees -----)for <Nature of Work>³ (hereinafter called the 'Contract') and the Contractor having agreed to provide a Contract Performance Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount Rs ----- (Rupees -----)⁴ without any demur, immediately on a demand from the Employer, .

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the contractors/supplier shall have no claim against us for making such payment.

We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor/Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Contractor/Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

This Guarantee shall remain in force upto and including.....⁵ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor/Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁶ (3 months more than the present date of validity of Bank Guarantee) we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁷
- b) This Guarantee shall be valid up to⁸
- c) Unless the Bank is served a written claim or demand on or before _____⁹ (3 months more than the present date of validity of Bank Guarantee) all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

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

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

² DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

³ PROJECT/SUPPLY DETAILS

⁴ BG AMOUNT IN FIGURES AND WORDS

⁵ VALIDITY DATE

⁶ DATE OF EXPIRY OF CLAIM PERIOD

⁷ BG AMOUNT IN FIGURES AND WORDS.

⁸ VALIDITY DATE

⁹ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.

2. In Case of Bank Guarantees submitted by Foreign Vendors-

- a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.

- b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
- b.1** In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
- b.2** **In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank** (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
- b.3** The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
- b.4** The BG should clearly specify that the demand or other document can be presented in electronic form.

**BANK GUARANTEE FOR SECURITY DEPOSIT CUM PERFORMANCE BANK GUARANTEE
BOND**

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 <Address of Power Sector Region¹> 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 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 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. (3 months more than 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 CUM PERFORMANCE BANK GUARANTEE
BOND**

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 ----- (3 Months more than the validity date) 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 < **Name of place²** > 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 :

- Address of Power Sector Regions (inviting the Tender)** is as below:
 - PSNR : Bharat Heavy Electricals Limited, Power Sector Northern Region, HRDI & PSNR Complex, Plot No 25, Sector 16-A, Noida – 201 301 (Uttar Pradesh)
 - PSER : Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700 091
 - PSWR: Bharat Heavy Electricals Limited, Power Sector Western Region, Shree Mohini Complex, 345 Kingsway, Nagpur 440 001
 - PSSR: Bharat Heavy Electricals Limited, Power Sector Southern Region, 690, Anna Salai, Nandanam, Chennai 600 035
- Name of place (for jurisdiction of Courts)** is as below:
 - PSNR : Delhi
 - PSER : Kolkata
 - PSWR: Nagpur
 - PSSR : Chennai
- 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.
- 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 RELEASE OF AMOUNTS WITHHELD/LIQUIDATED DAMAGES AMOUNT

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited ¹(hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its Unit at Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700091 having awarded to (Name of the Vendor / Contractor / Supplier) incorporated under thehaving its registered office at _____ ¹(hereinafter referred to as the 'Contractor', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated²valued at Rs.....(Rupees -----) for <Nature of Work>³(hereinafter called the 'Contract')

The Contractor as per Contract should have completed the work/ supplies under the contract by.....(date). As per terms and conditions of the Contract, the Employer is entitled to levy Liquidated Damages (LD) for delays and the Employer has withheld an amount of Rsby way of LD as per the Contract. Now, on the request of the Contractor, the Employer having agreed to release the amount of Rs.....withheld from the Contractor's invoices as Liquidated damages under the terms and conditions of the Contract on production of a Bank Guarantee for Rs. _____ (Rupees.....only)⁴

We,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount of Rs ----- (Rupees -----) without any demur, merely on a demand from the Employer

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the contractors/supplier shall have no claim against us for making such payment.

We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor/Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Contractor/Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's/ Supplier's liabilities.

This Guarantee shall remain in force upto and including.....⁵ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor/Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁶ (3 months more than the present date of validity of Bank Guarantee) we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁷
- b) This Guarantee shall be valid up to⁸
- c) Unless the Bank is served a written claim or demand on or before _____⁹ (3 months more than the present date of validity of Bank Guarantee) all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

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

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

² DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

³ PROJECT/SUPPLY DETAILS

⁴ BG AMOUNT IN FIGURES AND WORDS

⁵ VALIDITY DATE

⁶ *DATE OF EXPIRY OF CLAIM PERIOD*

⁷ *BG AMOUNT IN FIGURES AND WORDS.*

⁸ *VALIDITY DATE*

⁹ *DATE OF EXPIRY OF CLAIM PERIOD*

Note:

- 1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.**
- 2. In Case of Bank Guarantees submitted by Foreign Vendors-**
 - a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
 - b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
 - b.1** In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2** **In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank** (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
 - b.3** The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
 - b.4** The BG should clearly specify that the demand or other document can be presented in electronic form.

BANK GUARANTEE FOR SUPPLY FREE ISSUE MATERIAL.

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its Unit at Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700091 having awarded to (Name of the Vendor / Contractor / Supplier).having its registered office at _____¹ (hereinafter referred to as the 'Contractor/Supplier/Fabricator' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref. No.....dated² valued at Rs.....(Rupees -----) for <Nature of Work>³ (hereinafter called the 'Contract')

and, the Employer having agreed as per the terms and conditions of the Contract to supply free issue material costing Rs._____ for the manufacture/fabrication of the equipment at the Contractor's site on on furnishing a Bank Guarantee for Rs._____ (Rupees.....)⁴ in the manner hereinafter specified for the due safeguard of the free issue material,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount of Rs ----- (Rupees -----) without any demur, merely on a demand from the Employer, .

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment hereunder and the Contractors/Supplier shall have no claim against us for making such payment.

We theBank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We Bank further agree that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor/Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Contractor/Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor/Supplier/ Fabricator and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's/Supplier's/ Fabricator's liabilities.

This Guarantee shall remain in force upto and including.....⁵ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor/ Supplier/ Fabricator but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁶ (3 months more than the present date of validity of Bank Guarantee) we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁷
- b) This Guarantee shall be valid up to⁸
- c) Unless the Bank is served a written claim or demand on or before⁹ (3 months more than the present date of validity of Bank Guarantee) all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

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

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER .

² DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

³ PROJECT/SUPPLY DETAILS

⁴ BG AMOUNT IN FIGURES AND WORDS

⁵ VALIDITY DATE

⁶ DATE OF EXPIRY OF CLAIM PERIOD

⁷ BG AMOUNT IN FIGURES AND WORDS.

⁸ VALIDITY DATE

⁹ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. **Units are advised that expiry of claim period may be kept 2/3 months after validity date.**
2. **In Case of Bank Guarantees submitted by Foreign Vendors-**
 - a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
 - b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
 - b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2 **In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank** (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
 - b.4 The BG should clearly specify that the demand or other document can be presented in electronic form.

**PROFORMA OF BANK GUARANTEE FOR EARNEST MONEY
(On non-Judicial paper of appropriate value)**

Bank Guarantee No.....

Date.....

To

(Employer's Name and Address)

.....

Dear Sirs,

In accordance with the terms and conditions of your Invitation for Bids/Notice Inviting Tender No.....¹(Tender Conditions) M/s. having its registered office at² (hereinafter referred to as the '**Tenderer**'), is submitting its bid for the work of..... for.....³. at Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700091.⁴(name of the Employer)

The Tender Conditions provide that the **Tenderer** shall pay a sum of Rs as Earnest Money Deposit in the form therein mentioned. The form of payment of Earnest Money Deposit includes Bank Guarantee executed by a Scheduled Bank.

In lieu of the stipulations contained in the aforesaid Tender Conditions that an irrevocable and unconditional Bank Guarantee against Earnest Money Deposit for an amount of⁵ is required to be submitted by the Tenderer as a condition precedent for participation in the said Tender and the Tenderer having approached us for giving the said Guarantee,,

we, the[Name & address of the Bank] having our Head Office at(hereinafter referred to as the Bank) being the Guarantor under this Guarantee, hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer without any demur, merely on your first demand any sum or sums of Rs. ⁵(*).....without any reservation, protest, and recourse and without the beneficiary needing to prove or demonstrate reasons for its such demand. Any such demand made by the 'Employer' shall be

conclusive and binding on us irrespective of any dispute or difference raised by the Tenderer.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment hereunder and the Tenderer shall have no claim against us for making such payment.

We Bank further agree that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Tender or to extend the time of submission of bids from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Tenderer and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Tendered or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Tenderer or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Tenderer and notwithstanding any security or other guarantee that the Employer may have in relation to the Tenderer's liabilities.

This Guarantee shall be irrevocable and shall remain in force upto and including.....⁶ and shall be extended from time to time for such period as may be desired by the Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Tenderer but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms hereof. However, unless a demand or claim under this Guarantee is made on us in writing on or before the⁷ we shall be discharged from all liabilities under this Guarantee.

We, Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....5.....
- b) This Guarantee shall be valid up to6

- c) Unless the Bank is served a written claim or demand on or before _____⁷ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of

(Name of the Bank)

Date.....

Place of Issue.....

¹ *Details of the Invitation to Bid/Notice Inviting Tender*

² *Name and Address of the Tenderer*

³ *Details of the Work*

⁴ *Name and Address of BHEL Unit/Division/Region (Already filled up)*

⁵ *BG Amount in words and Figures*

⁶ *Validity Date*

⁷ *Date of Expiry of Claim Period*

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date. As per Works Policy, the Bank Guarantee shall be valid for at least six months.

2. In Case of Bank Guarantees submitted by Foreign Vendors-

- a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
- b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
 - b.1** In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter-Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2** **In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank** (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
 - b.3** The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
 - b.4** The BG should clearly specify that the demand or other document can be presented in electronic form.

TENDER NO: PSER:SCT:NBN-E1965:19

VOLUME -IF

TECHNICAL CONDITIONS OF CONTRACT
(TCC)

FOR

Handling at site/ storage yard, transportation to site of work, pre-assembly, erection, testing, commissioning and handing over of Electrical & C&I system for Boiler, ESP, TG sets for Unit-IV of 4x250 MW BRBCL, Nabinagar Project, Bihar

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVT. OF INDIA UNDERTAKING)

POWER SECTOR – EASTERN REGION

PLOT NO. – 9 / 1, DJ – BLOCK,

SECTOR – II, KARUNAMOYEE,

SALT LAKE CITY,

KOLKATA – 700091.

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| VOLUME – IF-CML-REV-00 | TECHNICAL CONDITIONS OF CONTRACT (TCC) | PAGE 2 OF 45 |

These technical conditions shall be construed as part of tender document and shall be read along with general conditions of contract (GCC), special conditions of contract (SCC), technical specifications and other volumes of tender. In case of any conflict or inconsistency between GCC, SCC, other volumes and these technical conditions contract (TCC), the same shall be brought out by the bidder in writing to BHEL for clarification, failing which most stringent interpretation/ clause in favour of BHEL shall be adopted and the same shall be binding to the bidder.

| CL. NO. | DESCRIPTION |
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| 1.0 | <p>PROJECT SYNOPSIS AND GENERAL INFORMATION</p> <p>NTPC (for BHARATIYA RAIL BIJLEE COMPANY LTD.) is setting up four units of 4x250 MW Thermal Power station (coal based) at Nabinagar, District- Aurangabad, State of Bihar.</p> <p>The Plant site is located at North: 24 deg. 42' 30" (N) and East: 84 deg. 05' 36" (E). Nearest Railway station is Dehri-On-Sone which is approx. 30 KM away from the project site. The nearest major town Aurangabad is located at a distance of about 50 Kms. from Project site.</p> <p>Nearest Railway Station : Dehri-On-Sone Railway Station (Approx. 30 KMs from the Plant)</p> <p>Nearest Airport : Gaya (Approx. 100 KMs from the Plant)</p> <p>Nearest Highway is National Highway-2 which is 25KM away from the project site.</p> |
| 2.0 | BROAD SCOPE OF WORK |
| 2.1 | 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. |
| 2.2 | The scope of installation, cabling & earthing is covered under technical specification. Project information is spelt out in those specifications. |
| 2.3 | <p><u>PART-A (ELECTRICAL SYSTEMS)</u></p> <p>The scope under this specification shall cover receipt of materials from site stores/ open yard/ unloading bay of power house, dragging to position (place of erection)/ loading in the truck trailer with the help of crane, handling at site/ dragging to place of erection (wherever applicable), watch and ward for safe custody of materials, inspection of materials, submission of inspection reports for any shortage/ damage or anything else called for, preservation/ conservation, fixing of supports (base channels), pre-assembly, erection of equipment & support structures, leveling, alignment, grouting, testing, commissioning, calibration, trial operation, assistance to PG test, handing over to the entire satisfaction of BHEL/ customer for Unit # 4 at 4X250 MW Nabinagar TPP, Dehri on Sone, Bihar for SP & VT cubicle, fan control panels, HVR transformers and rectifiers for ESP, DAVR, VFD transformer-reactor-panels, electrical panels for ESP, Soot Blower MCC, Cabling & tray works of Soot Blower system & ESP, push button, junction boxes, ash level indicators, valves, actuators etc, including earthing with nearest earthing point, reconciliation of materials and returning of unused materials, scrap materials, packing cases/ wooden boxes/ cable drums etc to BHEL or customer's stores/ yards. Scope covers Erection, Testing & Commissioning of BHEL supplied materials as well as materials in the bidder's scope of supply.</p> |

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| | <p>It is not the intent to specify completely here in all details of handling, erection, testing and commissioning of the above equipment. The omission of specific reference to any method, or test and 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 facilities/ services to complete the project or portion of the project awarded to him. The quoted rate shall deem to be inclusive of all such contingencies. Only exclusions specifically mentioned in this tender shall be entertained in all matters.</p> <p>Good quality and accurate workmanship for proper performance of the equipment are absolutely necessary. BHEL engineers shall be the deciding authority towards quality requirement.</p> <p>Synopsis of above equipment and relevant services are given in Annexures & rate Schedule.</p> <p><u>PART-B (C&I)</u></p> <p>The scope under this specification shall cover receipt of materials from site stores / open yards / unloading bay of power house, dragging to position (place of erection) / loading in the truck / trailer with the help of crane, handling at site/ dragging to place of erection (wherever applicable), watch and ward for safe custody of materials, inspection of materials, submission of inspection reports for any shortage/ damage or anything else called for, preservation/ conservation, fixing of supports (base channels), pre-assembly, erection of equipment and support structures, leveling, alignment, grouting, testing, commissioning, calibration, trial operation, assistance to setting up Laboratory Instruments at customer premises, assistance to PG test, and handing over to the entire satisfaction of BHEL/ customer-BRBCL), reconciliation of materials and returning of unused materials, scrap materials, packing cases/ wooden boxes/ cable drums etc to BHEL or NTPC stores/ yards for Unit # 4 at 4X250 MW Nabinagar TPP,Dehri on Sone, Bihar for following scope:-</p> <p>Erection, Testing, Commissioning of Control & Instrumentation work of Station, PADO system (for Unit # 1,2,3 & 4), Boiler, ESP, TG and their auxiliaries etc. for Unit # 4 at 4X250 MW Nabinagar TPP, Dehri on Sone, Bihar.</p> <p>Scope covers ETC of BHEL supplied materials. It is not the intent to specify completely here in all details of handling, erection, testing and commissioning of the above equipment. The omission of specific reference to any method, or test and 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 facilities /services to complete the project or portion of the project awarded to him. The quoted rate shall deem to be inclusive of all such contingencies. Only exclusions specifically mentioned in this tender shall be entertained in all matters.</p> |
| 3.0 | SITE VISIT |
| 3.1 | Contractor should visit site and acquire full knowledge & information about site conditions prevailing at site and in and around the plant premises together with all the statutory, obligatory, mandatory requirements of various authorities before submission of the bid. No claim on account of lack of information in respect of site conditions shall be entertained by BHEL at any time. |
| 4.0 | GENERAL |
| 4.1 | All items forming part of the equipment/system shall be erected and rates quoted are inclusive of all accessories irrespective of the fact that the item does not appear in the BOQ/BOM. |
| 4.2 | The contractor shall carry out the work in accordance with standard practices/ |

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| | codes/ instructions/ drawings/ documents/ specification supplied by BHEL from time to time. |
| 4.3 | The work shall conform to dimensions and tolerances given in various drawing 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, job will be carried out by BHEL by engaging other agencies/ departmentally and recoveries will be affected from contractor's bills towards expenditure incurred including BHEL's usual overhead charges. |
| 4.4 | Following shall be the responsibility of contractor and have to be provided within finally accepted rates/prices. |
| 4.4.1 | Provisions of all types of manpower, supervisors, engineers, watch and ward as required, tools and tackles, calibrated inspection, measuring and test equipment (IMTEs) as specified and otherwise required for the work and consumables for erection, testing and commissioning including material handling. |
| 4.4.2 | Proper out-turn as per BHEL plan and commitment. |
| 4.4.3 | Completion of work as per BHEL Schedule. |
| 4.4.4 | Good quality and accurate workmanship for proper performances of equipment. |
| 4.4.5 | Repair and rectification. |
| 4.4.6 | Preservation/ Re-conservation of all components during storage under contractor's custody/ erection till handing over. |
| 4.5 | BHEL - Power Sector (ER) is ISO 9001-2000 certified company. Quality of work, to customer's satisfaction and as per system requirements are the essence of ISO 9001-2000 certification. The contractor in all respects will organize his work, systems, environment, Process control documentation, T&P inspection, measuring and testing equipment's (IMTEs) etc. as per instructions of BHEL engineer. |
| 4.6 | The contractor will comply with HSE (Health, Safety & Environment) requirements of BHEL and follow all applicable Operational Control Procedures (OCPs) within quoted price. |
| 4.7 | Unloading and receiving of the material being supplied by the vendor at site, is within the scope of his work. |
| 4.8 | The quoted price should include the following – <ul style="list-style-type: none"> • Regular cleaning of debris/ rubbish from work spot • Return of balance/ scrap items, Packing boxes, crates/ wooden planks/ empty cable drums, and unused spares by the contractor to BHEL/ NTPC store. |
| 4.9 | The contractor is to construct closed/ semi closed/ open stores shed for proper storage of items received by him without extra cost. |
| 4.10 | The contractor should use fire proof tarpaulin only to cover any material either in open or at a covered area. |
| 4.11 | The contractor should deploy fire extinguishers of required number in his office and work areas. |
| 4.12 | Earthing of equipment including instruments is also included under his scope. |
| 4.13 | The contractor shall take the full responsibility of testing, pre-commissioning and commissioning of the equipment being installed by him or installed by others but being commissioned by him under the overall supervision of BHEL. It shall be the responsibility of the contractor to arrange all the testing/measuring instruments and complete all the testing, pre-commissioning and commissioning activities for the particular equipment as per relevant standards, code of practice, manufacturer's instructions, applicable quality plans for installation, testing & commissioning and BHEL norms. All these will be witnessed by BHEL engineers / representative of BHEL's customer or both and reports signed jointly. The contractor shall submit a check list to BHEL prior to taking up testing and commissioning activities which shall be approved by BHEL and the activities shall be carried out in accordance with the check list. |
| 4.14 | The contractor shall provide necessary supervision, skilled/semi-skilled workmen, competent experienced erection and commissioning engineers to carry out the tests independently, electrical license holder supervisors and electricians, erection tools and tackles, consumable, testing, measuring & commissioning instruments / |

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| | equipment of required range, administrative personnel, transport vehicles, security guards for timely execution of the contract. |
| 4.15 | If occasion so demands that in order to achieve project schedule / milestone, various activities are to be carried out at a time and the contractor should be able to provide necessary manpower, tools, tackles, equipment testing and measuring instruments for simultaneous working round the clock at no extra cost and no extra claim whatsoever will be entertained in this account. |
| 4.16 | While testing/ commissioning, if the system involving the equipment erected and commissioned by contractor is observed to be not functioning properly and contractor considers it to be arising due to defects in the purchaser's equipment/ system, it shall be responsibility of contractor to check, establish and demonstrate that either the defect exists in the purchaser's equipment/ system terminals or there is no defect in the equipment/ system installed by the contractor inclusive of the interconnecting cabling up to the terminals of purchaser's equipment. If the defect is established to be in the purchaser's equipment or in the interconnecting cables not erected by the bidder the same shall be rectified by the purchaser. |
| 4.17 | Manufacturer's drawings must be studied before handling, erection, testing and commissioning of switchgears, transformers and panels. Dragging of equipment should be avoided and use of a crane and trailer/ truck should be made for the handling purpose while transporting to various site of erection from the site stores. While lifting panels in packed condition, utmost care should be taken to avoid any damage to protective and metering equipment. The panels should preferably be kept inside the packing box till the foundations are made ready. However, once the material is issued to the contractor for handling/ erection from BHEL custody, the preservation / conservation will be completely in the scope of the contractor. |
| 4.18 | It will be the responsibility of contractor to re-serve/ preserve the materials equipment, provide watch ward after issued from BHEL stores. Contractor will do the routine maintenance of the equipment or will attend minor repair/ trouble shooting jobs after commissioning till taken over by customer for commercial operation of the plant. Contractor will have to submit test reports protocols, log-sheets at different stages of commissioning & trial operation in formats prescribed by BHEL. |
| 4.19 | Contractor has to arrange all safety appliances required during acid filling/ charging of battery and other items like sp gravity meter, thermometer, jerry cans, funnels etc. Resistance box with all interconnecting cables, PVC drums for water loads, etc of suitable rating/ capacity for carrying out capacity/ discharge test of batteries shall be arranged. Also, maintenance of battery parameters, after commissioning till handing over to owner shall be carried out. |
| 4.20 | Rotation of motor terminal boxes and minor modification to suit cable termination, if required shall be carried out at no extra cost. |
| 4.21 | For soot blowers, valves and dampers operated through associated MCCs, entire commissioning including setting of limit/torque switch and position feedback unit, electrical control gear of actuators of MOVs & damper, is included in the scope of contractor. Payment shall be made as per applicable item of Price schedule. |
| 4.22 | No Change in price due to variation in dimension, weight, type etc of panels |
| 4.22.1 | Unit price quoted/allotted by/to the vendor for each ESP & Soot Blower/ switchboard/ control panel shall remain firm regardless of any change in width, height, type, weight or any other parameter as indicated in BOM. |
| 4.22.2 | For variation in length within +/- 15% of length of switchboard / control panel as indicated in BOM, unit price shall remain firm. |
| 4.22.3 | For variation in length of switchboard/ panels beyond +/- 15% of the indicated length in BOQ, rate of unit length of variation shall be arrived by dividing the item rate by length as indicated in the BOM and price adjustment for payment during execution for length excess/ shortage over and above the +/- 15% variation of indicated length shall be done accordingly. |
| 4.22.4 | Any item not covered in the BOM/ Price Schedule but added during detail engineering at a later date shall be executed by contractor. The rate for erection, testing, commissioning, etc shall be derived from a similar item in BOM/ Price |

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| | schedule. Decision of BHEL regarding interpretation of 'similarity' will be final. |
| 4.22.5 | Cleaning of control room (this includes cleaning of floor, control desk and operating terminals) thrice a day including Sundays and holidays as per instruction of the engineer with vacuum cleaner or other appliances, removing of debris is in the scope of contractor within quoted price. In case of failure of contractor to comply with this requirement, BHEL reserves the right to deduct necessary amount. |
| 4.22.6 | The contractor shall take the full responsibility of testing, pre-commissioning and commissioning of the equipment being installed by him or installed by others but being commissioned by him under the overall supervision of BHEL. It shall be the responsibility of the contractor to arrange all the testing/measuring instruments and complete all the testing, pre-commissioning and commissioning activities for the particular equipment as per relevant standards, code of practice, manufacturer's instructions, applicable quality plans for installation, testing & commissioning and BHEL norms. All these will be witnessed by BHEL engineers / representative of BHEL's customer or both and reports signed jointly. The contractor shall submit a check list to BHEL prior to taking up testing and Commissioning activities which shall be approved by BHEL and the activities shall be carried out in accordance with the check list. |
| 4.22.7 | If occasion so demands that in order to achieve project schedule / milestone, various activities are to be carried out at a time and the contractor should be able to provide necessary manpower, tools, tackles, equipment testing and measuring instruments for simultaneous working round the clock at no extra cost and no extra claim whatsoever will be entertained in this account. |
| 4.22.8 | While testing / commissioning, if the system involving the equipment erected and commissioned by the contractor is observed to be not functioning properly and the contractor considers it to be arising due to defects in the purchaser's equipment / system, it shall be the responsibility of the contractor to check, establish and demonstrate that either the defect exists in the purchaser's equipment / system terminals or there is no defect in the equipment / system installed by the contractor inclusive of the interconnecting cabling up to the terminals of purchaser's equipment. If the defect is established to be in the purchaser's equipment or in the interconnecting cables not erected by the bidder the same shall be rectified by the purchaser. |
| 4.22.9 | Manufacturer's drawings must be studied before handling, erection, testing and commissioning of the field & control room equipment, panels & field instruments. Dragging of the equipment should be avoided and use of a crane and trailer / truck should be made for the handling purpose while transporting to various site of erection from the site stores. While lifting panels in packed condition, utmost care should be taken to avoid any damage to protective and metering equipment. The panels should preferably be kept inside the packing box till the foundations are made ready. However, once the material is issued to the contractor for handling / erection from BHEL custody, the preservation / conservation will be completely in the scope of the contractor. |
| 4.22.10 | It will be the responsibility of contractor to re-serve / preserve the materials equipment, provide watch ward of storage & erected equipment after issued from BHEL stores. Contractor will do the routine maintenance of the equipment or will attend minor repair / trouble shooting jobs after commissioning till taken over by customer for commercial operation of the plant. Contractor will have to submit test reports protocols, log-sheets at different stages of commissioning and trial operation in formats prescribed by BHEL. |
| 5.0 | PRELIMINARY WORKS |
| 5.1 | Before starting erection job, contractor shall ensure that the area is sufficiently cleaned against ingress of dust and water, and all debris has been cleared off from the floor to a designated area as per instruction of engineer. The contractor shall arrange to get the working area and surroundings cleaned daily to ensure a dust free atmosphere for working. |
| 5.2 | The accuracy of all equipment, instruments and their functioning shall be established before they are permitted for use on the job. If the engineer doubts the |

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| | accuracy of the precision tools any time during erection, the contractor shall arrange the checking of tools/ equipment/ instruments at his cost. |
| 6.0 | CIVIL WORKS, FOUNDATIONS AND GROUTING |
| 6.1 | Foundations for all equipment shall be provided by BHEL. Dimensions & locations of foundations, pockets, and anchor bolt shall be checked by contractor for their correctness as per drawings. Further, top elevation of foundations shall be checked with respect to bench marks etc. All minor adjustments of foundation level, dressing and chipping of foundation surfaces up to 50 mm, enlarging the pockets in foundations etc as may be required for the erection of equipment/ plants shall be carried out by contractor within the quoted/ accepted price. |
| 6.2 | While on 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 it is allowed by BHEL engineer. When required by manufacturers, the embedded sub-sole plates shall be scraped and checked with Prussian blue to get the required contact with frames. |
| 6.3 | The contractor shall ensure perfect matching of packer plates including scraping and blue matching with foundation by dressing the foundation, as well as perfect matching between the packer plates and the base plate of equipment to the satisfaction of BHEL Engineer. |
| 6.4 | All civil works viz. grouting/ excavation/ casting of foundation anchor points for derricks, winches, guy ropes, fastening etc and foundations required for any other temporary supports/ works, required for safe and efficient operation of tools and tackles, shall be the contractor's responsibility. For these civil works all materials excluding cement and required facilities will have to be arranged by contractor at his own cost. |
| 6.5 | All minor Civil works for Main equipments including drilling, chipping, enlarging cut-outs, foundation pockets, cable cut outs ,etc will have to be carried out by the contractor at no extra cost. Grouting of equipments erected by the contractor as per procedure is included in the scope. Materials like cement, sand aggregates, etc including shuttering, curing, etc. shall be arranged without any extra cost. |
| 7.0 | GENERAL GUIDELINES FOR FIELD ACTIVITES |
| 7.1 | The contractor shall execute the works in a professional manner so as to achieve the target schedule without any sacrifice on quality and maintaining highest standards of safety and cleanliness. |
| 7.2 | The contractor shall co-operate with owner/ BHEL and other Contractors working in site and arrange to perform his work in a manner so as to minimize interference with other contractor's works. BHEL's engineer shall be notified promptly of any defect in other contractor's works that could affect the contractors work. If rescheduling of contractors' work is requested by owner's/ BHEL's engineer in the interest of overall site activities, the same shall be compiled with by the contractor. In all cases of controversy, the decision of BHEL shall be final and binding on the contractor without any commercial implication. |
| 7.3 | The Engineer shall hold weekly meeting of all the contractors working at site at a time and a place to be designated by the Engineer. The contractor shall attend such meetings and take notes of discussions during the meeting and the decisions of the Engineer and shall strictly adhere to those decisions in performing this work. In addition to the above weekly meeting, Engineer may call for other meetings either with individual contractors or with selected number of contractors and in such a case the contractor, if called will also attend such meetings. |
| 7.4 | Time is the essence of the contract and the contractor shall be responsible for performance of his work in accordance with the specified construction schedule. If at any time the contractor is falling behind the schedule, he shall take necessary action to make good of such delays by increasing his work to comply with the schedule and such communicate such action in writing to the Engineer, satisfying that his action will compensate for the delay. The contractor shall not be allowed any extra compensation for such action. |
| 7.5 | The Engineer shall however not be responsible for provision of additional labour and / or materials or supply of any other services to the contractor except for the co-ordination work between various contractors as set out earlier. |

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| 7.6 | The works under execution shall be open to inspection & supervision by BHEL's/ owner's engineer or his authorized representative at all times. The contractor shall give reasonable notice to BHEL before covering up or otherwise placing beyond the reach of inspection any work in order that same may be verified if so desired by owner/ BHEL. |
| 7.7 | Every effort shall be made to maintain the highest quality of workmanship by stringent supervision and inspection at every stage of execution. Manufacturer's instruction manual and guidelines on sequence of erection and precautions shall be strictly followed. Should any error or ambiguity be discovered in such documents, the same shall be brought to the notice of BHEL's engineer. Manufacturer's interpretation in such cases shall be binding on the contractor. |
| 7.8 | The contractor shall comply with all the rules and regulations of the local authorities, all statutory laws including Minimum wages, PF formalities, workmen compensation etc. All registration and statutory inspection fees, if any in respect of the work executed by the contractor shall be to his account. |
| 7.9 | All the works such as cleaning, checking, leveling, blue matching, aligning, assembling, temporary erection for alignment, opening, dismantling of certain equipment for checking and cleaning, surface preparation, edge preparation, fabrication of tubes and pipes as per general engineering practice at site, cutting, grinding, straightening, chamfering, filling, chipping, drilling, reaming, scrapping, shaping, fitting-up, bolting/ welding, stainless steel welding etc as may be applicable in such erection and necessary to complete the work satisfactorily, are to be treated as incidental and the same shall be carried out by the contractor as part of the work. |
| 7.10 | It is the responsibility of the contractor to do alignment etc if necessary, repeatedly to satisfy engineer, with all the necessary tools & tackles, manpower etc. The alignment will be complete only when jointly certified so, by the contractor's engineer, with inspection engineer/ owner and BHEL. Also the contractor should ensure that the alignment is not disturbed afterwards. |
| 7.11 | Equipment and material which wrongly installed shall be removed and reinstalled to comply with design requirement at the contractor's expense, to the satisfaction of BHEL/ owner/ consultant or owner's representative. |
| 7.12 | After identification of erection materials by BHEL's store/ storage yard, it shall be the responsibility of the contractor to take delivery of materials from BHEL's store/ storage yard by contractor's own T&P/ manpower and re-stack the leftover materials as per erection sequence at BHEL store at their own cost. The entire activities are to be carried out under supervision of BHEL's MM engineer at site. |
| 7.13 | Contractor will have to erect temporary approach, scaffolding and provide suitable platform at places (as desired by BHEL) for the purpose of inspection/ testing by BHEL personnel. |
| 8.0 | ERECTION SERVICES |
| 8.1 | As part of the overall project management activity, the contractor shall be responsible for proper co-ordination of erection activities during various phases of execution of the contract. The contractor shall identify a person designated as construction manager, with whom BHEL shall interact on matters related to execution of contract. The construction manager shall be the single point contract person on behalf of the contractor. BHEL shall interact with the construction manager only on all matters on co-ordination between BHEL and the contractor. |
| 8.2 | The contractor shall confine all his field operations to those works which can be reformed without subjecting the equipment materials to adverse effects, during inclement weather conditions like monsoon, storms etc. and during other unfavorable construction conditions. No field activities shall be performed by the contractor under conditions which might adversely affect the quality and efficiency thereof, unless special precautions or measures are taken by the contractor in proper and satisfactory manner in the performance of such works and with the concurrence of engineer. Such unfavorable construction conditions in no way relieve contractor of his responsibility to perform the works as per the schedule. |
| 8.3 | The contractor shall provide all the skilled workmen, welders, gas cutters, electricians, riggers, serangs, erectors, carpenters, fitters, masons, lagers, tin- |

| | smiths, instrument mechanics etc., in addition to other skilled, semi-skilled and unskilled workmen required for all the works of handling and transportation from site store to erection site, erection, testing and commissioning, trial run etc. contemplated under this specification. Only fully trained and competent men with previous experience on the job shall be employed. They shall hold valid certificates wherever necessary. BHEL reserves the right to decide on the suitability of the workers and the other personnel who will be employed under the contractor. BHEL reserves the right to insist on removal of any employee of the contractor at any time, if they find him unsuitable and the contractor shall forthwith remove him. | | | | | | | | | | | | | | | | | | | | | |
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| 8.4 | The supervisory staff employed by the contractor shall be technically qualified and experienced in the area of work. They shall ensure proper out turn of work and discipline on the part of 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 co-ordination with other labour and staff employed directly by BHEL or other contractors of BHEL and BHEL's client / consultant. | | | | | | | | | | | | | | | | | | | | | |
| 8.5 | The contractor shall finish daily labour report showing by classification the number of employees engaged in various categories of work a progress report of work as required by BHEL Engineer. A daily erection progress report should be sent to BHEL as required by BHEL engineer. | | | | | | | | | | | | | | | | | | | | | |
| 8.6 | 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 co-operate with other personnel, and other contractors, co-coordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole. | | | | | | | | | | | | | | | | | | | | | |
| 8.7 | 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 tolerance given in the drawing / instruction given by BHEL engineer from time to time. | | | | | | | | | | | | | | | | | | | | | |
| 8.8 | It is the responsibility of the contractor to engage his workman in shifts or on overtime basis for achieving the target by BHEL during erection, commissioning and testing period. Contractor's quoted rate shall include all these contingencies | | | | | | | | | | | | | | | | | | | | | |
| 8.9 | Bidder has to supply & carry out application of one coat of primer and two coats of paint on all structural work, impulse pipes and parts erected after removal of dust. The colour of the paint shall be decided by BHEL engineer. Touch up paint should be applied on panels, J.Bs if required. The contractor shall take prior approval of BHEL/NTPC for the make of the paint to be procured for the same application. | | | | | | | | | | | | | | | | | | | | | |
| 9.0 | PROJECT MANAGEMENT | | | | | | | | | | | | | | | | | | | | | |
| 9.1 | The bidder shall prepare detail schedule L1/ L2 as per required milestone completion schedule and submit same within 30 days of LOI for BHEL approval. The schedule must include all milestone and key activities for each package/subsystems/components in his scope of work in the areas of mobilization, engineering, procurement, manufacture, inspection, dispatch, civil works/ erection/ commissioning/ handing over. This network must conform to the overall requirement of the project schedule. The bidder should also ensure monitoring of the activities at least on weekly basis to start with and on daily basis whenever required by BHEL. | | | | | | | | | | | | | | | | | | | | | |
| 9.1.1 | Project Milestones of Unit # 4 at 4X250 MW Nabinagar TPP, Dehri on Sone, Bihar <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>SL NO</th> <th>MILESTONE</th> <th>SCHEDULE DATE</th> </tr> </thead> <tbody> <tr> <td>1.0</td> <td>Boiler Light Up</td> <td>September'19</td> </tr> <tr> <td>2.0</td> <td>TG Box-up</td> <td>October'19</td> </tr> <tr> <td>3.0</td> <td>Oil Flushing Completion</td> <td>November'19</td> </tr> <tr> <td>4.0</td> <td>Turbine Barring gear</td> <td>December'19</td> </tr> <tr> <td>5.0</td> <td>Synchronization</td> <td>January'20</td> </tr> <tr> <td>6.0</td> <td>Trial Run Compln. of the Unit & handing over</td> <td>February'20</td> </tr> </tbody> </table> | SL NO | MILESTONE | SCHEDULE DATE | 1.0 | Boiler Light Up | September'19 | 2.0 | TG Box-up | October'19 | 3.0 | Oil Flushing Completion | November'19 | 4.0 | Turbine Barring gear | December'19 | 5.0 | Synchronization | January'20 | 6.0 | Trial Run Compln. of the Unit & handing over | February'20 |
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| 9.1.2 | It may be noted that the above milestone schedule is tentative and subject to preponement / alteration based on site condition. The contractor shall deploy/augment resources to meet project commissioning targets finalized during execution. |
| 9.2 | L1/ L2 SCHEDULE. |
| 9.2.1 | The Contractor shall furnish master network/ bar chart (L1 schedule) in accordance with project milestone schedule and submit along with its bid proposal. The contract master bar chart will be negotiated with the successful bidder. |
| 9.2.2 | The successful contractor shall prepare and maintain the detailed master schedule (L2 network), as described below, during the course of the work. |
| 9.3 | GENERAL |
| 9.3.1 | The contractor shall be responsible for planning and scheduling the work and reporting its progress in a manner, format and level of detail acceptable to BHEL. These plans shall be in accordance with the intermediate milestones and the completion dates as specified by and agreed in the contract. |
| 9.3.2 | The contractor shall be responsible for reporting progress to BHEL on a weekly and monthly basis. The cut-off day and reporting day shall be nominated by BHEL at contract award. Progress reports shall be presented in a clear and logical fashion preferably through a software disc and in PDS format mutually agreed between BHEL and contractor. |
| 9.4 | DETAILED MASTER SCHEDULE (L2 NETWORK) |
| 9.4.1 | Within thirty (30) days of the letter of intent date, Contractor shall submit to BHEL the detailed Master Schedule (L2 schedule) along with Summary Network/ Bar chart (L1 schedule) for approval. L2 schedule shall be the working level document demonstrating Contractor's ability and methods of completing the work within the key milestones identified in the tender specification. |
| 9.4.2 | The CMS shall be based on a computerized logic network. The level of detail shall be sufficient to break down the work scope into manageable and measurable activities acceptable to BHEL. All activities shall have durations in days. |
| 9.4.3 | The Contractor shall provide a detailed activity bar chart based on the resource scheduled logic network. The bar chart shall contain activity descriptions, planned start and finish dates with the critical path activities clearly identified. The network/bar chart shall be updated weekly to indicate actual progress. |
| 9.4.4 | The CMS shall include the required dates of all external input required to execute the plan. In addition, the CMS shall clearly show all Sub-contract award dates and Sub-contractor activities right from preparation of specification & floating of tender. |
| 9.4.5 | In addition, Contractor shall furnish percentage - based progress 'S' curve indicating, the required rate of progress necessary to complete the work according to the CMS. The 'S' Curve shall be updated weekly to plot actual progress against planned. |
| 9.5 | PROJECT MANAGEMENT ASSISTANCE BY BIDDER |
| 9.5.1 | The successful bidder will have to establish computerized system to integrate with BHEL's existing system and requirement for material management system and SOMS software system at BHEL site office. 02(TWO) nos. computers with least P-4 processor @ 3.0 GHz/ 915 GV chipset/ 533 MHz FSB, 512 MB RAM, 80-GB hard disc, CD-RW Drive, 1.44 MB 3.5" FDD, Optical Mouse, MM keyboard, Internal modem, Intel high definition Audio with stereo speakers, 17" Digital colour monitor, Integrated 10/100 LAN Card, Four high speed FSB port, parallel & serial port, UPS with associated accessories, licensed softwares (like Window XP professional, MS Office 2003 and other software as per site requirement) and 2 no A4 size Laser Colour Printer, Scanner – 2 no. along with power back-up system. 2 No. Computer operator is to be provided for this purpose during the period from start of contract till completion of contract period, including extension, if any. No separate payment shall be made on this account and the Quoted rate shall be inclusive of the same. These shall remain properties of the contractor and may be taken out after completion of the work. These shall be deployed at site from the 1 st month onwards. |
| 9.5.2 | The computer with operator shall be under BHEL till handing over of the set to the customer. |

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| 9.5.3 | The operator has to be experienced computer operator for computerised works keeping in line with BHEL's requirements. The operator may have to undertake training in one of the BHEL's premises and the contractor has to bear all expenses towards their TA, boarding, lodging at the designated place where the training shall be arranged. |
| 9.5.4 | Contractor shall provide Two service staff for miscellaneous service for BHEL's use at site for reconciliation, progress review and day-to-day planning, documentation purpose etc right from start of work. |
| 9.5.4.1 | Contractor shall deploy above resources within 30 days of LOI for total contract period (including extension, if any). These computers/ printers shall remain contractor's property and they will be allowed to take out after above mentioned period. If contractor fails to provide computer/printer/personnel as mentioned above, BHEL shall have the right to apply the following alternative. Deduct the amount as per following from contractor's RA bill or any other dues on pro-rata basis for the period of non- performance. @ Rs 17,000/- per month for Operator. @ Rs 15,000/- per month for computer @ Rs 12,000/- per month for printer. @ Rs 12,000/- per month for each service staff. |
| 9.5.4.2 | For the job as specified in the contract, the contractor shall employ following dedicated manpower who will be assisting BHEL engineers in day to day activities / checking :- a. Diploma engineer having knowledge of Electrical E & C - 2 numbers b. Electrical technician for checking and calibration - 4 numbers c. Diploma engineer having knowledge of C&I E & C - 2 numbers d. C&I technician for checking and calibration - 4 numbers |
| 9.5.4.3 | In the event of failure of the contractor to provide dedicated personnel of above mentioned as per requirement for a continuous period of 15 days or more, BHEL reserves the right to recover the amounts at the following rates and organize the services : @ Rs 30000/- (Thirty thousand) /month for each Diploma Engineer. @ Rs 18000/- (Eighteen thousand)/month for each technician. |
| 9.5.5 | Photography (in soft copies) depicting progress of the work, damage to the machine parts, if any, as directed by BHEL site engineer is to be arranged by the successful bidder at his own cost. |
| 9.5.6 | Successful bidder has to provide for electronic/ computerized storing and re-production/ printing/ plotting of various data, log sheets, protocols, measurements etc. These may be stored in a virus free CD and handed over to BHEL as per requirement. |
| 9.5.7 | The successful bidder shall have to provide BHEL with all erection/ work schedule (in a time scaled L3 network showing details of work system wise and input required thereof) and/ or progress report, protocol, test report in floppies (compatible to BHEL software) and also in requisite no of hard copies. The input and output data of all such schedule shall be furnished to BHEL in a manner compatible with software available at site. |
| 9.5.8 | The successful bidder will have to submit progress report every month in a decent and mutually agreed format showing progress vis-à-vis schedule, delay, constraint (if any) etc to Site in charge and Project Manager positively by 7 th of every month. |
| 9.5.9 | FIRST AID CENTRE BHEL is contemplating a FIRST AID CENTRE in and around site. Such facilities will be extended to the contractors on cost sharing basis. |

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| 9.5.10 | <p><u>ENVIRONMENT</u></p> <p>The vendor has to provide bins for collection of erection scrap, erection work etc, at suitable place(s) as identified by BHEL. Further the bins will be cleared periodically and such wastage shall be transported and dumping in the specified place in and around the complex as identified by BHEL / BHEL's customer. All such cost including incidentals etc. complete shall be included in the rate / price quoted by the bidder and no extra will be paid on this ground for any reason whatsoever.</p> |
| 9.6 | PROGRESS REPORTING |
| 9.6.1 | The contractor shall submit daily, weekly and monthly progress reports for manpower materials reports, consumables (gases/electrodes) report and other reports as per pro-forma considered necessary by the Engineer. |
| 9.6.2 | 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 the slippage's do not accumulate and affect the overall program. |
| 9.6.3 | The daily manpower reports shall clearly indicate the manpower deployed, category-wise specifying also the activities in which they are engaged. |
| 9.6.4 | Weekly progress review meetings will be held at site during which actual progress during the week vis-à-vis scheduled program shall be discussed and actions to be taken for achieving targets will be decided. The program of subsequent week shall also be presented by contractor for discussions. The contractor shall constantly update/revise his work program to meet the overall requirement. |
| 9.6.5 | <p>Bidder has to set-up one C&I laboratory (one AC lab approx. 20x10 ft. size) in the field to carry out necessary calibration and testing of instruments etc. prior to erection at site.</p> <p>Contractor must deploy a technician exclusively for calibration of instruments. His responsibility includes maintaining calibration record in hard and soft form and duly endorsed by BHEL & BRBCL, proper tagging, stacking & up-keepment of all instrument inside contractor store from arrival till departure for installation in field.</p> <p>The successful bidder must possess at least 03 pairs of communication equipment like Walkie-Talkie for communication between control room and field. Necessary clearances for frequency, etc shall be obtained by bidder.</p> |
| 10.0 | <p>CONTRACT MANAGEMENT</p> <p>The contractor should also submit network programs for erection & commissioning of various items. These networks shall show the owner/ BHEL hold points (CHP) which have to be cleared by owner/ BHEL, or their authorized representatives before further erection/ commissioning can take place. These programs for the erection & commissioning would clearly identify responsibilities of the contractor and owner/ BHEL. Networks shall be submitted within four weeks of the date of finalization of award of work/ placement of LOI.</p> |
| 11.0 | SITE ORGANISATION |
| 11.1 | The contractor shall maintain a site organization of adequate strength in respect of manpower, construction machinery and other implements at all time for smooth execution of the contract headed by a competent construction manager for all site operations with sufficient level of authority to take site decisions. The organization should have organization chart indicating various levels of experts to be posted for supervision in the fields in erection, commissioning etc. The organization shall be reinforced from time to time, as required to make up slippage's from the schedule without any commercial implication to BHEL. |
| 11.2 | BHEL reserves the right to reject or approve the list of personnel proposed by the contractor. The persons whose bio-data have been approved by BHEL will have to be posted at site and deviation in this regard will not generally be permitted. |
| 11.3 | In addition to above, a well experienced qualified engineer (Degree holder with minimum 5 yrs experience in the field of power plant construction) to be designated, as 'Project Co-coordinator' shall be deployed by the contractor under BHEL. Such engineer shall remain fully involved in all planning activities follow up |

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| | with various agencies, guidance etc to contractor's own team during the complete execution period of contract. |
| 11.4 | The contractor should also submit to BHEL for approval a list of construction equipment's, erection tools, tackles etc. prior to commencement of site activities. The tools & tackles shall not be removed from site without written permission of BHEL. |
| 12.0 | PROTECTION |
| 12.1 | Equipment having anti-friction or sleeve bearings shall be protected by weather tight enclosures. Coated surfaces shall be protected against impact, abrasion, discoloration and other damages. Surfaces which are damaged shall be repainted. |
| 12.2 | Electrical equipment controls and instrumentations shall be protected against moisture and water damages. All external gasket surfaces and flange faces, couplings, rotating equipment shafts, bearings and like items shall be thoroughly cleaned and coated with rust preventive compound and protected with suitable wood, metal or other substantial type covering to ensure their full protection. All exposed threaded parts shall be greased and protected with metallic or other substantial type protectors. |
| 12.3 | All piping, tubing and conduit connections on equipment and equipment openings shall be closed with rough usage covers or plugs. Female threaded openings shall be closed with rough usage covers or plugs or forged steel plugs. The closures shall be taped to seal the interior of the equipment. Open ends of piping, tubing and conduit shall be sealed and taped. |
| 12.4 | All erected equipment / components to be preserved as per the preservation recommendation of BHEL. For this type of preservation, contractor shall engage an exclusive team of persons for meeting the continuous requirement. However, the required preservatives will be supplied to the contractor free of cost. All other consumables including wire brush, emery papers, painting brush etc to be supplied by the contractor within the quoted rate. |
| 13.0 | DEWATERING |
| | Contractor shall ensure at all times that his work area & approach/access roads are free from accumulation of water, so that the materials are safe and the erection/progress schedule are not affected. No separate claim in this regard shall be admitted by BHEL. No separate payments for dewatering of subsoil, surface water or catchment water, if required, at any time during execution of the work including monsoon period shall be considered by BHEL. The contractor shall maintain adequate dewatering pumps for the purpose of dewatering of his area of work, without any extra cost. For failure of agency in carrying out this job as per site requirement; BHEL shall get the job done at the contractors' risk and cost duly intimating them about the decision taken by BHEL. |
| 14.0 | AREA REQUIREMENT |
| | The contractor shall furnish the estimated area required for the construction of his office, stores, etc separately. The same will be reviewed by BHEL and allotted to the extent available/considered necessary, depending upon the area availability. |
| 15.0 | Deleted |
| 16.0 | GENERAL TECHNICAL REQUIREMENTS (CODES AND STANDARDS) |
| 16.1 | 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. |
| 16.2 | 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. |
| 16.3 | 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 |

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| | shall govern. |
| 16.4 | Tools used during erection and commissioning shall not be accepted except with the specific approval of the Engineer. |
| 16.5 | Wherever specified or required the Plant/equipment shall conform to various statutory regulations such as Indian Boiler Regulation, Indian Electricity Rules, Indian Explosive Act, Factories Act etc. Wherever required, obtaining approval for Plant / Equipment supplied under the specification from statutory authorities shall be the responsibility of the contractor. |
| 17.0 | TEST CERTIFICATE FOR T&P |
| 17.1 | All T&P including measuring (calibrated) instruments, lifting tackles and pulling devices, wire rope, slings to be deployed by the contractor must bear valid/ latest test certificates for their suitability, and the documents shall be preserved at site. |
| 17.2 | In case of expiry of validity of any such test certificate during construction, the contractor shall arrange for revalidation of the same well in advance, so that the construction activities do not suffer on account of non-availability of such Test certificates. |
| 17.3 | The contractor should also submit to BHEL for approval a list of T&Ps along with their fitness certificates. The tools & tackles shall not be removed from site without written permission of BHEL. |
| 18.0 | FACILITIES TO BE PROVIDED BY BHEL |
| 18.1 | LAND |
| 18.1.1 | The successful bidder shall furnish the estimated area showing layout plan/ sketch required for the construction of his office, stores (covered, semi-covered and open), fabrication yard etc. The same will be reviewed by BHEL and Limited open space allotted to the extent available/ considered necessary, depending upon the area availability. The sketch/ layout plan for labour colony shall include overhead drinking water line, electric power, sewage/ sanitary system. Bidder should construct temporary CGI shed with brick wall with IPS floor etc. |
| 18.1.2 | Minimum land will be provided free of cost for construction of temporary office, stores, fabrication area etc. |
| 18.1.3 | Only land will be provided for labour colony outside the project premises subject to availability of the same from OWNER NTPC, on free of cost to the contractor to construct labour colony/hutment after obtaining approval of layout from BHEL. In case the land is not provided, the contractor shall make alternative arrangement for accommodation of his workmen. |
| 18.1.4 | The contractor will be responsible for handing back all lands, after dismantle and clearing the site after completion of work as handed over to him for his temporary use to BHEL, as per the instruction of BHEL Engineer. |
| 18.2 | WATER |
| 18.2.1 | BHEL will provide construction water free of cost at one suitable point within 500 Mtrs. of given work site. |
| 18.2.2 | BHEL will provide free of cost drinking water at one suitable point within 500 Mtrs of given work premises. |
| 18.2.3 | Further distribution beyond above mentioned points is to be arranged by the contractor at his own cost within the working area. |
| 18.2.4 | Water will be supplied 2 to 3 times in a day. Contractor will have to arrange for storage of water to meet the day to day requirement. BHEL will however arrange for adequate supply of construction water to meet the requirement of water during major concreting /activities. |
| 18.2.5 | Contractor shall ensure that no water is wasted. In this regard the contractor shall take all necessary measures towards preservation of water. |
| 18.2.6 | BHEL shall not be responsible for any inconvenience/delay caused due to any interruption of water supply and no compensation for delay in work for such interruption shall be claimed by the contractor. |
| 18.2.7 | Contractor should arrange Drinking water in their labour colony on their own. |
| 18.3 | ELECTRICITY |
| 18.3.1 | The contractor shall submit to the Engineer his electrical power requirements. BHEL will provide construction power on Free of charges at 415 V at single point |

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| | within project premises. Further distribution (including maintenance of the distribution lines) beyond this point to be arranged by the contractor at his own cost. Any other voltage if required shall be arranged by the contractor from power supply as above. For distribution, all wiring must comply with local regulations and will be subject to Engineer's inspection and approval before connecting to the supply point. Cables to be routed through underground or through some hindrance free safe route. Contractor to draw power from BHEL's supply point at his cost. |
| 18.3.2 | Deleted |
| 18.3.3 | BHEL will not be responsible for any inconvenience/delay caused due to any interruption of power supply and no compensation for delay in work can be claimed by the contractor due to such non-supply on the grounds of idle labour, machinery or any other ground. |
| 18.3.4 | Contractor should ensure that the work in critical areas is not held up in the event of power break down and for the same he should have suitable stand by arrangement at his cost. In the event of breakdown in the electric supply, if the progress of work is hampered, it will be the responsibility of the Contractor to step up the progress of work after the electric supply gets restored so that overall progress of work is not affected. |
| 18.3.5 | In case of power cuts/load shedding no compensation for idle labour or extension of time for completion of work will be given to the contractor. |
| 18.3.6 | Adequate lighting facilities such as flood lamps, hand lamps and area lighting shall be arranged by the contractor at the site of construction, contractor's material storage area etc. within finally accepted rates. |
| 18.3.7 | The Contractor shall arrange Electricity in their labour colony at their own cost. |
| 18.3.8 | The Contractor shall deploy adequate capacity of DG set to run the Contractor's construction equipment and area /store illumination during the initial period of three months. |
| 18.3.9 | <p>Following points should be strictly adhered to by the contractor while drawing construction power supply from Distribution Board.</p> <p>(a) All electrical installations should be as per Indian electricity rules.</p> <p>(b) All distribution Boards installed by the contractor should be constructed with fire proof materials viz. Steel frames, bakelite sheets etc.</p> <p>(c) Connection for single phase should be taken from phase and neutral. No where the connection should be taken with Earth as neutral.</p> <p>(d) All electrical connections should be made through connectors, nut and bolts, switches, plug and sockets. Loose connections or hooking up of wires shall not be permitted.</p> <p>(e) Contractor will have to make their own earthing arrangement for their equipment/DB earthing/temporary installations. The earthing connections have to be done with copper conductor and copper/brass clamps with BHEL's prior permission.</p> <p>(f) All electrical equipment/tools and plants should be properly earthed. DBs to be earthed diagonally opposite at two points.</p> <p>(g) Contractor should use "MCCB" and "ELCB" either on incoming or out going connections to the DBs.</p> <p>(h) Contractor should ensure that all the DBs/TPNs/Fuses/MCCB/ELCB cables etc. should be of adequate rating/capacity.</p> <p>(i) For permission of supply connections, contractor has to submit a test report of their installations with a single line diagram of connectors proposed loads.</p> |

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| | <p>(j) Contractor will submit a report on all electrical connected loads by 7th of every month.</p> <p>(k) ELCB will be tested once in a week by actually simulating the earth leakage for all installations and the same shall be recorded by BHEL Engineer in the log book to be maintained by the contractor.</p> <p>(l) The vendor has to arrange adequate nos. of 24V transformers with sufficient no. of lamps for working inside confined space.</p> |
| 19.0 | FACILITIES TO BE PROVIDED BY THE CONTRACTOR |
| 19.1 | <p>TOOLS, TACKLES AND SCAFFOLDINGS</p> <p>T&Ps, IMTES and testing equipment to be supplied by the contractor are mentioned in Annexure–I. The MIG welding machine should be fully Thyristorised and should be of MODEL AUTO K 400 OF ESAB INDIA LTD. or equivalent for bus-duct welding works.</p> |
| 19.2 | The contractor is required to provide all necessary tools and plants (other than those specified to be provided by BHEL) measuring (calibrated) instruments and handling equipments for timely completion of the total works as per contract. The quoted rate shall be inclusive of such requirements. However, the contractor shall submit deployment plan of all T&Ps along with tender bid. Test Certificates requirement of T & P is covered under cl no 16. |
| 19.3 | In the event of any failure of the part of the contractor, BHEL may at his discretion also terminate the contract on this ground and take out any or whole amount of the contract from the scope of the contractor. Decision of BHEL in this regard will be final and binding in the contractor. |
| 19.4 | The list of T&P indicated in relevant Annexure-I is the minimum expected to be provided by the contractor. |
| 19.5 | The T&Ps to be arranged by the contractor shall be in proper condition. |
| 19.6 | The list of T&P indicated in relevant annexure is the minimum expected to be provided by the contractor. |
| 19.7 | All other tools and plants required for the work including Derricks, cranes, electric/ hand/ pneumatic winches, tractor-trailors, air-compressors, trucks, welding generators/ transformers, jacks, slings, pulley blocks, TIG /ARC welding equipment, heat-treatment equipment, temperature recorders, electrode drying ovens, pipe chamfering machines, hydraulic pipe bending machines etc. and tools and plants like chisels, scrappers, spanners, files, screw-drivers, electrical tools kits etc. required for timely completion of work shall be arranged by the contractor at his own cost. The contractor shall give a list of such equipment to be deployed by them giving details like nos. available with them, nos. to be deployed; capacity etc. of each item in the format enclosed in the annexure for General information about the contractor and the same shall be binding on the contractor during to execution contract. It may be specifically noted that the above items and those in Annexure – I (Part A & B) have been mentioned just to give a broad idea to the contractor about the requirement of T&P for such works. However, all T&P's required for smooth and timely completion of work shall be arranged by the contractor at his own cost and BHEL project manager's decision regarding the requirement of a particular item shall be binding on the contractor. The equipment once deployed at site shall not be removed from site without the written consonant of BHEL, Construction Manager. |
| 19.8 | Sufficient quantities of Guy ropes shall be arranged by the contractor for erection / alignment etc. |
| 19.9 | All tools and plants deployed by the contractor shall be as per the specification approved by BHEL Engineers. |
| 19.10 | All the T&P, lifting tackles including wire ropes, slings, shackles and electrically operated equipments shall be approved by BHEL Engineers before they are actually put on use. |
| 19.11 | The list of major T&P required to be deployed is indicated in Annexure – I, Part B. The list is minimum and not exhaustive but anything required over and above |

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| | these to suit the site condition/ rate of progress/ nature of work shall be arranged by contractor at his own cost. |
| 19.12 | Consolidation of ground and arrangement of sleepers/ sand bag filling placement etc. for safe movement of equipments/ cranes/ trailers etc shall be the responsibility of contractor at their cost. Steel plates, if required, for this purpose, may be provided by BHEL free of cost on returnable basis depending on the availability. |
| 19.13 | All the T&P arranged by the contractor including electrical connections wherein required shall be reliable/ proven/ tested with necessary test certificate. |
| 19.14 | Infrastructure facilities |
| 19.14.1 | Contractor shall be responsible for providing all necessary facilities like residential accommodation, transport, electricity, water, medical facilities etc. as required under various labour laws and statutory rules and regulations framed there under to the personnel employed by him. |
| 19.14.2 | Contractor shall arrange at his own cost the construction of his temporary office, stores (for storage of materials supplied by bidder) etc, and also the watch and ward of all above. |
| 19.14.3 | On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and levelled and debris shall be removed as per instruction of BHEL Engineer. In case of his failure to do so, same will be got done by the Engineer and expenses incurred shall be recovered from the contractor along with prevailing overhead. The decision of BHEL Engineer in this regard shall be final and binding on the contractor. |
| 19.14.4 | The contractor shall be responsible for handing back all lands, as given to him for his temporary use, to BHEL, as per the instruction of BHEL Engineer. |
| 19.14.5 | Bidder shall have to assist in setting up test benches & commissioning/demonstration of various types of Laboratory Instruments at customer premises. However the actual commissioning/demonstration shall be carried out by OEM engineer. |
| 20.0 | CONSUMABLE |
| 20.1 | The contractor shall provide within finally accepted price, all consumables like welding electrodes, cleaning agents, wire ferrules, insulation tape etc as necessary for such work. |
| 20.2 | It shall be the responsibility of the contractor to plan the activities and store sufficient amount of consumables. Non availability of any consumable materials or equivalent suggested by BHEL can not be considered as reason for not attaining the required progress or for additional claim. |
| 20.3 | BHEL reserves the right to reject the use of any consumable like electrodes, gases, lubricants/ special consumables etc if it is not found to be of the required standard/make purity. |
| 20.4 | 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 in 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. |
| 20.5 | Shortage of any of the above electrodes/filler wire or the equivalent suggested by BHEL shall not be quoted as reason for deficiency in progress or for additional rate. |
| 20.6 | All electrodes shall be dried in the electrode drying oven to the temperature and period specified by the BHEL Engineer or as mentioned in WPs before they are used in erection work and each welder should be provided with one portable electrode drying oven at the work spot. Electrode drying oven and portable drying ovens shall be provided by the contractor at his cost. |
| 20.7 | The electrode drying oven will have thermometer for temperature indication. The thermostat and thermometer of oven shall be calibrated before use and also periodically as advised by BHEL engineer and calibration test certificates (from |

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| | authorised/ Govt approved/ accredited test house traceable to National/ International standards) will be submitted by the contractor at his cost. |
| 20.8 | BHEL reserves the right to reject the use of any electrode filler wire or any other consumables at any stage, if found defective because of bad quality, improper storage, date of expiry unapproved type of electrodes/consumables, It shall be the responsibility of the contractor to replace the same at his cost without loss of time. |
| 20.9 | In case of improper arrangement for procurement of any consumables, 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 (30% at present). Postponement of such recovery is normally not permitted. The decision of Engineer in this regard should be final and binding on the agency. |
| 21.0 | IMTEs The contractor shall ensure deployment of reliable and calibrated instrument, measuring and test equipments (IMTE). The IMTE shall have test/ calibration certificate from authorised/ Govt approved agencies. The contractor shall also keep provision of alternate arrangement for such IMTE so that the work does not suffer when a particular IMTE is sent for calibration. Re-testing/ re-calibration shall also be arranged by the contractor at their own cost at regular interval during the period of use as advised by BHEL. |
| 22.0 | TOOLS AND PLANTS TO BE PROVIDED BY BHEL (ON SHARED BASIS) |
| 22.1 | T&P as per Annexure – II will be provided by BHEL. The machineries as prescribed in relevant annexure will be provided to the contractor on free of cost basis as per availability. |
| 22.2 | The contractor shall ensure that machinery provided to him is kept in good running condition, all along its use by contractor and after use, it is returned to BHEL in good condition. BHEL's decision regarding condition evaluation shall prevail. |
| 22.3 | On availability, the cranes will be provided to contractor on sharing and free of any hire charges basis. Required fuel for the Crane including Mobil, grease and other consumables required for crane operation shall also be provided by BHEL. In the normal working hours, crane operator (along with helper, if any) will be provided by BHEL on free of cost basis. In the event, the deployed BHEL Crane is used by the contractor beyond 8 hours (In single/multiple operation) in a day (working day/ holidays), the contractor has to deploy his own operator for crane operation during these extended hours. In case the proficiency of contractor's crane operator is not found satisfactory for safe operation of the crane, BHEL's crane operator will be engaged for operation and in this eventuality, the contractor has to bear the overtime charges of BHEL's crane operator (along with helper, if any) as explained below. However, BHEL engineer's decision in this regard will be final after judging the proficiency of the contractor's crane operator. |
| 22.4 | On any particular day including Sundays/Holidays crane operator's overtime will be chargeable to the contractor when the same is utilized [either on single or multiple occasions] by the particular contractor for a total period of more than eight hours on that day. |
| 22.5 | Any damage/ breakdown maintenance of the machinery arising out of improper handling by contractor shall be to the account of the contractor. BHEL shall reserve the right of repairing the same to its own satisfaction at contractor's cost. During such outage of the machinery, BHEL shall not be responsible to provide any alternative. The contractor shall arrange for such alternative arrangement at his own cost. |
| 22.6 | The contractor shall return BHEL, T&Ps issued to him in good working condition as and when desired by BHEL (on completion or reduction of work load). If return of equipment is delayed by contractor, hire charges as applicable shall be levied by BHEL from time it was requisitioned till the time of actual return. Hire charges shall also be charged on the equipment returned in damaged/ un-serviced condition to BHEL till its satisfactory repair. Equipment returned in damaged un-serviced 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. |
| 22.7 | In case of any machinery (given to contractor) remaining idle without any valid |

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| | reason, BHEL shall withdraw the equipment immediately for allotment to the contractor next in priority and no compensation shall be entertained on this account by BHEL. |
| 22.8 | The T&Ps scheduled to be provided shall be available on sharing basis and distribution of these shall be done at the discretion of project manager, BHEL on the requirement/ priority of the job and the availability of these items. In the event of non-availability of the listed crane, BHEL may explore the possibility of providing alternate higher/ nearby capacity crane, found sparable with BHEL site. However, this is not a binding for BHEL. Such cranes of higher capacity (if provided by BHEL) will also be issued on same conditions as applicable to cranes listed relevant annexure. |
| 22.9 | In the event of any damage or theft occurring to the issued T&Ps, while in use with the contractor, due to their negligence, the same shall be repaired/ replaced by the contractor at their own cost within the time stipulated by project manager, BHEL. Contractor's failure to do so shall entitle BHEL to get the above done through other agency and the cost so incurred by BHEL along with overheads shall be recovered from the contractor's bill. |
| 22.10 | The above mentioned items are for general guidance only. Except the above mentioned items, the contractor has to deploy all other tools & plants required for proper & satisfactory completion of the job. The number of such items will be as per requirement. |
| 22.11 | Increasing/shortening of the crane boom to suit work requirements shall have to be arranged by contractor at their cost. In case of non-availability of the T&Ps to be provided by BHEL due to any reason, the contractor shall plan/ amend/ alter his activities to meet erection/ commissioning targets in consultation with BHEL. No additional compensation will be given for this. |
| 22.12 | Normal/ schedule maintenance of T&P spared to contractor on shared basis shall be carried out by BHEL as per requirement. Contractor shall plan/ alter his activities in line with availability of cranes to be issued by BHEL on sharing basis as per relevant annexure of tender. |
| 22.13 | Actual use of T&P including marching as per entry in log-book duly certified by BHEL engineer shall be considered for calculation of overtime charges. |
| 22.14 | T&P issued shall be used only for designated scope of work under specification. |
| 22.15 | In the event of contractor not using and/or maintaining BHEL T&P according to BHEL's instructions, BHEL will have the right to withdraw such equipment without any notice and no claim in this regard shall be entertained and contractor shall be responsible for delay in execution on this account. |
| 22.16 | It shall be responsibility of the contractor to take delivery of T&P from stores or place of use of T&P by other contractor at project site, transport the same to site and return the same to BHEL store/ place as intimated by BHEL engineer at project site in good working conditions after use. |
| 22.17 | EOT CRANE |
| 22.17.1 | EOT crane shall be made available to the contractor in TG hall free of charges for erection purpose as per availability on shared basis. As the operator will be from other agency/contractor, contractor will do necessary co-ordination. |
| 22.17.2 | The availability of EOT crane is likely to be hampered from time to time due to routine preventive maintenance or break down maintenance. Contractor has to make alternative arrangement or plan/amend/alter his actions to suit the above condition and the contractor will not be entitled to any compensation due to this non-availability of the crane to maintain the schedule. |
| 22.17.3 | Services of EOT crane have to be provided to other agencies working in the power house building or adjacent area as required. The decision of BHEL engineer for allocation of crane will be final. Contractor has to make adjustments accordingly. |
| 22.18 | ISSUE OF T & P |
| 22.18.1 | In the event of BHEL issued T&P, measuring instruments etc. the contractor and BHEL shall maintain joint protocol about the condition of all T&P, instruments etc taken from BHEL's custody and return to BHEL after use. The contractor shall not use these equipments for purposes other than the scope of work given in this tender document. Only T&Ps issued by BHEL as per relevant annexure will be |

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| | free of charges and balance T&P, measuring instruments etc, if issued to contractor, shall be on chargeable basis. |
| 22.18.2 | It is the responsibility of contractor to keep these equipments always in working condition and ensure their safe return in working condition to BHEL's store subject to normal wear & tear. |
| 22.18.3 | After use of T&P items issued by BHEL the same shall be returned to BHEL in good working condition subject to normal wear & tear failing which recoveries at the book value of the item or the market rate prevailing at the time of returning the items, whichever is higher shall be made from the payments due to the contractor from BHEL from this contract or from any other contract. |
| 23.0 | SERVICES TO BE RENDERED BY THE BIDDER |
| | 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. |
| 23.1 | Bidder shall get issued of the erection materials from BHEL indoor/outdoor materials storage yard/stores located inside or outside the project area, transportation to contractor's stores, assessment of lost/ damaged items in transit/storage, erection & commissioning, arranging the Insurance claims and replacement of lost/damaged items. The Contractor shall be responsible for making good the losses /damages for cases for which either BHEL is unable to lodge Insurance claim or BHEL is unable to recover the full cost from Insurance company against any claims, the balance including deductible franchise wherever applicable, will be recovered from the Contractor. |
| 23.2 | Bidder shall get issued of materials from store/ open yard as specified earlier from time to time for erection as per construction programme. The contractor shall be the custodian of all the materials issued till the plant/ equipment is officially taken over by owner/ BHEL after complete erection any successful trial run & commissioning. |
| 23.3 | Transport of material to their respective places of erection and erection of the complete plant & equipment as supplied under this specification. |
| 23.4 | Trial run and commissioning of individual equipment/ sub-systems to the satisfaction of owner/ BHEL. |
| 23.5 | Deployment of all skilled & unskilled manpower required for erection, supervision of erection, watch & ward, commissioning and other services to be rendered under this specification. |
| 23.6 | 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. |
| 23.7 | Supply of all consumables, e.g. welding electrodes, cleaning agents, cable ferrules, insulation tape, diesel oil, lubricant etc as well as materials required for temporary supports, scaffolding etc as necessary for such erection work, unless specified other wise. |
| 23.8 | Providing support services for the contractor's erection staff e.g., Construction of site offices, temporary stores, residential accommodation and transport to work site for erection purpose, watch and ward for security and safety of the materials under the Contractor's custody etc. as required. |
| 23.9 | Maintaining proper documentation of all the site activities undertaken by the contractor as per the program mutually agreed with BHEL, submitting monthly progress reports as also any such document as and when desired by BHEL/ owner, taking approval of all statutory authorities e.g. Electrical Inspector, Factory Inspector/labour inspector, Inspector of Explosives etc. as applicable for respective portions of work under the jurisdiction of such statutes of laws. |
| 23.10 | All the materials issued to the bidder by BHEL shall be reconciled by the bidder and the unused materials have to be returned back to BHEL stores/yard or any other place as specified by BHEL. |
| 23.11 | Supply and application of final paint on all the equipments to be erected (like transformers etc.) is excluded from the scope of this contract. |

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| 23.12 | After completion of commissioning activity of equipment/ systems, the contractor shall prepare the test reports which shall include all relevant information related to various commissioning checks, tests carried out, any deviations/ commissioning noticed w.r.t. the intended design requirements, sequence of various commissioning activities as actually adopted vis-à-vis as recommended in the procedures, program schedule achieved and any other such information as required. These test reports shall be submitted in requisite number of copies to BHEL/ owner/ contractor involved during the commissioning activities. |
| 23.13 | Any other service, although not specifically called for but required for a contract of this size and nature, may be considered as included in the specification. |
| 23.14 | Communication The contractor shall be responsible for arranging all communication facilities for himself at site. The contractor has to establish independent internet/e-mail facilities with mobile connection for all key site personnel and same shall have to be integrated with BHEL's voice/data network and database systems at site. |
| 23.15 | First-aid The contractor shall provide necessary medical facilities for all his employees, representatives and workmen working at the Site. Enough number of Contractor's personnel shall be trained in administering first-aid. |
| 23.16 | CLEANLINESS |
| 23.16.1 | The contractor shall be responsible for keeping entire area allotted to him clean and free from rubbish, debris etc during the period of contract. The contractor shall employ enough number of special personnel to thoroughly clean his work-area at least once in a day. All such rubbish and scrap material shall be stacked or disposed in a place to be identified by BHEL. Materials and stores shall be so arranged to permit easy cleaning of the area. In areas where equipment might drip oil and cause damage to the floor surface, a suitable protective cover of a flame resistant, oil proof sheet shall be provided to protect the floor from such damage. |
| 23.16.2 | Similarly the labor colony, the offices and the residential areas of the Contractor's employees and workmen shall be kept clean and neat to the entire satisfaction of BHEL. Proper sanitary arrangements shall be provided by the Contractor, in the work-areas, office and residential areas of the contractor. |
| 23.16.3 | Bidders to note that: |
| 23.16.4 | One no. experienced paramedical personnel with first aid facility at site is required. No medical facility within/ near the site shall be provided by BHEL. |
| 23.16.5 | No staff quarter shall be provided by BHEL. |
| 23.16.6 | All site execution approaches required for movement of cranes, trailers, trucks, dumpers, etc shall be arranged by the contractor at his own cost. |
| 23.16.7 | The contractor shall solely be responsible for the safety, quality, & quantity of material after it is handed over and issued to contractor by the BHEL. |
| 24.0 | QUALITY CONTROL & QUALITY ASSURANCE OCUPATIONAL HEALTH, SAFETY & ENVIRONMENT MANAGEMENT |
| 24.1 | INSPECTION & FIELD QUALITY ASSURANCE |
| 24.1.1 | Contractor shall carry out all activities conforming to the approved Field Quality Plan (FQP) & technical instructions 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. |
| 24.1.2 | 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. |
| 24.1.3 | The protocols between contractor and customer / BHEL shall be made 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 and to avoid accumulation and multiplication of errors. |

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| 24.1.4 | <p>A daily log book (with proper indexing) should be maintained by every supervisor / engineer of contractor, for respective area of work, on the job for detailing and incorporating alignment/ clearance / centering / levelling readings and inspection details of various equipment, etc. This log book shall be always accessible to BHEL engineers.</p> <p>High pressure welding (as applicable under the scope of this contract) 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.</p> <p>Record of radiography (as applicable under the scope of this contract) 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.</p> <p>Record of heat treatments (as applicable under the scope of this contract) performed shall be maintained as prescribed by BHEL.</p> |
| 24.1.5 | <p>The performance of welders (as applicable under the scope of this contract) will be reviewed from time to time as per the BHEL standards. Welders' performance record shall be furnished periodically 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.</p> |
| 24.1.6 | <p>Only welders duly authorized by BHEL / customer / consultant after welder qualification test as per ASME Sec-Ix / AWS D1.1 (as applicable) shall be engaged on the work. All the welders shall carry identity cards as per the proforma prescribed by BHEL / Customer / Consultant.</p> |
| 24.1.7 | <p>Any re-laying or re-termination of cables / re-erection of instruments / recalibration of instruments etc. required due to contractor's mistake and found at any stage inspection, shall be carried out by the contractor at no extra cost. Repair / rectification procedure to be adopted to make any job acceptable shall be subject to the approval of BHEL.</p> |
| 24.1.8 | <p>Weekly Quality Review Meeting at site shall be organised by BHEL to discuss quality issues and next week's inspection plans. Site in-charge of the contractor along with QAEs of the contractor must be present in the meeting with closure report of the issues raised by BHEL in the previous meetings.</p> |
| 24.2 | REQUIREMENT OF ISO 9001 |
| 24.2.1 | <p>BHEL: PSER is accredited with ISO 9001 certification and as such this work is subject to various audits to meet ISO 9001 requirements.</p> |
| 24.2.2 | <p>The basic philosophy of the Quality Management System under ISO 9001 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 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.</p> <p>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.</p> |
| 24.2.3 | <p>BHEL reserves the right to carry out quarterly quality audits and quality surveillance of the systems and procedures of contractor's quality management. Contractor shall provide all necessary assistance to enable BHEL to carry out such audit & surveillance.</p> |
| 24.2.4 | <p>Quality audits / approval of the results of test & inspection will not prejudice the right of BHEL to reject an equipment service not giving desired performance and shall not in no way limit the liabilities and responsibilities of the contractor in earning satisfactory performances of equipment / service as per specification.</p> |
| 24.3 | MMEs / MMRs |

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| 24.3.1 | Contractor shall ensure deployment of reliable and calibrated MMEs (Measuring and Monitoring Equipment). 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 i.e. repeat the readings taken by that instrument, failing which BHEL may deploy MME and retake the readings at Contractor's cost. |
| 24.3.2 | Contractor shall provide all the Measuring Monitoring Equipment (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 shall give an indicative list of MMEs required for this work else where in this contract and to be made available by the contractor. The list will be reviewed by BHEL site as per the requirement of approved FQPs and the contractor shall meet any augmentation needed wherever required. |
| 24.3.3 | It is the responsibility of the contractor to prove the accuracy of the testing / measuring / calibrating equipment brought by him based on the periodicity of calibration as called for in the BHEL's quality assurance standards/BHEL Engineer's instructions. |
| 24.3.4 | 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, including resource augmentation if any, as specified by BHEL to make-up for the loss of time. |
| 24.3.5 | 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. |
| 24.4 | INSPECTION BY TS / FES / QA ENGINEERS OF BHEL UNITS / ENGINEERING CENTRES |
| 24.4.1 | Apart from day-to-day inspection by BHEL Engineers stationed at Site and Customer's Engineers, stage inspection of equipment under erection and commissioning at various stages may 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. |
| 24.4.2 | Any modifications suggested by BHEL FES and QA Engineers' team shall be carried out. Claims of contractor, if any, shall be dealt as per applicable clause of the contract, and provided such modifications have not arisen for reasons attributable to the contractor. |
| 24.5 | CONFORMANCE TO THE STATUTORY REQUIREMENTS (AS APPLICABLE UNDER THE SCOPE OF THE CONTRACT) |
| | 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) Electrical Inspector 2) Factory Inspector, Labour Commissioner, PF Commissioner and other authorities connected to this project work. |

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| | The scope includes getting the approvals from the statutory authorities, which includes arranging for inspection visits of statutory authority periodically as per BHEL Engineer’s instructions, arranging materials for ground 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. | | | |
| 24.6 | STORAGE & PRESERVATION OF BHEL-ISSUED MATERIAL | | | |
| 24.6.1 | The contractor shall be responsible for storage & preservation BHEL-issued materials as per BHEL Storage & Preservation Guidelines / Instructions. | | | |
| 24.7 | PENALTIES ON VENDORS / SUB-CONTRACTORS AGAINST NON-COMPLIANCE OF QUALITY NORMS | | | |
| Sl. No. | Nature of Non-compliance | Penalty for Domestic Project | Penalty for Export Project | Remarks |
| GENERAL | | | | |
| 24.7.1 | Unavailability of QAE deployment schedule (duly approved by BHEL Site) matching with manpower requirement of approved L2 schedule | 0.10% | 0.10% | Against each RA bill |
| 24.7.2 | Unavailability of required number of QAE with proper experience & NDT certification as per the requirement of the Contract | Rs. 1,000.00 | \$16.00 | Per person per day |
| 24.7.3 | Not attending quality meeting of BHEL by nominated member of vendor / sub-contractor | Rs. 2,000.00 | \$32.00 | Per meeting |
| CALIBRATION | | | | |
| 24.7.4 | Use of MMEs without valid calibration certificate | Rs. 1,000.00 | \$16.00 | Per equipment per instance |
| 24.7.5 | Use of NDT equipment, welding equipment without having valid calibration certificate / condition not as per requirement | Rs. 1,000.00 | \$16.00 | Per equipment per instance |
| WELDING & NDT | | | | |
| 24.7.6 | Unqualified welders carrying out welding / tack welding | Rs. 1,000.00 | \$16.00 | Per welder per instance. (Gatepass of the person shall be withheld) |
| 24.7.7 | Not using portable oven for welding consumables | Rs. 500.00 | \$8.00 | Per welder per instance. (The consumables in the oven shall be confiscated) |
| 24.7.8 | Not using electrodes pre-baked in baking oven | Rs. 500.00 | \$8.00 | Per instance. (The subject consumabl |

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| | | | | es shall be confiscated) |
| 24.7.9 | Not using welding consumables of approved make & not using correct type of electrode as per approved EWS / Drawing / WPS | Rs. 1,000.00 | \$16.00 | Per instance. (The subject consumables shall be confiscated) |
| 24.7.10 | Non-removal of welding slag and spatters after welding | Rs. 500.00 | \$8.00 | Per joint |
| 24.7.11 | Not using NDT equipment as prescribed in the manual / FQP / guidelines / Contract | Rs. 1,000.00 | \$16.00 | Per equipment per instance |
| 24.7.12 | Welder doing welding without valid job card | Rs. 500.00 | \$8.00 | Per instance |
| 24.7.13 | Discrepancy observed in the weld joints identified by BHEL / Customer for RT vs RT film offered | Rs. 2,000.00 | \$32.00 | per joint |
| MATERIAL MANAGEMENT | | | | |
| 24.7.14 | Non-maintenance of grid pillar marking | Rs. 200.00 | \$3.00 | Per location week |
| 24.7.15 | Mismatch of location of material in store area w.r.t. location mentioned in stock register | Rs. 500.00 | \$8.00 | Per instance |
| 24.7.16 | Non-compliance of Preservation of material as per storage & preservation manuals | Rs. 1,000.00 | \$16.00 | Per equipment |
| 24.7.17 | Not offering received material for verification within stipulated time as per contract | Rs. 500.00 | \$8.00 | Per instance |
| PAINTING & ALLIED WORKS | | | | |
| 24.7.18 | Not using primer / paints of approved make and as per Specifications | Rs. 1,000.00 | \$16.00 | Per instance |
| 24.7.19 | Painting without proper surface preparation as per approved schedule / drawing / FQP | Rs. 500.00 | \$8.00 | Per instance |
| PROTOCOLS & LOG SHEETS | | | | |
| 24.7.20 | Delay in preparation of Protocols / Logsheets as per approved FQP within 3 days of completion of checks | Rs. 200.00 | \$3.00 | Per protocol per day delay |
| INSPECTION OF BOUGHT-OUT ITEMS / CONSUMABLES | | | | |
| 24.7.21 | Delay in offering inspection of Bought-out Items / Consumables / Aggregates (for items which need site inspection as per approved QP) within 3 days of receipt of material at site | 1% of the item value of the LOT | 1% of the item value of the LOT | per item per day delay after receipt of material |
| 24.7.22 | Delay in submission of required documents (viz. Invoice, Inspection Release Note, COC, MDCC, MTC as the case may be) of Bought-out Items (shop inspection items / consumables) with in 3 days of receipt of material at site. | 1% of the item value of the LOT | 1% of the item value of the LOT | per item per day delay after receipt of material |

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| NOTE: | |
| Any non-conformity requiring dismantling / rework, attributable to vendor / sub-contractor, shall be penalised at a rate mentioned above or cost to BHEL, whichever is higher. | |
| 24.8 | OCCUPATIONAL HEALTH, SAFETY & ENVIRONMENT MANAGEMENT |
| | Vendor has to follow HSE norms at project site during execution of entire contract period and the applicable HSE norms are noted in Tender Document for HSE norms having Document Title: Health, Safety and Environment Plan for Site Operation by Subcontractors |
| 25.0 | RECONCILIATION OF MATERIALS |
| 25.1 | The contractor shall submit a reconciliation statement of material after completion of job. However it is advisable to carry out reconciliation on weekly basis. |
| 25.2 | The contractor shall return the unused plant materials under their custody to BHEL's store/yard at their own cost. |
| 26.0 | ELECTRICAL INSPECTOR'S APPROVAL AND POLLUTION CONTROL BOARD CLEARANCE |
| | The contractor shall arrange to obtain clearance from the Electrical Inspectorate/ Statutory Agency and Pollution Control Board and arrange for the Authorities' visit to site, as required. He will also arrange visit of electrical Inspector and obtain his approval for the installation work to be carried out under this scope of work and get the work done by the license holder electricians and supervisors as per local statutory requirement. The statutory fee shall be paid by BHEL/BRBCL |
| 27.0 | AS BUILT DRAWING |
| | The contractor shall submit as-built drawing (for all the drawings handed over to them and / or prepared by them or jobs carried out under their scope) to BHEL after incorporation of the changes carried out during installation/commissioning for preparation of as built drawings by the respective originator of the drawings. The contractor will be given one copy of working drawing. BHEL may provide soft copies of drawings/ documents for certain systems/ area. Contractor shall make "AS BUILT" changes in such formats & submit to BHEL. |
| 28.0 | SECURITY DEPOSIT (SD) AND PERFORMANCE BOND (PB) |
| 28.1 | Security deposit shall be as per respective clauses of GCC (Volume-IB) for services contract. |
| 28.2 | Performance bond is not applicable. |
| 29.0 | COMPLETION PERIOD |
| 29.1 | The entire work of erection, testing and commissioning, up to handing over of the Electrical and C&I package of Unit # 4 shall be completed within a period of 12 months (Twelve months) from the date of start of work. The date of start of work shall be as per certification of Construction Manager of BHEL. |
| 29.2 | The bidder shall arrange to mobilize and start the erection work within 15 days from the date of intimation by BHEL. |
| 29.3 | The actual date of start of erection will be certified by <u>Construction Manager of BHEL</u> after adequate mobilisation of manpower, T&P by the contractor. This certificate date will be deemed as start of work at site for purpose of the contract time schedule. |
| 29.4 | The work under the scope of contract will be deemed to be completed in all respects only when all the components are erected and trial runs, testing and commissioning of all individual equipment including trial operations of unit with full load are conducted and handed over to customer. The decision of BHEL shall be final and binding on the bidder. |
| 30.0 | CONSTRUCTION SCHEDULE |
| 30.1 | A bar chart showing schedule of various milestones like start of erection of cable tray, cable laying, HT/ LT panel, their commissioning, etc linking with various project milestones as detailed in this specification etc, is to be submitted by the contractor before start of work, to Construction Manager, BHEL site for approval. A bar chart showing schedule of various milestones like start of erection of Cable tray, Cable laying, panel erection, JB erection, instrument calibration etc. and their commissioning, etc. linking with various project milestones as detailed in this |

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| | specification etc., is to be submitted by the contractor before start of work, to site-in-charge, BHEL/ NTPC site for approval. |
| 30.2 | The work under the scope of contract shall be completed in phased manner matching with project's milestone schedule within the completion period and bar chart as per above shall be submitted accordingly. |
| 31.0 | CONTRACT PRICE |
| 31.1 | The bidder shall quote their rates/ price as per Price Schedule only as per tender provision. |
| 31.2 | The quantities of the various items mentioned in the rate schedule are approximate, based on very preliminary information and may vary to any extent or to be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of the work executed under any part of the this contract including extra items, if any, but excluding any price variation remains within +/- 15 % (plus/minus fifteen percent) of the awarded price (services portion). |
| 31.3 | Unit price quoted by the vendor for each switchboard/ control panel shall remain firm regardless of any change in width, height, type, weight or any other parameter as indicated in BOM. |
| 31.4 | For variation in length within +/- 15% of length of switchboard/ control panel as indicated in BOM, unit price shall remain firm. |
| 31.5 | For variation in length of switchboard/ panels beyond +/- 15% of the indicated length in BOQ, rate of unit length of variation shall be arrived by dividing the item rate by length as indicated in the BOM and price adjustment for payment during execution for length excess/ shortage over and above the +/- 15 % variation of indicated length shall be done accordingly. |
| 31.6 | <p>CHANGE IN PRICE DUE TO VARIATION IN DIMENSION OF PANELS under part-B Contractor's quoted rate for control panel/cubicle shall be inclusive of a variation limit of (+/-) 15% of length (L), as specified in Volume-III. However, if actual length is found beyond (+/-) 15% variation in length as indicated in the schedule, additional payment/recovery in rate will be derived in the following manner.</p> <p>In case, actual length exceeds variation limit, the contractor will be entitled for additional payment for the portion beyond 1.15 times of indicated length and BHEL will be entitled to recover for the portion below 0.85 times of indicated length.</p> <ul style="list-style-type: none"> • Length of panel/cubicle as indicated in the schedule = A • Rate quoted for panel/cubicle = Rs. B • Rate per unit length (L) to be considered for the purpose of additional payment/ recovery for variation in length = $B/A = C$ • Actual length of the panel/cubicle = D • Compensation entitled by the contractor in case of increase in length beyond $1.15A = (D-1.15A) \times C$. <p>Reduction entitled by BHEL in case of decrease in length below $0.9A = (0.85A-D) \times C$.</p> |
| 32.0 | TAXES AND DUTIES |
| 32.1 | All taxes excluding GST & BOCW Cess (as specified elsewhere in the tender) but including, Charges, Royalties, any State or Central Levy and other taxes for materials if any obtained for the work and for execution of the contract shall be borne by successful bidder and shall not be payable extra by BHEL. Any increase of above at any stage during execution of contract, including extension of the contract, shall have to be borne by successful bidder contractor. Bidder's quoted/ accepted rates/ price shall be inclusive of all such requirements. |
| 32.2 | GST along with Cess (as applicable) legally leviable & payable by successful bidder as per GST Law shall be paid by BHEL, extra. Hence, bidder shall not include GST along with Cess (as applicable) in their quoted rates/ price. |
| 32.3 | Successful bidder shall furnish proof of GST registration with GSTN Portal covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by successful bidder on BHEL for this project / work. |

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| 32.4 | Since GST on output will be paid by BHEL separately as enumerated above, bidder's your quoted rates / price should be after considering the Input Credit under GST law at bidder's end. |
| 32.5 | TDS under Income Tax shall be deducted at prevailing rates on gross invoice value from the running bills (RA bills) unless exemption certificate from the appropriate authority / authorities is furnished. |
| 32.6 | TDS under GST (if / as & when applicable later) shall be deducted at applicable rates on gross invoice value from the running bills (RA bills). However, as on date no TDS under GST is applicable. |
| 32.7 | Bidder shall note that GST Tax Invoice complying with GST Invoice Rules (Section 31 of GST Act & Rules referred thereunder) wherein the 'Bill To' details shall encompass following. BHEL GSTN – Refer attached GSTN code table of BHEL. Name - BHARAT HEAVY ELECTRICALS LIMITED Address - Shall be intimated later. Specific details of BHEL GSTN, Name and Address as stated above, have been specified elsewhere in the tender. |
| 32.8 | Successful bidder to intimate immediately on the day of removal of goods (in case of any supply of goods) to BHEL along with all relevant details and send a scanned copy of Tax Invoice to BHEL through following communication mode for enabling BHEL to meet its GST related compliances. Portal address. and Email address – Shall be intimated later. Specific details of above shall be intimated to successful bidder by BHEL at appropriate juncture. |
| 32.9 | In case of delay in submission of above mentioned documents on the date of despatch, BHEL may incur penalty / interest for not adhering to Invoicing Rules under GST Law. The same will be liable to be recovered from successful bidder, in case such delay is not attributable to BHEL. |
| 32.10 | In case of raising any Supplementary Tax Invoice (Debit / Credit Note), successful bidder shall issue the same containing all the details as referred to in Section 34 read with Section 31 of GST Act & Rules referred there under. |
| 32.11 | Successful bidder shall comply with the Time Limit prescribed under the GST Law and rules thereof for raising of the Tax Invoice. If any supply of goods is applicable, successful bidder shall also ensure prompt delivery of goods after despatch. |
| 32.12 | Bidder shall note that in case GST credit is delayed / denied to BHEL due to delayed / non receipt of goods and / or Tax Invoice or expiry of the timeline prescribed in GST Law for availing such ITC, or any other reasons, not attributable to BHEL, GST amount shall be recoverable from successful bidder along with interest levied/ leviable on BHEL, as the case may be. |
| 32.13 | Successful bidder shall upload the invoices raised on BHEL in GSTR-1 within the prescribed time as given in the GST Act. Bidder shall note that in case of delay in declaring such invoice in your return and GST credit availed by BHEL is denied or reversed subsequently as per GST Law, GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from the successful bidder along with interest levied / leviable on BHEL. |
| 32.14 | Way Bill: Successful bidder to arrange for way bill / e-waybill for any transfer of goods for the execution of the contract. Successful bidder has to make their own arrangement at their cost for completing the formalities, if required, with Issuing Authorities, for bringing materials, plants & machinery at site for execution of the works under this contract, Road Permit / Way Bill, if required, shall be arranged by successful bidder and BHEL will not supply any Road Permit/ Way Bill for this purpose. |
| 32.15 | Any new taxes & duties, if imposed subsequent to due date of offer submission as per NIT & TCN, by statutory authority during contract period (including extension, if the same is not attributable to you), shall be reimbursed by BHEL on production of relevant supporting document to the satisfaction of BHEL. However, you shall obtain prior approval from BHEL before depositing new taxes and duties. |
| 32.16 | Benefits and / or abolition of all existing taxes must be passed on to BHEL against |

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| | new taxes, if any, proposed to be introduced at a later date. |
| 33.0 | TERMS OF PAYMENT |
| 33.1 | PART-A : The details of terms of payment shall be as under : |
| 33.1.1 | The contractor shall submit his running bill once in a month at the end of each month in line with billing schedule indicated in Annexure-III (PART-A) . The R.A. bill complete in all respects accompanied by BHEL engineers certified/ measurement sheet, jointly signed, will be paid at earliest after passing of the bill subject to completeness and correctness. The measurement will be taken as specified in terms and conditions of contract and certified by the BHEL engineer of actual work. However, no extra payment shall be made in the event of delay in release of payment. |
| 33.1.2 | Subject to any deduction which BHEL may be authorized to make under the contract the contractor shall on the certification of the BHEL engineer at site, be entitled to get payment as explained hereunder. |
| 33.1.3 | For erection, testing, commissioning of complete Electrical system including all system & panels, Transformers, ESP systems, Generator protection systems etc. as described in Tender document, progressive payments shall be made as per billing schedule given in Annexure –III (PART-A) on the basis of Contract price as per rate schedule. (These percentages are only for the purpose of progressive payments and should not be considered as price of individual items and vendor should complete all the works without quoting reference to the price break up). |
| 33.1.4 | In the above break up for progressive payment, 10% shall be retained from each RA bill which will be released in the following manner. Out of this 10% retained, 5% shall be released on successful trial run and Handing over of each unit. Balance 5% shall be released after the guarantee period of 12 months is over. The guarantee period shall commence from the date of handing over of each unit to the BHEL/customer or Six months after the unit reaches full load after commissioning of all equipment/system in all respect as per the scope of this contract, whichever is earlier. However, this 5% payment can be released against submission of performance bank guarantee valid for the guarantee period as stated above in prescribed proforma subject to receipt of certificate that all works are completed in all respects. The submission of bank guarantee towards performance guarantee is separate and the bank guarantee towards security deposit cannot be utilized for this purpose. The security deposit will be refunded as per GCC. |
| 33.1.5 | BHEL Site, at their discretion, may further split up the above percentages and effect payment to suit the site condition, cash flow requirement, according to the progress of work. |
| 33.1.6 | The decision of BHEL in this regard shall be final and binding on the contractor. |
| 33.2 | PART-B : The details of terms of payment shall be as under. |
| 33.2.1 | The contractor shall submit his running bill once in a month at the end of each month in line with billing schedule indicated in Annexure-III (PART-B) . The R.A. bill complete in all respects accompanied by BHEL engineers certified/measurement sheet, jointly signed, will be paid at earliest after passing of the bill subject to completeness and correctness. The measurement will be taken as specified in terms and conditions of contract and certified by the BHEL engineer of actual work. However, no extra payment shall be made in the event of delay in release of payment. |
| 33.2.2 | Subject to any deduction which BHEL may be authorized to make under the contract the contractor shall on the certification of the BHEL engineer at site, be entitled to get payment as explained hereunder. |
| 33.2.3 | For erection, testing, commissioning of complete C&I system including all max system & panels, MMI system for TG, SG and station C&I controls, and balance system/item of C&I work as described in Tender document, progressive payments shall be made as per billing schedule given in Annexure -III (PART-B) on the basis |

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| | of Contract price as per rate schedule. (These percentages are only for the purpose of progressive payments and should not be considered as price of individual items and vendor should complete all the works without quoting reference to the price break up). |
| 33.2.4 | <p>In the above break up for progressive payment, 10% shall be retained from each RA bill which will be released in the following manner.</p> <p>Out of this 10% retained, 5% shall be released on successful trial run and Handing over of each unit.</p> <p>Balance 5% shall be released after the guarantee period of 12 months is over. The guarantee period shall commence from the date of handing over of each unit to the BHEL/customer or Six Months after the unit reaches full load after commissioning of all equipment/system in all respect as per the scope of this contract, whichever is earlier.</p> <p>However, this 5% payment can be released against submission of performance bank guarantee valid for the guarantee period as stated above in prescribed proforma subject to receipt of certificate that all works are completed in all respects. The submission of bank guarantee towards performance guarantee is separate and the bank guarantee towards security deposit cannot be utilized for this purpose. The security deposit will be refunded as per GCC.</p> |
| 33.2.5 | BHEL Site, at their discretion, may further split up the above percentages and effect payment to suit the site condition, cash flow requirement, according to the progress of work. |
| 33.2.6 | The decision of BHEL in this regard shall be final and binding on the contractor. |
| 33.3 | Applicable GST, which can be claimed at any point, shall be released to you upon compliance of following: |
| 33.3.1 | You declaring such Invoice in his GSTR-1 |
| 33.3.2 | Receipt of Goods / services and Tax Invoice by BHEL |
| 33.3.3 | Confirmation of payment of GST thereon by you on GSTN Portal |
| 33.4 | Above is subject to receipt of goods / service and tax invoice thereof alongwith you declaring invoice in your return and paying GST within timeline prescribed for availing ITC by BHEL. |
| 34.0 | PRICE VARIATION CLAUSE (PVC) - Price variation (PVC) shall be applicable as per GCC |
| 35.0 | OVER RUN COMPENSATION (ORC) - Applicable and shall be as per GCC. |
| 36.0 | EXTRA WORK RATE - As per GCC. |
| 37.0 | <p>PAYING AUTHORITY</p> <p>Construction Manager BHEL Site Office NTPC/ 4x250 MW Nabinagar Project BRBCL, PO- Nabinagar, Dehri on Sone, Dist.- Aurangabad Bihar, Pin- 821305</p> <p>Any change of above shall be intimated to the contractor accordingly.</p> |
| 38.0 | INSURANCE |
| 38.1 | BHEL shall arrange comprehensive MCE (marine cum erection) Insurance Policy for total project supply & services including balance of plant package covering transit risks & loss, destruction or damage during handling at Site, Storage, civil works ,erection, testing and commissioning up to trial operation completion of unit including theft, sabotage, fire, lightning and other natural calamities. |
| 38.2 | Contractor shall report to BHEL in writing any damages to equipment/components on receipt, storing, and during withdrawal of the materials from stores, in transit to site and unloading at place of work and during erection and commissioning till trial operation completion including handing over. The above report shall be as prescribed by BHEL site management. Any consequential loss arising out of non-compliance of this stipulation will be borne by contractor. |
| 38.3 | The contractor will take necessary precautions/ due care to protect the material at |

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| | Project site, while in his custody from any damage/ loss till the same is handed over to BHEL/ customer at Project site. For lodging/ processing of insurance claim the contractor will submit necessary documents. BHEL will reserve the right to recover the loss from the contractor as detailed below in case the damage/loss is due to negligence/ carelessness on the part of the contractor. In case of theft of material under contractor's custody, the same shall be reported to police by the contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL/ customer for taking up with insurance. However, this will not relieve the contractor of his contractual obligation for the materials in his custody. |
| 38.4 | In case the damage/loss/theft of materials are attributable to negligence/failure in discharging the duties and obligations of the contractor, the expenses incurred for repair/replacement of such components in excess of the amount realized from the underwriters, limited to Normal Excess (Deductible Franchise) shall be recovered from the contractor. |
| 38.5 | Other conditions of Insurance shall be as per relevant clause of GCC/SCC. |
| 39.0 | MOBILISATION ADVANCE / IBRA |
| | No mobilisation advance/ IBRA shall be applicable for this tender. |
| 40.0 | WARRANTY & MAINTENANCE |
| 40.1 | The contractor shall warrant that the supplied items will be new and in accordance with the Contract Documents and free from defects arising due to deficiencies in design and engineering and from defects in material and workmanship for a period of twelve (12) calendar months commencing immediately upon the satisfactory completion of the Trial Operations and handing over the unit. The equipment shall operate satisfactorily and reliably and the performance and efficiency of the equipment (s) shall not be less than the respective guaranteed values. |
| 40.2 | The Contractor shall be liable to repair or replace / upgrade with the specific consent of the Owner, any defective parts that may develop in the plant of his own manufacture or those his sub suppliers under the conditions provided for by the contract and under proper use and arising solely from faulty design, materials and/or workmanship. Any defect removal at site by repair/up-gradation of the installed equipment /component /material will be permitted by the Owner only when such repair /up-gradation in the meantime, is not detrimental to the commercial use of the plant. All replaced defective parts shall be returned to the Contractor unless otherwise arranged. No repairs or replacement shall normally be carried out by the Engineer when the plant is under the supervision of the Contractor's supervisory Engineers. |
| 40.3 | The contractor's obligations against the above clause shall be limited to repairing or replacing with all incidental charges from site to the contractor's work and/or his sub-supplier's works and back to site. In case of defective parts not repairable at site but, essential in the meantime for the commercial operation of the equipment, the contractor and the purchaser/Owner shall mutually agree to a program of replacement or renewal which will minimize to the maximum extent interruption in the operation of the equipment. |
| 40.4 | The acceptance of the equipment / supplied items by the Engineer shall in no way relieve the Contractor of his obligation under this clause. |
| 40.5 | In the event of any emergency where, in the judgment of the Engineer, delay would cause serious loss or damages, repairs or adjustment may be made by the Engineer or a third party chosen by the Engineer without advance notice to the Contractor and the cost of such work shall be paid by the Contractor. In the event such action is taken by the Engineer, the Contractor will be notified promptly and he shall assist wherever possible in making necessary corrections. This shall not relieve the Contractor's liability under the terms and conditions of the Contract. |
| 40.6 | If it becomes necessary for the Contractor to replace or renew any defective portions of the plant, the provision of this clause shall apply to portion of the plant so replaced or renewed until the expiration of six months from the date of such replacement or renewal or until the end of the warranty period as specified in clause whichever may be later. If any defects are not remedied within 30 days, |

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| | the Engineer may proceed to do the work at the Contractor's risk and cost, but without prejudice to any other rights which BHEL may have against the Contractor in respect of such defects. |
| 40.7 | If the replacement or renewals are of such character as may affect the efficiency of the plant, the purchaser/Owner shall have the right to give to the Contractor within one month of such replacement or renewal, notice in writing that "acceptance tests on completion" be made, in which case such tests shall be carried out as per approved QAP/BHEL guidelines. |
| 40.8 | The repaired or new parts will be furnished and erected free of cost by the Contractor. If any repair is carried out on his behalf at the Site, the Contractor shall bear the cost of such repairs. |
| 40.9 | The cost of any special or general overhaul rendered necessary during the maintenance period due to defects in the plant or defective work carried out by the Contractor shall be borne by the Contractor. |
| 40.10 | In respect of goods supplied by Sub-Contractors to the Contractor where a longer guarantee (more than 12 months) is provided by such Sub-Contractors, the Owner shall be entitled to the benefit of such longer guarantee. |
| 41.0 | LIQUIDATED DAMAGES (LD) |
| 41.1 | If successful bidder fails to complete the job within the tender specified completion period (as per relevant clause of tender), BHEL shall have the right to recover as liquidated damages (LD) a sum equivalent to 0.5% of the unit wise derived contract price along with applicable GST, for delay of each week or part thereof. The liability for delay shall not in any case exceed 10% (Ten percent) of the Unit wise derived contract price. |
| 41.2 | BHEL shall deduct the amount of such compensation from any money due or which may become due to successful bidder and/ or recover such compensation from successful bidder's bank guarantees/ security deposit. To be entitled to impose such compensation, BHEL will not be required to prove that they have incurred such amount as actual damage. |
| 41.3 | BHEL reserve the right to purchase from elsewhere on account of and at the risk & cost of successful bidder, without notice to successful bidder of the equipment/ materials not so delivered, without canceling the order/ contract in respect of the equipment/ materials not yet due for delivery. |
| 41.4 | BHEL reserve the right to cancel the order/ contract or a portion thereof for the stores not so delivered at your risk & cost and successful bidder shall be liable to BHEL for any excess costs thereof. |
| 41.5 | Successful bidder shall continue performance of the order/ contract under all circumstances, to the extent not cancelled. |
| 41.6 | Where action is taken as per above, successful bidder shall be liable for any loss, which BHEL may sustain on that account. Successful bidder shall not be entitled to any gain on such purchase and the manner and the method of such purchase shall be at the discretion of BHEL. It shall not be obligatory on any part of BHEL to serve a notice of such purchase on successful bidder. |
| 42.0 | DEFECTS LIABILITY |
| 42.1 | The Contractor shall warrant that the supplied items will be new and in accordance with the Contract Documents and free from defects arising due to deficiencies in design and engineering and from defects in material and workmanship for a period of twelve (12) calendar months commencing immediately upon the satisfactory completion of the Trial Operations of the unit. The Contractor shall be liable to replace / upgrade with the specific consent of the Owner, any defective parts in the equipment supplied and erected by him under the Contract arising solely from faulty design, materials and/or workmanship. Any defect removal at site by repair/ up-gradation of the installed equipment/ component/ material will be permitted by the owner only when such repair /up-gradation in the meantime, is not detrimental to the commercial use of the plant. All replaced defective parts shall be returned to the contractor unless otherwise arranged. No repairs or replacement shall normally be carried out by the Engineer when the plant is under the supervision of the Contractor's supervisory Engineers. |

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| 42.2 | At the end of the Defects Liability Period, notwithstanding the issue of the Final Completion Certificate, the Contractor shall be responsible for making good with all possible speed any defect in any Section of the Plant which appears at any time before the expiry of 10 (Ten) years from Take-over of such Section of the Plant and shall remedy such defect at its own cost and expense. The defects to which this applies are defects in design, materials or workmanship or defects arising from any act or omission of the Contractor done or omitted prior to Take-over of the portion of the Plant affected by the defects or during the Warranty Period which a reasonable examination at the end of the Warranty Period would not have disclosed. |
| 42.3 | Consideration of each unit as a separate contract is acceptable to the extent of handing over / taking over along with discharge of guarantee obligations. |
| 42.4 | In the event of any emergency where in the judgment of the engineer, delay would cause serious loss or damages, repairs or adjustment may be made by the engineer or a third party chosen by the engineer without advance notice to the contractor and the cost of such work shall be paid by the contractor. In the event such action is taken by the engineer, the contractor will be notified promptly and he shall assist wherever possible in making necessary corrections. This shall not relieve the contractor's liability under the terms and conditions of the contract. |
| 42.5 | If it becomes necessary for contractor to replace or renew any defective portions of the plant, the provision of this clause shall apply to portion of the plant so replaced or renewed until the expiration of twelve (12) months from the date of such replacement or renewal. If any defects are not remedied within a reasonable time, the engineer may proceed to do the work at the contractor's risk & cost, but without prejudice to any other rights which BHEL may have against the Contractor in respect of such defects. |
| 42.6 | The repaired or new parts will be furnished and erected free of cost by contractor. If any repair is carried out on his behalf at the Site, the Contractor shall bear the cost of such repairs. |
| 42.7 | The cost of any special or general overhaul rendered necessary during the maintenance period due to defects in the plant or defective work carried out by the contractor, shall be borne by the contractor. |
| 42.8 | The acceptance of the equipment by the Engineer shall in no way relieve the contractor of his obligations under this Clause. |
| 42.9 | In the case of those defective parts which are not repairable at site but are essential for the commercial operation of the equipment, the contractor and the engineer shall mutually agree to a programme of replacement or renewal which will minimise interruption to the maximum extent, in the operation of equipment. |
| 43.0 | DRAWING AND DOCUMENTS |
| 43.1 | The detailed drawings, specifications available with BHEL engineers will also form part of this tender specification. Revision of drawings/documents may take place due to various considerations as is normal in such large project. Work will have to be carried as per revised drawings/documents at no extra cost. These documents will be made available to the contractor during execution of the work at site. The contractor will also ensure availability of all drawings/documents at work place. |
| 43.2 | One set of 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 after completion of the work. Contractor's personnel shall take care of these documents given to them. |
| 43.3 | The contractor shall maintain a record of all drawings and documents available with him in a register as per format given by BHEL Engineer. |
| 43.4 | The data furnished in various sections and annexures enclosed with this tender specification describe the equipment to be installed, tested and commissioned under this specification briefly. However, the changes in the design and in quantity may be expected to occur as is usual in any such large scale of works. Contractor's quoted rate shall be inclusive of the above factor. |
| 43.5 | If any error of ambiguity is discovered in the specification/information contained in the documents drawings and tender, the contractor shall forthwith bring the same |

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| | to the notice of BHEL before commencement of the work. BHEL'S interpretation in such cases will be final and binding on contractor. |
| 43.6 | Deviation from design dimensions should not exceed permissible limit. The contractor shall not correct or alter any dimension details, without specific approval of BHEL. |
| 44.0 | SOCIAL OBLIGATION 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. |
| 45.0 | OTHER TERMS All other term & conditions of this specification shall be governed by the pertinent provisions of GCC, Volume-IB as applicable. |

ANNEXURE-I
TENTATIVE LIST OF T&Ps & MAJOR TESTING INSTRUMENTS / EQUIPMENT TO BE DEPLOYED BY CONTRACTOR-Part A

Contractor may please note that this list is not exhaustive and they may be required to provide additional T&Ps not covered in the list for proper execution of the job.

| SL NO | ITEM | | | |
|--|--|--|--|----------------------------|
| A. LIFTING MATERIALS | | | | |
| A.1 | 10/12/14/18 MT Nextgen pick & carry type tyre mounted mobile crane.(like Escorts F15 Pick and Carry Eqpt.)- 01 NO, TRAILOR – 01 NO AND TYRE MOUNTER MOBILE CRANE OF 40 TON CAPACITY – 01 NO | | | |
| A.2 | 75 TON OR HIGHER CAPACITY CRANE – 01 NO (To be deployed/arranged by the agency on as and when required basis for execution of their contractual scope of work) | | | |
| A.3 | STEEL WIRE ROPES | | | |
| A.4 | SHACKLE | | | |
| A.5 | JACK | | | |
| A.6 | HAND PULLEY BLOCK / HOIST | | | |
| A.7 | SLING | | | |
| A.8 | TRANSIT PULLEY | | | |
| B. OIL TREATMENT (To be deployed/arranged by the agency on as and when required basis for oil filtration of transformers) | | | | |
| B.1 | TRANSFORMER OIL FILTERATION M/C OF SUITABLE CAPACITIES (AC/DC) | | | |
| B.2 | OIL HOSE | | | |
| B.3 | PRE-TREATMENT TANK (SHOULD ACCOMMODATE TRANSFORMER OIL) | | | |
| B.4 | VACCUM PUMP | | | |
| B.5 | COMPOUND GAUGE (PRESSURE SIDE 1 & VACCUM SIDE 760 MM OF HG) | | | |
| B.6 | TARPAULIN (BOTH ORDINARY & FIRE RESISTANT) | | | |
| B.7 | TRIDENT HOSE ADAPTER | | | |
| B.8 | VACCUM CLEANER | | | |
| B.9 | VACCUM HOSE | | | |
| C. MAJOR TESTING INSTRUMENTS / EQUIPMENT | | | | |
| SL. NO | DESCRIPTION | RANGE | ACCURACY | Qty |
| 1 | Megger 500 V | Upto 200 M Ohms | +/- 5 % at center scale (+/-) 10 % at centre scale | 01 01 |
| 2 | Digital Multimeter | Voltage 200 mV to 1000V Current 200 mA to 10 A DC Current 20 mA to 20 A AC Resist.200ohms to 20 M ohms | (+/-) 1 % + 1 Digit (+/-) 0.8 % + 1 Digit (+/-) 0.8 % + 1 Digit (+/-) 0.5 % + 1 Digit | 01 01 01 01 |
| 3 | Analog Multimeter | Voltage 2.5 to 2500 VAC Current 100 mA to 10 A AC Current 250 micro A – 1A DC Resist.upto 1000 ohms Voltage 2.5 to 2500 V DC | (+ / -) 1.0% (+ / -) 2.0% (+ / -) 1.5% (+ / -) 3.0% (+ / -) 1.0% | 01 01 01 01 01 |
| 4 | Micro Ohmmeter | 0.05 mill ohm to 200 ohm | (+ / -) 2.0% | 01 |
| 5 | Tachometer (| 0 – 6000 rpm | (+ / -) 0.25% | 01 |

| | | | | |
|----|----------------------------------|--------------|---------------|----|
| | Hand held) | | | |
| 6 | Tachometer (Non contact type) | 0 – 6000 rpm | (+ / -) 0.25% | 01 |
| 7 | Digital Megger | | | 01 |
| 8 | Motor tester | | | 01 |
| 9 | OMICRON/ ISA Kit | | | 01 |
| 10 | Megger 1 KV | | | 01 |
| 11 | Current Injection Kit | | | 01 |
| 12 | HV Test Kit | | | 01 |

NOTES:

1. The above list of testing instruments / equipment required for testing / commissioning is only for guidance to the contractor and not complete. Any other / additional testing instruments / equipment required for timely and satisfactory completion of job will also be arranged by the contractor at his own cost.
2. Contractor must re-ascertain / re- check range and accuracy of each IMTE from BHEL Engineer well in advance before arranging calibration / deployment.

D. OTHER T & Ps TO BE ARRANGED BY VENDOR

1. Gas cutting set
2. Electric blower
3. Tong tester with selector switch – 0-1000 V
4. Variac 3 Phase 415 V, 5A
5. Variac 1 Phase 5A
6. Decade resistance box
7. DC Calibrator 0-200 mV/0-20 mA
8. Comparison tester 0-400 Kg/cm²
9. Mercury in glass thermometer 0-120 °C, 0-200 °C
10. U-tube Manometer (Mercury & Water)
11. Regulated DC power supply 0 to +/-30 V, 5A to 15A
12. Function Generator
13. Oscilloscope
14. Manual crimping tool with accessories
15. Tarpaulin (big and small)
16. Watchmaker screw driver set
17. Terry spanner set
18. Box spanner set
19. D-spanner set
20. Vacuum puller for solder
21. Soldering Iron (temperature controlled)
22. Bench vice
23. Pistol drilling machine
24. Watchmaker vice
25. Drill bit set
26. Sling & manila rope
27. Hand tools, spanners
28. Star point screw driver
29. Hand lamp with glass cover
30. Socket for socket wrench M10, M12
31. Reversible ratchet handle
32. General tools for electrician
33. General tools for fitter
34. General tools for rigger
35. HT Cable Jointing/Termination kit
36. Needle file set

- | |
|--|
| <ol style="list-style-type: none"> 37. Slide wrench 38. Needle puller 39. Ferrule Letter engrossing Machine 40. Tray cutting machine 41. Portable air compressor and vacuum pump 42. Vacuum Cleaner 43. Earth resistance tester 0 to 1, 10, 100 ohm 44. Transformer oil test kit 45. High vacuum stream line oil filter of 1000 GPH for transformer dry out 46. Primary/Secondary injection kit 47. HV test kit 48. Wheatstone bridge 49. Phase sequence meter 50. Frequency meter 51. Phase shifter 52. Other Monitoring & Measuring Devices 53. TRANSFORMER TURN RATIO KIT 59. SCHERING BRIDGE FOR TAN DELTA MEASUREMENT <p><u>NOTE:</u></p> <ol style="list-style-type: none"> 1. Any other item required for smooth completion of the job shall be arranged by the vendor at his own cost. |
|--|

| |
|---|
| <p>E. DEWATERING EQUIPMENT (To be deployed/arranged by the agency on as and when required basis for dewatering towards facilitating their own works)</p> |
|---|

| | |
|-----|--------------------------------|
| E.1 | DEWATERING PUMP – 5 HP – 1 NOS |
|-----|--------------------------------|

TENTATIVE LIST OF MAJOR T&P AND IMTEs TO BE DEPLOYED BY THE CONTRACTOR -Part B
(With test certificates wherever required.)

| SL NO | ITEM |
|-----------------------------|---|
| A. LIFTING MATERIALS | |
| A.1 | 10/12/14/18 MT Nextgen pick & carry type tyre mounted mobile crane.(like Escorts F15 Pick and Carry Eqpt.) - 01 NO |
| A.2 | 75 TON OR HIGHER CAPACITY CRANE – 01 NO (To be deployed/arranged by the agency on as and when required basis for execution of their contractual scope of work) |
| A.3 | STEEL WIRE ROPES |
| A.4 | SHACKLE |
| A.5 | JACK |
| A.6 | HAND PULLEY BLOCK / HOIST |
| A.7 | SLING |
| A.8 | TRANSIT PULLEY |
| B. | MAJOR TESTING INSTRUMENTS / EQUIPMENT |
| SL. | ITEM DESCRIPTION |
| 1 | Arc/TIG welding machine and sets |
| 2 | Gas cutting set |
| 3 | Electric blower |
| 4 | Vacuum cleaner |
| 5 | Hand operated meggers, 500V & 1000V |
| 6 | Digital multimeters, 3.5 digit, 4.5 digit(08 nos. of reputed brand like motwane / metravi) |
| 7 | Analog multimeters |
| 8 | Tong tester with selector switch, 0-1000V |
| 9 | Variac, 3phase, 415V, 5A |
| 10 | Variac, 1phase, 5A |
| 11 | Decade resistance box |
| 12 | DC calibrators 0-200 mV/0-20mA (portable / battery operated)-minimum 02 nos. portable/battery operated and 1 no. mains operated at all times in good condition of reputed brand like Masibus, Yokogawa) |
| 13 | Dead weight tester or item no.15. |
| 14 | Comparison tester 0-400 Kg/sq cm |
| 15 | Master pr. Gauge, 0.2-1 kg/sq cm, 0-4kg/sq cm, 0-16 kg/sq cm, 0-40 kg/sq cm, 0-300 kg/sq cm, -1 to 0 kg/sq cm. |
| 16 | Oil bath with cooler for temp., 0-160 deg. C |
| 17 | Salt bath for temp. up to 1200deg C |
| 18 | Mercury in glass thermometer, 0-120deg C, 0-200 deg C |
| 19 | U-tube manometer (mercury & water) |
| 20 | Regulated DC power supply, 0 to +/- 30 V , 5A to 15A. |
| 21 | Manual crimping tool suitable for all sizes |
| 22 | Tarpaulin (big & small) |
| 23 | Watchmaker screw driver set |
| 24 | Terry spanner set |
| 25 | Box spanner set |
| 26 | D-spanner set |
| 27 | Vacuum puller for solder |
| 28 | Soldering iron (temperature controlled) |
| 29 | Bench vice |
| 30 | Pistol drilling machine |
| 31 | Watchmaker vice |

| | |
|--|---|
| 32 | Drill bit set |
| 33 | Sling & manila rope |
| 34 | Hand tools, spanners and torque wrench |
| 35 | Star point screw driver |
| 36 | Hand lamp with glass cover |
| 37 | Socket for socket wrench, M10, M12 |
| 38 | Reversible ratchet handle |
| 41 | General tools for electrician |
| 42 | General tools for fitter |
| 43 | General tools for rigger |
| 44 | Hydraulic test pump |
| 45 | Copper tube bender |
| 46 | Pipe bender |
| 47 | Needle file set |
| 48 | Allen key set (both mm and inch size) |
| 49 | Slide wrench |
| 50 | Needle puller |
| 51 | Tray cutting machine. |
| 52 | Dial gauge, Vernier scale |
| 53 | Portable low pressure /vacuum calibrator (-1 to 10 Kg/m ²) with digital display |
| 54 | Portable temperature calibrator (up to 600 degree C) |
| 55 | Rheostat 100 ohm, 5A |
| 56 | 0.2 to 1.0 kg/cm ² penwalt or equivalent pneumatic testing kit. |
| 57 | Portable air compressor and vacuum pump for vacuum gages. |
| 58 | Portable pressure calibrator up to 25 Kg/m ² with digital display |
| NOTE: | |
| 1. Any other T&P/IMTE required for smooth completion of the job shall be arranged by the vendor at his own cost. | |
| 2. All Master Gauge should be of 0.25% accuracy and 0.5% resolution. | |
| 3. The contractor may please note the periodical testing and calibration of the testing equipment are to be done at CMERI / Durgapur, ERTL / Calcutta, Regional research laboratories at / Guwahati / Jorhat / Bhubaneswar and copy of test certificates to be submitted to BHEL as per 'ISO' norms. | |

TENTATIVE LIST OF MAJOR CONSUMABLES AS REQUIRED FOR COMPLETION OF JOB

TO BE PROVIDED BY THE CONTRACTOR

- MS BOLTS, NUTS, PLAIN WASHERS AND SPRING WASHER.
- COPPER WASHERS
- WELDING ELECTRODE, GAS, FILLER WIRE, CLEANING AGENTS, ETC.
- CABLE TAG, FERRULES, ALUMINIUM STRIPS / FASTENERS ETC.
- SAND, CHIPS ETC FOR MINOR CIVIL WORKS
- EMERY SHEETS, GREASE ETC.
- OXYGEN & DA CYLINDERS.
- ALL OTHERS REGULAR CONSUMABLES REQUIRED FOR ERECTION OF C&I AS STATED IN THE SPECIFICATION.
- PRIMER & PAINTS.
- ½" MS PLUGS AS REQUIRED.

NOTE:

1. ANY OTHER CONSUMABLE FOR SMOOTH COMPLETION OF THE JOB SHALL BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST.

ANNEXURE-II

T&Ps TO BE PROVIDED BY BHEL ON SHARING BASIS

| SL NO | ITEM |
|--------------|--|
| 1.0 | EOT CRANE IN TG HALL – AS INSTALLED. |
| <u>2.0</u> | <u>CRAWLER CRANE OF SUITABLE CAPACITY AS & WHEN REQUIRED – AS AVAILABLE.</u> |

NOTE

Details of issue of these items mentioned elsewhere in tender document.

Annexure-III (PART-A-Electrical- Billing schedule)

| | | |
|----------------|---|---|
| | PART-A: Activities Covering Erection, Testing & Commissioning etc. The details of terms of payment shall be as under. | |
| A | 100 % (hundred percent) payment of contract rate on pro-rata basis for the work completed as per following break-up shall be released as progressive payment, by the site authorities, on submission of protocols duly signed by BHEL site official(s)/ owner. Out of this 100 %, 1.5 % of gross bill value shall be paid in the following manner on certification by BHEL engineer after compliance of each of following activity in each month. In case of non-fulfilment of respective activity by contractor in each month, no payment shall be made by BHEL against corresponding activity and no claim of bidder at a later date, whatsoever, in this regard shall be entertained by BHEL. | |
| A.1 | 0.7 % shall be paid on compliance of house keeping of contractor's working area and store/ office areas. | |
| A.2 | 0.3 % shall be paid on compliance of general illumination of contractor's working area and stores, office area. | |
| A.3 | 0.3 % shall be paid on compliance of applicable OHSAS requirement as per guidelines of BHEL/ PSER and as specified in the tender. | |
| A.4 | 0.2 % shall be paid on compliance of applicable Safety requirement as per guidelines of BHEL/ PSER and as specified in the tender. | |
| Sl. No. | Description of work | % of unit rate |
| 1 | Cable tray, accessories & supporting structure | |
| | 1.1 | Fab. as reqd. fixing in position, painting etc. complete in all respect |
| | 1.2 | Laying of cables on trays |
| | 1.3 | Dressing and clamping & tagging of cable |
| | 1.4 | Tray covering |
| | | Total = |
| | | 100% |
| 2 | Cable laying | |
| | 2.1 | Laying of cables |
| | 2.2 | Termination of cables & tagging |
| | 2.3 | Trial run/commissioning of connected equipment/system |
| | 2.4 | Dressing and clamping of cable |
| | | Total = |
| | | 100% |
| 3 | Junction box/Push button station (local) | |
| | 3.1 | Erection including fabrication of supporting frame |
| | 3.2 | Fixing/testing of terminal block |
| | 3.3 | Commissioning of connected equipment |
| | 3.4 | Painting of supporting frame, name plate fixing |
| | | Total = |
| | | 100% |
| 4 | Conduit/ other pipe etc. | |
| | 4.1 | Laying including fabrication/erection of supporting structure |
| | 4.2 | Completion of erection including end connection |
| | 4.3 | Dressing, clamping and tagging |
| | 4.4 | Testing & commissioning of associated equipment/system |
| | | Total = |
| | | 100% |
| 5 | Misc. Structural steel support /Canopy | |
| | 5.1 | Fabrication of support /Canopy |
| | 5.2 | Erection of support /Canopy |
| | 5.3 | Painting of support /Canopy |
| | 5.4 | Completion of erection of connected equipment /Canopy |
| | | Total = |
| | | 100% |
| 6 | Control panel/cubicle/desk/rack/Insert / UPS / Battery / | |
| | 6.1 | Receipt from store/yard, transportation to place of erection, placement, alignment including fabrication & erection of supporting frame |
| | | 55% |

| | | | |
|--------------|--|---|-------------|
| | 6.2 | Fixing of loose items/instruments, charging | 30% |
| | 6.3 | Loop testing and commissioning, Auto control commissioning | 8% |
| | 6.4 | System commissioning | 7% |
| | | Total = | 100% |
| 7 | Misc Equipment | | |
| | 7.1 | Receipt of material, calibration/testing, checking, erection including fabrication and erection of supporting frame | 60% |
| | 7.2 | Charging, local testing/commissioning & tagging | 20% |
| | 7.3 | Remote testing/loop commissioning, Auto control commissioning | 10% |
| | 7.4 | System commissioning | 10% |
| | | Total = | 100% |
| 8 | SUPPLY OF ITEMS | | |
| | 8.1 | Supply of Misc Items | 100% |
| | | Total = | 100% |
| 9 | ACTIVITIES COVERING TESTING & COMMISSIONING ONLY | | |
| | 9.1 | Fixing loose components | 20% |
| | 9.2 | Local testing, checking, calibration, Remote testing & commissioning | 50% |
| | 9.3 | Loop testing and commissioning, Auto control commissioning | 20% |
| | 9.4 | System commissioning | 10% |
| | | Total = | 100% |
| 10 | MINOR CIVIL WORKS | | |
| | 10.1 | Minor Civil work like chipping, ,breaking of brick wall & concrete & finishing, excavation. | 100% |
| | | Total = | 100% |
| Note: | | | |
| 1 | Out of the above break up for progressive payment, 10% of the gross bill value shall be retained from each RA bill which will be released as per specified terms of payment vide TCC clause no. 33.1.4 | | |
| 2 | Site-in-charge, BHEL, at discretion, may further split up the above percentage and effect payment to suit the site conditions, cash flow requirement, according to the progress of work. | | |

Annexure-III (PART-B-C&I - Billing schedule)

| | | |
|----------------|---|---|
| | PART-B : Activities Covering Erection, Testing & Commissioning etc. The details of terms of payment shall be as under. | |
| B | 100 % (hundred percent) payment of contract rate on pro-rata basis for the work completed as per following break-up shall be released as progressive payment, by the site authorities, on submission of protocols duly signed by BHEL site official(s)/ owner. Out of this 100 %, 1.5 % of gross bill value shall be paid in the following manner on certification by BHEL engineer after compliance of each of following activity in each month. In case of non-fulfilment of respective activity by contractor in each month, no payment shall be made by BHEL against corresponding activity and no claim of bidder at a later date, whatsoever, in this regard shall be entertained by BHEL. | |
| B.1 | 0.7 % shall be paid on compliance of house keeping of contractor's working area and store/ office areas. | |
| B.2 | 0.3 % shall be paid on compliance of general illumination of contractor's working area and stores, office area. | |
| B.3 | 0.3 % shall be paid on compliance of applicable OHSAS requirement as per guidelines of BHEL/ PSER and as specified in the tender. | |
| B.4 | 0.2 % shall be paid on compliance of applicable Safety requirement as per guidelines of BHEL/ PSER and as specified in the tender. | |
| Sl. No. | Description of work | % of unit rate |
| 1 | Cable tray, accessories & supporting structure | |
| | 1.1 | Fab. as reqd. fixing in position, painting etc. complete in all respect |
| | | 60% |
| | 1.2 | Laying of cables on trays |
| | | 20% |
| | 1.3 | Dressing and clamping & tagging of cable |
| | | 10% |
| | 1.4 | Tray covering as desired |
| | | 10% |
| | Total = | |
| | | 100% |
| 2 | Cable laying | |
| | 2.1 | Laying of cables |
| | | 60% |
| | 2.2 | Termination of cables & tagging |
| | | 20% |
| | 2.3 | Dressing & clamping of cable |
| | | 10% |
| | 2.4 | Trial run/commissioning of connected equipment/system |
| | | 10% |
| | Total = | |
| | | 100% |
| 3 | Junction box/Push button station (local) | |
| | 3.1 | Erection including fabrication of supporting frame |
| | | 65% |
| | 3.2 | Fixing/testing of terminal block |
| | | 15% |
| | 3.3 | Painting of supporting frame, name plate fixing |
| | | 10% |
| | 3.4 | Commissioning of Connected equipment |
| | | 10% |
| | Total = | |
| | | 100% |

| | | | |
|----------|--|---|------|
| 4 | Conduit/impulse pipe/other pipe/copper tube/SS tube etc. | | |
| | 4.1 | Laying including fabrication/erection of supporting structure | 45% |
| | 4.2 | Completion of erection including end connection | 35% |
| | 4.3 | Dressing, clamping and tagging | 10% |
| | 4.4 | Testing & commissioning of associated equipment/system | 10% |
| | | Total = | 100% |
| 5 | Misc. Structural steel support /Canopy | | |
| | 5.1 | Fabrication of support /Canopy | 45% |
| | 5.2 | Erection of support /Canopy | 30% |
| | 5.3 | Painting of support /Canopy | 15% |
| | 5.4 | Completion of erection of connected equipment /Canopy | 10% |
| | | Total = | 100% |
| 6 | Control panel/cubicle/desk/ups/transmitter rack/Insert / UPS / Battery / PLC | | |
| | 6.1 | Receipt from store/yard, transportation to place of erection, placement, alignment including fabrication & erection of supporting frame | 55% |
| | 6.2 | Fixing of loose items/instruments, charging | 30% |
| | 6.3 | System Commg- (Commg of Associated Instruments) | 8% |
| | 6.4 | Interlock / Auto control commissioning | 7% |
| | | Total = | 100% |
| 7 | Instrument/equipment | | |
| | 7.1 | Receipt / verification of material, calibration/testing, checking, erection including fabrication and erection of supporting frame | 60% |
| | 7.2 | Charging, local testing/commissioning & tagging | 20% |
| | 7.3 | Remote testing/loop commissioning | 10% |
| | 7.4 | System commissioning ,Interlock/ Auto control commissioning | 10% |
| | | Total = | 100% |
| 8 | Control valve (excluding erection of valve but including erect. of accessories) | | |
| | 8.1 | fixing loose components like AFR, tubing etc including fabrication & erection of supports | 25% |
| | 8.2 | Local testing, checking & calibration. | 30% |
| | 8.3 | Loop Checking ,Remote testing & commissioning | 30% |
| | 8.4 | Interlock /Auto control commissioning | 15% |
| | | Total = | 100% |

| | | | |
|--------------|--|---|------|
| 9 | Plant monitoring system | | |
| | 9.1 | Placement and alignment, Interconnection of equipment & peripherals, cable laying & termination and fixing of loose items | 30% |
| | 9.2 | Charging, Initialisation and configuring | 20% |
| | 9.3 | Pre-commissioning, Commissioning, Signal checking | 40% |
| | 9.4 | System commissioning completion | 10% |
| | | Total = | 100% |
| 10 | Activities covering testing & commissioning only | | |
| | 10.1 | Fixing loose components | 15% |
| | 10.2 | Local testing, checking, calibration & commissioning | 40% |
| | 10.3 | Loop testing and Remote commissioning, Interlok & Auto control commissioning | 35% |
| | 10.4 | System commissioning | 10% |
| | | Total = | 100% |
| 11 | Power Cylinders | | |
| | 11.1 | Fabrication & erection of supports, erection of power cylinder, levelling & alignment, grouting etc. | 40% |
| | 11.2 | Local testing, checking, calibration & commissioning | 25% |
| | 11.3 | Loop testing , Remote commissioning, Interlock & Auto control commissioning | 25% |
| | 11.4 | System commissioning | 10% |
| | | Total = | 100% |
| 12 | SUPPLY ITEMS | | |
| | 12.1 | Receipt of crimping lugs at site | 100% |
| | | Total = | 100% |
| Note: | | | |
| 1 | Out of the above break up for progressive payment, 10% of the gross bill value shall be retained from each RA bill which will be released as per specified terms of payment vide TCC clause no. 33.2.4 | | |
| 2 | Site-in-charge, BHEL, at discretion, may further split up the above percentage and effect payment to suit the site conditions, cash flow requirement, according to the progress of work. | | |

PART-A

JOB ERECTION, TESTING, COMMISSIONING OF ELECTRICAL SYSTEM FOR BOILER, ESP,TG SETS FOR UNIT# 4 AT 4X250 MW NABINAGAR TPP, DEHRI ON SONE, BIHAR.

CONTENTS

| CLAUSE NO | DESCRIPTION |
|------------------|--|
| 1.0 | SCOPE OF WORK |
| 2.0 | CABLING, PANELS etc |
| 3.0 | CABLE TRAY WORK & EARTHING WORK |
| 4.0 | ELECTRICAL PANEL/DESK |
| 5.0 | GRP & DAVR |
| 6.0 | PUSH BUTTONS, STARTER, POWER DISTRIBUTION BOXES, MARSHALLING BOXES ETC. |
| 7.0 | DRY OUT & COMMISSIONING OF HT/LT MOTORS |
| 8.0 | FINAL PAINTING |
| 9.0 | ELECTRICAL INSPECTOR'S APPROVAL AND POLLUTION CONTROL BOARD CLEARANCE |

This Volume-IF, Part-A & B (scope, technical specification etc.) shall be construed as part of tender document and shall be read along with general conditions of contract (GCC), SCC and other volumes of tender. In case of any conflict or inconsistency between GCC, SCC other volumes and this volume, the same shall be brought out by the bidder in writing to BHEL for clarification, failing which most stringent interpretation/ clause in favour of BHEL shall be adopted and the same shall be binding to the bidder.

| CL. NO. | DESCRIPTION |
|------------|---|
| 1.0 | SCOPE OF WORK |
| 1.1 | The scope under this specification shall cover receipt of materials from BHEL/ customer store, site stores/ open yards/ unloading bay of power house, directly from the incoming lorry within the project premises/ within 1 km from the project gates, dragging to position (place of erection)/ loading in the truck/ trailer with the help of crane, handling at site/ dragging to place of erection (wherever applicable), shifting to contractors' store and/ or to the floor/ foundation where it is to be installed, protecting it from rain/ water/ fire/ physical damage by properly covering and putting watch and ward for safe custody of materials, inspection of materials, submission of inspection reports for any shortage/ damage or anything else called for, preservation/ conservation, fixing of supports (base channels), pre-assembly, erection of equipment & support structures, leveling, alignment, grouting (grouting materials being in the scope of contractor and its specification given by BHEL at the time of grouting), testing, commissioning, calibration, trial operation, assistance to PG test, and handing over to the entire satisfaction of BHEL/ customer for Unit # 4 at 4X250 MW Nabinagar TPP, Dehri on Sone, Bihar for HVR Transformers, Electronic Control Panel, VFD transformer/rectifier/panels, DAVR panel, SPVT & LAVT cubicle for Generator/IPB, Fan Control Cubicle, panels (for ESP & Soot Blower system), LT cabling (for ESP & Soot Blower system), Electrical Control Panel, DC Motor Starters, Push Button, Junction Boxes etc, including earthing with nearest earthing point, etc, reconciliation of materials and returning of unused materials, scrap materials, packing cases/ wooden boxes/ cable drums etc to BHEL or customer's stores/ yards. |
| 1.2 | It is not the intent to specify completely here in all details of handling, erection, testing and commissioning of the above equipment. The omission of specific reference to any method, or test & 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 facilities/ services to complete the project or portion of the project awarded to him. The quoted rate shall deem to be inclusive of all such contingencies. Only exclusions specifically mentioned in this tender shall be entertained in all matters. |
| 1.3 | Good quality and accurate workmanship for proper performance of the equipment are absolutely necessary. BHEL engineers shall be the deciding authority towards quality requirement. |
| 1.4 | Civil works including drilling, chipping, enlarging cut-outs, foundation pockets, cable cut-outs, grouting etc, wherever required will be carried out by contractor at no extra cost. Contractor will have to erect temporary scaffolding (scaffolding materials being arranged by contractor. Only steel/pipe scaffolding shall be allowed to be used) and provide suitable platform at places (as desired by BHEL) for the purpose of inspection/testing by BHEL personnel. |
| 1.5 | During welding of supports with existing embedded insert plates are required, the contractor has to chip on the wall for insert plate. Also before grouting of equipment, the contractor has to chip the concrete to get the iron materials for welding of the equipment support. However, in any case, the insert plates are not found in position, the contractor may fix the insert plate by using anchor fastener (the plate being supplied by BHEL and the anchor fastener being in the scope of the contractor). The size of the fastener bolts may be communicated by BHEL at the time of requirement. |
| 2.0 | CABLING, PANELS etc |
| 2.1 | The panels may be supplied in detachable units housed in wooden case which will |

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| | be opened properly at the place of erection and will be placed on supports (base channels) leveled and aligned and subsequently fixed by welding/ bolting as per drawing. Complete assembly, erection and connection of inter-panel wiring, bus-bars between adjacent panels, mounting of loose supplied component as per drawing will be the responsibility of contractor. If any additional wiring or modification of wiring is required, contractor has to carry out without any extra cost. |
| 2.2 | Any minor modification and rectification required for completion installation, testing and commissioning, and satisfactory trial operation and PG Testing will be carried by the contractor at no extra cost. |
| 2.3 | Pre-commissioning, checks for correctness of erection to the entire satisfaction of the Engineer in charge is included in the scope of work. |
| 2.4 | Independent testing and commissioning of equipments erected by competent commissioning engineers to the entire satisfaction of the Engineer in charge is included in the scope of work. |
| 2.5 | Successful trial operation and PG Testing till handing over of the equipments is included in the scope of work. |
| 2.6 | If necessary, dismantling of protective relays, switches, fuses, CTs, meters etc and making minor changes in wiring and remounting of such components or mounting of such items supplied loose and connections thereof will be carried out by the contractor at no extra cost. |
| 2.7 | Any work beyond the scope of work viz major rectification due to manufacturing defect / modification arising out of design changes or damages in transit and reworks on works already completed satisfactorily for reasons not attributable to the contractor etc will be treated as “Extra work” and the contractor will have to carry out such works at the extra man-hour rate as indicated in this tender. |
| 2.8 | Proper records for glands and lugs, if supplied loose & handed over for external & internal cabling will be maintained by the contractor for material reconciliation. |
| 2.9 | The contractor shall set each piece of equipment on its foundation or supporting structures. The contractors shall assemble equipment as required. All equipment should be installed with parallel, horizontal and vertical alignments by skilled craftsman. |
| 2.10 | Equipment furnished with finished coat of paint shall be touched up by the contractor, so as to attain required dry film thickness, if their surface is spoilt during handling. |
| 2.11 | While commissioning of the system covering mechanical, C&I and electrical, BHEL engineer shall coordinate and necessary assistance required by way of labour, supervisor and engineer etc. shall be arranged by the contractor belonging to his scope, at no extra cost. |
| 2.12 | The post-commissioning activities will include the trial run and PG testing of all the connected equipment / system which will continue upto the handing over of the unit and performance guarantee test. The contractor shall arrange for sufficient numbers of manpower alongwith engineers and supervisors for carrying out the activities under his own responsibility in coordination with various other agencies. |
| 2.13 | In case, any rework is required because of faulty erection by the contractor which is noticed during commissioning, the same has to be rectified by the contractor at his cost. |
| 2.14 | The Bill of material for the above equipment / material under the scope is given in the encloser |
| 2.15 | The activities in specific but not limited to following for Electrical Control Panels etc. under are detailed below and shall also be under the scope of the contractor. |
| 2.16 | Interposing relays will be generally supplied fitted in the switchboard before dispatch. However, if in some cases, the same is supplied loose which will be required to be installed in various switchboards at site as per instruction of BHEL site engineers, it will be done by the contractor at no extra cost. |
| 2.17 | The commissioning of LV switch and panels will involve the runs of all connected components like motors, valves, dampers and finally the commissioning of the TG |

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| | sets. The contractors will have to keep his people round the clock, if necessary, during the trial runs and promptly take action for any repair, check and rectification etc required in the equipment erected by him. Checks for Logics – Interlocks & Protection with the system is also part of Commissioning. |
| 2.18 | The base channels shall be normally supplied with the switchboards/ Panels. These will have to be aligned, levelled and grouted in position as per approved drawings. Wherever the base channels are not supplied, supporting materials will be supplied by BHEL free of cost and the same will be fabricated and painted at site. Payment shall be made as per applicable item of price schedule. In case BHEL could not supply these materials, the same will be taken from cable tray support material item ie applicable Item of BOQ (Supply) and the same will be fabricated and painted at site. Payment shall be made as per applicable item of price schedule (for supply and erection respectively). Opening will be left on the floor during the time of casting where the base channels will have to be grouted. All minor concrete chipping and finishing works will be included in the scope of job. |
| 2.19 | Fabrication, painting and Erection of Cross Channels, may be required to be done at site. Materials will be supplied by BHEL free of cost and the same will be fabricated and painted at site. Payment shall be made as per applicable item of Rate schedule. In case BHEL could not supply these materials, the same shall be taken from cable tray support material item i.e.applicable Item of BOQ (Supply) and the same will be fabricated and painted at site. Payment shall be made as per respective applicable item of Rate schedule (i. e. for Supply and Erection respectively). |
| 2.20 | Subject to requirement, the contractor shall fabricate and erect canopy for various equipment erected outside. Necessary structural materials, GI sheets etc will be provided by BHEL free of cost. Payment shall be made as per applicable item of Rate schedule. |
| 2.21 | Removable UNDRILLED gland plates with Gaskets may be provided in each panel to facilitate for cable glanding and termination of external cables in the scope of the contractor. If removal gland plates are not provided, making holes on the fixed plate by drilling and glanding, tapping is also under the scope of the contractor for which contractor shall not claim any extra cost. |
| 2.22 | Double compression tinned brass cable glands and tined copper lugs of 2.5 Sq. mm wherever supplied loose for each panels will be handed over to the contractor at the time of work and a proper record will be maintained by the contractor for material reconciliation. |
| 2.23 | For making holes on removable gland plate or fixed gland plate the contractor shall use suitable drilling machine. No gas cutting will be allowed. |
| 2.24 | COMMISSIONING OF EQUIPMENT (ERECTED BY OTHER AGENCIES) |
| 2.24.1 | Scope includes Mounting of loose supplied Equipment/Components, Calibration, Testing of individual Equipment/Components and entire system. The scope also includes commissioning of the system from remote. |
| 2.24.2 | The Contractor shall inspect the system & prepare a list jointly with BHEL Engineer for the Equipment available and short/loose supplied items. |
| 2.24.3 | Commissioning of entire system, trouble shooting, making minor modifications/alterations is included in the scope. |
| 2.25 | CABLING |
| 2.25.1 | Cables shall be laid as per cable schedule provided. Contractor may have to prepare cable schedule based on input data like Block Diagram, etc furnished by BHEL. |
| 2.25.2 | Interconnections/Termination of cables shall be done as per Interconnection diagram provided by BHEL. Contractor may have to prepare Cable Interconnection chart based on the Schemes, etc provided by BHEL. |
| 2.25.3 | Contractor shall drill hole in Cable Gland plate as per requirement with approx 10% extra for future provisions. |
| 2.25.4 | Cables shall be laid on Cable Tray, through conduits, on wall with saddles, etc as required. Saddles of proper sizes with all acceroies are to be supplied by Contractor |

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| | and rate quoted shall be inclusive of such contingencies. |
| 2.25.5 | For cable of size 2.5 sqmm and below, the cable termination rate (including shortings etc.) Is inclusive of supply of lugs. |
| 2.25.6 | After completion of Cable laying in a particular area, the cable should be calmped properly |
| 2.25.7 | For proper identification of Cables, Cable Tags shall be provided as per BHEL Standard. For proper identification of Wires/core of cables Intelocking Type ferules shall be used as per BHEL Standard. |
| 3.0 | CABLE TRAY WORK & EARTHING WORK |
| 3.1 | In respect of scope of installation work for cabling, cable tray work, & earthing work, the work shall be carried out as per drawing. Local routing, etc are to be done as directed by of BHEL. |
| 3.2 | The Contractor shall inspect the area prior to commencement of erection and anticipated fouling with other equipment shall be brought to notice and corrective action taken in advance. |
| 3.3 | There may be interferences with other equipment after cable trays, etc are erected; Contractor shall re-route/modify as directed by BHEL. |
| 3.4 | All supporting structure shall be applied with one coat of red-oxide & two coats of finish paint after fabrication/erection. Shade of finish paint shall be as per approval of BHEL. |
| 3.5 | Cable Trays shall be Galvanised. Tray accessories like bends, Tees, etc will not be supplied. Cable trays shall be cut (gas cutting is not permitted) and welded to fabricate such accessories suiting to site requirement. Welded area to be applied with one coat of red-oxide and one coat of Cold Galvanising Paint. No additional payment is admissible for fabrication of Tray accessories. |
| 3.6 | For Equipment earthing, Galvanised Earthflats (GI Wire) shall be connected to nearest riser, mat or as directed by Engineer. All welded areas to be applied with one coat of red-oxide and one coat of Cold Galvanising Paint. |
| 4.0 | ELECTRICAL PANEL/DESK |
| 4.1 | Electrical Control Board will consist of Meters (analogue/digital), Switches, Mimic, Semaphore, Synchroscope, Annunciation Windows, etc. |
| 4.2 | Testing/commissioning/calibration of Individual components and operation of connected systems shall be demonstrated. |
| 5.0 | GRP & DAVR |
| 5.1 | GENERATOR RELAY & PROTECTION PANEL |
| 5.1.1 | The Protective Relays shall generally be advanced Numerical Relays with Multiple Features. |
| 5.1.2 | OMICRON or equivalent Relay Test Kit with specialists having in-depth knowledge of handling such advanced kits and Protective Relays shall be deployed for the job. |
| 5.1.3 | Testing shall be done as per approved procedure and finally the relays shall be set as per Relay Setting Chart Provided. |
| 5.1.4 | The Panel shall be supplied in sections (shipping sections). Each Shipping Section shall be aligned & coupled and Inter Panel Wiring & Connections shall be done. |
| 5.1.5 | Installation of Desktop PC, Printers, etc with Interconnections among various equipment.systems and installation of furniture are included within the quoted rate. Quoted rate also includes Interconnection among various relays, devices, systems through communication / data cables |
| 5.2 | DIGITAL AUTOMATIC VOLTAGE REGULATOR (DAVR) |
| 5.2.1 | The AVR Consists of Regulation Cubicles, Thyristor Cubicle & Field Suppression Cubicle and will be supplied in Shipping Sections. |
| 5.2.2 | Individual Shipping Sections shall be levelled/aligned, Coupled and Interpanel wiring to be done at site. |
| 5.2.3 | Commissioning of the system shall be done as procedure furnished. Storage type Oscilloscopeshall be used for Pulse Input/Out puts of various channels. |
| 6.0 | PUSH BUTTONS, STARTER, POWER DISTRIBUTION BOXES, MARSHALLING BOXES ETC. |

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| 6.1 | The above items shall require to be mounted on wall / column / floor. |
| 6.2 | For mounting of above items the required structural steel, like ISMC, ISA and Flat shall be supplied by BHEL free of cost. However, Rowl plug and necessary fixing hard-wares is to be supplied by the contractor at his cost and will be deemed to be included in the rate of erection of the item. |
| 6.3 | Checking of components, removal & reinstallation of internal component and re-wining, testing and commissioning shall be under the scope of the contractor. |
| 6.4 | Fabricated Structure to be painted with one coat of Red-oxide & two coats of finished paint. |
| 7.0 | DRY OUT & COMMISSIONING OF HT/LT MOTORS |
| 7.1 | Motors shall be dried out, if required, prior to Commissioning/Trial run of the Motor. Contractor shall arrange Dry out by External Heating, Dry Air Blowing, Space Heaters, etc as required to achieve required IR/PI Value. Record of Insulation Resistance shall be maintained hourly or as directed by Engineer. HT Motors may be dried out by applying Three Phase LT supply through Main Terminals. The air shall be vented out intermittently to purge out moisture. |
| 7.2 | Contractor shall monitor Temperture of Winding through Embeded Temperature Detectors. |
| 7.3 | In case of accidental flooding of winding with water during storage or otherwise, end shields or suitable removable part may be taken out for faster dry out. |
| 7.4 | Cables of suitable size with Switching Gears as required shall be arranged by Contractor. Power supply shall be drawn from nearby sources as directed by Engineer. All connections shall be done proper size lugs, fastners, etc as required. |
| 7.5 | Prior to commissioning/trial run of motors record of IR/PI/AC and other parameters of winding like Resistance (or LCR) shall be taken. Suitable Instruments with due & valid Calibration Certificates shall be used. |
| 7.6 | Contractor shall remove connection of existing cables prior to dryout & measurement of Winding Resistance, etc and restore cable connection after completion of work. |
| 8.0 | FINAL PAINTING |
| | Bidder has to supply & carry out application of one coat of primer and two coats of paint on all structures and parts erected (if required) after removal of dust/dirt. The colour of the paint shall be decided by BHEL engineer. Touch up paint should be applied on panels, J.Bs if required. The contractor shall take prior approval of BHEL/NTPC for the make of the paint to be procured for the same application. |
| 9.0 | ELECTRICAL INSPECTOR'S APPROVAL AND POLLUTION CONTROL BOARD CLEARANCE |
| | The contractor shall arrange to obtain clearance from the Electrical Inspectorate (CEA) and Pollution Control Board and arrange for the Authorities' visit to site, as required. He will also arrange visit of electrical Inspector and obtain his approval for the installation work to be carried out under this scope of work and get the work done by the license holder electricians and supervisors as per local statutory requirement. The statutory fee paid by BHEL. |

PART-B

JOB ERECTION, TESTING, COMMISSIONING OF CONTROL & INSTRUMENTAION SYSTEM OF BOILER, TG AND THEIR AUXILLIARIES ETC. FOR UNIT# 4 AT 4X250 MW NABINAGAR TPP, DEHRI ON SONE, BIHAR.

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| 1.1.0 | BRIEF SCOPE OF WORK. The scope of work under this specification for control & instrumentation work of Station, PADO system (for Unit # 1,2,3 & 4), boiler and auxiliaries, ESP, TG and auxiliaries of Unit#4 and of 4x250 MW sets at NTPC Ltd, at Dehri on sone, Aurangabad, Nabinagar, Bihar will comprise of but not be limited to the following: |
| 1.1.1 | Identification, receipt, transporting to site of installation / calibration, cleaning and preservative painting including supply of preservatives, pre-assembly of equipment wherever required, inspection or checking, erecting the material, adjusting, aligning, welding, fastening, calibration, testing including carrying out the necessary non-destructive testing as may be required, carrying out necessary statutory tests including PG test, providing services for trial operation, commissioning of complete C&I system including all max system & panels, MMI system for TG, SG C&I controls, and balance system/item including system commissioning and handing over of the units. |
| 1.1.2 | As soon as the material is issued to the contractor, all responsibility of proper handling shall be of the contractor and thereafter any loss/damage to the equipment and material due to faulty handling and storage or any other reason attributable to the contractor, shall be made good by the contractor at his own cost. |
| 1.1.3 | The contractor shall check, tally and inspect all material consignment issued to him and shall maintain proper record of the receipt of material received and such reports shall be produced by the contractor to the engineer for verification. |
| 1.1.4 | The contractor shall clean the surfaces of the material/equipment before erection and any preservative coating which has peeled off, shall be applied /painted by the contractor. The paints etc. required for such touch up painting as per the BHEL specification shall be supplied by the contractor at his own cost. |
| 1.1.5 | Any fixture, steel structure, concrete block supports required for temporary supporting for pre-assembly and checking, lifting and handling during pre-assembly and erection shall be arranged by the contractor at his own cost. |
| 1.1.6 | It shall be the contractor's responsibility to check the various equipment foundations for their correctness with respect to level orientation, dimensions etc and ascertained dimensions shall be measured and submitted to BHEL for approval before erection. Also minor chipping or dressing of foundations up to 50mm for obtaining proper face for packer plates/shims, enlarging of the pockets in foundation etc as may be required for the erection of the equipment's/plants will have to be carried out by contractor without extra cost. |
| 1.1.7 | All works, such as cleaning, checking, testing, re-calibration, leveling, blue matching, aligning, assembly, temporary erection for alignment, dismantling of certain equipment for checking/cleaning, surface preparation, fabrication of tubes and pipes and frame support for panels/ JBs etc. at site as per general engineering |

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| | practice, cutting, grinding, straightening, chamfering, filing, chipping, drilling, reaming etc as may be applicable in such work, shall be carried out by the contractor as part of the work. |
| 1.1.8 | It shall be the responsibility of the contractor to provide scaffoldings, temporary platforms, supports, ladder on column (pre-fabricated clamping type only) etc. for initial works till such time stairways are completed. No temporary welding on any structural member is permitted except under special circumstances with the approval of BHEL. |
| 1.1.9 | No member of the structure/platform should be cut without specific approval of BHEL. |
| 1.1.10 | This tender calls for erection, testing and commissioning of complete C&I system including all max system & panels, MMI system for TG, SG C&I controls and balance system/item enumerated in the rate schedule (Vol.- III) as per instruction of BHEL engineer. |
| 1.1.11 | Contractor shall arrange all necessary clamps, fasteners, required for supports of all impulse lines, tube, GI pipes. The rates for these items are to be accommodated in the respective pipes' erection rates. For cable dressing, necessary aluminium strips/flats and fasteners for fixing the above also to be arranged by the contractor. The rates for these items are to be accommodated in cable laying. For installation of panels, stanchion etc., concrete anchor fasteners is to be arranged by the contractor. No separate payment shall be made for supply of this item. |
| 1.1.12 | Fabrication and erection of necessary steel materials for supports and supply of touch up paints and painting of all steel supports, one coat of red oxide primer and two coats of final paints of approved color to be specified by BHEL engineer, is also included in the scope of the work. |
| 1.1.13 | Providing commissioning assistance round the clock as required during commissioning activities, till handing over of the system to the customer. Rate for this assistance should be included in the rate schedule against each item. No separate payment shall be made for commissioning assistance. |
| 1.1.14 | Checking, testing, mounting/fixing in the panel/other equipments all loose supplied items, modules, relays, switches, lamps, push buttons, meters and all other items. |
| 1.1.15 | <u>Major Scope for Assistance for PG test : It is up to the discretion of BHEL to carryout this scope of job.</u> |
| 1.1.15.1 | Receipt & unpacking of instruments, Data loggers, PCs, Printers, Impulse pipes, valves, Fittings, supporting structural items, cables etc from main equipment vendor. |
| 1.1.15.2 | Identification and tagging of all the Pressure Points, RTD & Thermocouple points, Power meter / transducer points etc as per PG procedure list. |
| 1.1.15.3 | Laying, termination & tagging of all the required cables for the PG test. |
| 1.1.15.4 | Installation of all the equipments at the respective tapping points with required Impulse piping and supporting structures & frames. |
| 1.1.15.5 | Loop checking, charging & commissioning of the instruments upto Datalogger & PCs including attending of leakages and minor repair of PG test instruments, if required. |
| 1.1.15.6 | Assistance during preliminary and final PG test with manpower, testing instruments, local measurement and recording of power, level, pressure, temperature, flow and other parameters. |
| 1.1.15.7 | Technical assistance to the Main Equipment E&C vendors for the normalization of the PG test items & equipments. |
| 1.1.15.8 | PG test impulse piping from first root valve and all cabling works including fixing of Instruments are included in the scope. |
| 1.1.15.9 | Impulse lines should be cleaned properly with compressed air before erection and before connecting with Pr. / DP transmitter, line should be blown (steam line with steam and water line with water). |
| 1.1.15.10 | Arranging 240 V AC supply as required for Data Logger, computer, Power meter / transducer and 24 V DC supply as required for Pressure Transmitter Junction Box. |

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| 1.1.15.11 | All the cables for T/C, PRT, Pressure / DP / vacuum transmitters are to be terminated to the data logger Junction box with two ways and four way socket. |
| 1.1.15.12 | Junction boxes to be connected with the Data logger. |
| 1.1.15.13 | Pressure, vacuum and DP transmitters are to be calibrated before installation and certificate to be prepared. During PG test also calibration checks may be carried out. |
| 1.1.15.14 | Watch and ward staff is to be provided round the clock for the period between start of installation and packing back to stores on completion of PG test. |
| 1.1.15.15 | Any other activity required for successful completion of PG test. |
| 1.1.15.16 | Tentative BOQ of items viz. instruments, cables, pipes etc. is given in the Rate schedule as separate head. The same may vary during actual operation. The rate quoted against these items will include all works pertaining to PG test, as enumerated above. |
| 1.1.15.17 | Prior to installation, all instruments are to be bench calibrated and checked for proper operation. |
| 1.1.15.18 | During commissioning, any re-calibration of instrument or checking of cable termination are found necessary, the same shall be done by the contractor.. |
| 1.1.15.19 | No extra payment shall be made for minor chipping required for fixing of racks, panels, supports etc. |
| 1.1.15.20 | All the necessary tools and tackles required for the execution of the work and the instruments, equipment's for calibration purpose will have to be provided by the contractor. |
| 1.1.15.21 | It is the responsibility of the contractor to fabricate and erect canopy for the Instruments/ junction boxes erected outside. Necessary structural materials, GI sheets etc will be provided by BHEL free of cost. Quantity / Weight of the GI sheet will be decided by BHEL site Engineer. Payment for such erection shall be made as per applicable item rate of the rate schedule. Supply of touch up paint and its application on the canopy is included in the scope and no separate payment shall be made for it. |
| 1.1.15.22 | Whether specifically mentioned elsewhere or not, the following will be supplied/carried out by the contractor at no extra cost- <ul style="list-style-type: none"> - Supply and installation of nylon ties for cable clamping, other types of clamps, PVC straps, aluminium straps, interlocking type ferrules, aluminium/stainless steel tags etc. - Materials eg sand/chips etc. for minor civil works. - Fasteners like nuts, bolts, washers, spring washer, anchoring bolts etc. - Drilling of gland plates of equipment/junction boxes/terminal boxes etc. - Rotating of terminal box of the motors. - Enlargement of cable entry holes. - Drilling, cutting, reaming, threading and relocating holes at actual point of entry of cable or conduit in equipment etc. - Cutting standard tray sections and inserting additional tray fittings to match with the existing arrangement, if required. - Routine cleaning of the equipments erected by the contractor at his own cost. |
| 1.2.0 | <u>GUIDELINES FOR HANDLING</u> |
| 1.2.1 | <u>Electronic Cubicles/Sub Assemblies/Loose Items</u> |
| 1.2.1.1 | After receiving at site, the equipment/instrument shall be inspected for damage, if any. In case of damage, details should be noted and reported to the Engineer. |
| 1.2.1.2 | After erection of the equipment/instrument, the packing material should be removed and internals should be checked in presence of BHEL engineer. Silica gel (moisture absorber) placed inside the equipment should not be taken out and periodic inspection of silica gel is necessary. It has to be replaced when de-colorisation takes place. |
| 1.2.1.3 | Verify the availability of modules, plugs, relays etc as per the drawing and shipping list in presence of BHEL engineer. |
| 1.2.1.4 | The keys of the panels should be handed over to BHEL Engineer carefully with |

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| | proper identification tags. |
| 1.2.1 | Solid state module |
| 1.2.1.1 | Electronic modules should only be touched when it is absolutely essential and it should be handled by a qualified person and also earth shield to be used. |
| 1.2.1.2 | The PCB should always be held by the front panel or the module frame and the electronic components should never be touched. |
| 1.2.1.3 | All modules using CMOS components are packed in anti static bags, when transported, to avoid ESD failures |
| 1.2.2 | Cabling work |
| 1.2.2.1 | This Specification covers the activities mentioned below, as applicable to various areas of power station. |
| 1.2.2.2 | Laying of cable trays and accessories generally as per drawing and document and as per the advice of BHEL site engineer. |
| 1.2.2.3 | Laying, dressing, glanding and termination of cables. |
| 1.2.2.4 | Testing and charging of cables. |
| 1.2.2.5 | Supply of miscellaneous items like ferrules, cable tag, nuts, bolts, PVC sleeve welding electrode etc required for it. |
| 1.2.2.6 | All associated work for completion of cabling system. |
| 1.2.2.7 | Site handling and storage of material. |
| 1.2.2.8 | Minor civil works. |
| 1.3.0 | Cabling Conceptual Design |
| 1.3.0.1 | In case of multicore cables of dia upto 30mm where not more than 3 cables are taken in one run, these can be directly along structures, walkways, platforms, galleries walls, etc by proper clamping at regular intervals of 750mm or less |
| 1.3.0.2 | Control cables installed along buildings, structures, ceilings, walls etc which are required to be protected against mechanical damage, shall be taken through GI conduits. |
| 1.3.0.3 | GI conduits shall also be used for flameproof installations, wherever required, with sealing at both ends. Conduits shall be supplied by BHEL free of cost. |
| 1.3.0.4 | Where direct heat radiation from equipment/pipes exists, heat isolating barriers for cabling system shall be adopted. |
| 1.4.0 | Erection of cable trays, supports and accessories |
| 1.4.0.1 | Erection will be done as per the drawing and the instruction of the engineer. |
| 1.4.0.2 | All welded joints shall be smooth enough to provide a good appearance and shall not cause injury to working personal. |
| 1.4.0.3 | Cable trays in the areas exposed to coal dust shall be installed in vertical formation. Wherever, due to layout constraints, it is not possible to install the trays in vertical formation, laying of trays in horizontal formation may be considered with engineer's prior permission. |
| 1.4.0.4 | For equipment's and devices having GI conduit entry arrangement other than standard GI conduit adopter, transition adopter shall be provided for proper termination. Conduits and accessories as specified will be supplied by BHEL free of cost. |
| 1.4.0.5 | The entire GI conduit system shall be firmly fastened in position. All fittings shall generally be secured independently from the GI pipes entering them. |
| 1.4.0.6 | Plica make heat resistance flexible conduits are generally used for heat zone in boiler and turbine for single core cable /tc cable / control cable from field to junction boxes. These conduits are to be laid in the trays or on solid structure for supporting and firmly fitted with instruments and junction boxes. Materials like flexible conduit, adopters etc. will be supplied by BHEL free of cost. |
| 1.5.0 | Welding |
| 1.5.0.1 | All welded connections shall be made by TIG/ electric arc welding as per requirement. All welding work shall be carried out by qualified and experienced welders. |
| 1.5.0.2 | All arc welding shall be carried out as per MU's recommendation and site engineer's instruction. |

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| 1.5.0.3 | All welded joints should be allowed to cool down gradually to atmospheric temperature before putting any load on them. |
| 1.6.0 | Laying of cables |
| 1.6.0.1 | For laying cables along building steel structure and technological structure/concrete wall, ceiling etc., the cables shall be taken by clamping with MS saddles screwed to the MS flats welded to the structure/inserts. |
| 1.6.0.2 | To facilitate pulling of cables in GI conduits, powdered soft stone, plastic soap or other dry inert lubricant should only be used. |
| 1.6.0.3 | Wherever specific cable routes are not shown in cable schedule, cables shall be laid as directed by engineer. |
| 1.7.0 | Cable termination and joining. |
| 1.7.0.1 | In case the equipment are provided with undrilled gland plates for cable/conduit entry, the contractor shall perform all drilling & cutting on the gland plate and any minor modification work required to complete the job at no extra cost. The contractor shall prepare a drawing showing the holes for cable entry in the gland plate and obtain engineer's approval prior to drilling holes. Gas cutting shall not be allowed. In some of the panel wire wrapping connection and soldering connection will be required. Contractor should carry out the same with skilled manpower. |
| 1.7.0.2 | Termination of cables shall be done as per termination drawing & interconnection diagram furnished to contractor. Looping of cores/wires at terminals and, if required, between the panels, is to be done by the contractor at no extra cost. |
| 1.7.0.3 | All unused cable entries in the equipment shall be sealed as per the instructions of the engineer. However, sealing material is to be supplied by the contractor. |
| 1.7.0.4 | Individual cores of control cables shall have ferrules for identification. Ferrule numbers shall be provided as per the control scheme and other related documents supplied by BHEL. |
| 1.7.0.5 | Copper conductor control cables shall be terminated directly into screwed type terminals provided in the equipment. Wherever control cables are to be terminated by means of terminal lugs, the same shall be of tinned copper compression type. BHEL shall supply lugs free of cost (except those as per item no. K.1 of rate schedule). |
| 1.7.0.6 | Cable joint, not more than one in a circuit, shall normally be made at an intermediate point in the straight run of the cable only when the length of the run is more than the standard drum length supplied by manufacturer. In case where jointing is unavoidable the same should be done by means of specified cable jointing kit and junction box should be used for the termination, subject to BHEL site engineers approval. Prior approval of engineer shall be taken for deciding location of joint. |
| 1.7.0.7 | The unit rate of cabling shall also cover all the above activities for cabling including removal and repositioning of gland plate, drilling of gland plate, cable glanding, making plugs & termination at both ends and supply of all items as above. |
| 1.7.0.8 | Cables shall be tagged at both ends at regular intervals of 5.0 mtrs by aluminium tags. |
| 1.8.0 | Inspection |
| | The actual inspection shall be carried out as per the approved field quality plan. |
| 1.9.0 | Testing |
| 1.9.0.1 | Prior to installation, cables shall be tested for following and record to be maintained- <ul style="list-style-type: none"> • Continuity of conductors. • Insulation resistance between conductors & earth. • Insulation resistance between conductors. |
| 1.9.0.2 | After installation cables shall be tested for following and record to be maintained- <ul style="list-style-type: none"> • Insulation resistance between conductors & earth. • Insulation resistance between conductors. |

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| | • Continuity of conductors. |
| 1.9.0.3 | BHEL/ owner may ask for additional tests at site as found necessary to determine that the works comply with the specification, and relevant standards. No extra payment will be made for the same |
| 1.9.0.4 | The contractor shall have to bring all testing equipment & instrument in sufficient numbers to carry out the job simultaneously in more than one area. All instruments shall be calibrated to the satisfaction of engineer before actual testing and tests shall be conducted by qualified & experienced personnel. |
| 1.9.0.5 | All documents/records regarding test data and all other measured values shall be submitted to engineer for approval and subsequent record. All cables shall be energised only after certification from BHEL. The results of all tests shall conform to the specification requirements as well as any specific performance data guaranteed during finalisation of contract. |
| 1.10.0 | Material Reconciliation |
| | The philosophy is 'contract closing activities right from the day one'. Material reconciliation statement signed jointly by the contractor and BHEL is to be generated and submitted to BHEL by the contractor once in every three months, so that handing over is not delayed by even a single day on account of material reconciliation. In event of failure to do so, the contractor shall be entirely responsible for the delay. |
| 1.10.1 | Measurement & return of surplus |
| 1.10.1.1 | For payment purposes measurement shall be made on the basis of the execution drawing/actual physical measurements. Physical measurement shall be made by the contractor in presence of engineer. The measurement for cable laying shall be made on the basis of length actually laid from lug including that of loops provided and will be paid accordingly. |
| 1.10.1.2 | All the surplus, scrap & serviceable cables cut out of the cables quantity issued by BHEL to the contractor etc., shall be returned back in good condition, as directed by Engineer. |
| 1.10.1.3 | Cables of less than 5M length will be termed as scrap. Cables of length 5M and above shall be termed as serviceable material and shall be returned size wise and category wise to the owner's stores/yard. |
| 1.10.1.4 | Cable of serviceable length being returned to the stores shall have their free end sealed and the balance length shall be noted and certified by the engineer for the purpose of accounting. The above forms the part of scope of work. |
| 1.10.1.5 | While carrying out material appropriation with contractor, all the above points will be taken into account. All the serviceable material returned by contractor shall be deducted from the quantities issued for the respective sizes and categories and the balanced quantity(ies) will be taken as the net quantity(ies) issued to contractor. Allowable scrap quantity is calculated as per wastage allowance percentage, as mentioned elsewhere. |
| 1.10.1.6 | Any scrap / wastage generated by contractor in excess of allowable percentage shall be charged at the rates decided by engineer whose decision shall be final and binding on the contractor. |
| 1.10.1.7 | For steel material supplied by contractor, all scrap shall be returned to BHEL's stores with due accounting. |
| 1.10.2 | Cutting And Wastage Allowance |
| 1.10.2.1 | Contractor shall carefully plan cutting schedule of each cable drum in consultation with engineer in order to minimise the wastage at no extra charge. |
| 1.10.2.2 | Cutting and wastage allowance shall be computed on the length of cables and weight of steel actually used, measured and accepted. The permissible value of wastage allowance is as follows- <ul style="list-style-type: none"> - For cables - 5% - For steel and other materials - 1% - Impulse pipe/ Cu, ss tubes - 2% |
| 1.11.0 | As built drawing |
| 1.11.0.1 | After successful completion, testing & commissioning of installation work, |

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| | BHEL/owner's drawings and documents shall be updated in line with the actual work carried out at site and two marked up copies of the same having approval of engineer should be submitted to BHEL by contractor within one month of completion of major activities. |
| 1.12.0 | Scope of work for panel/cubicle/instruments/equipment's/items |
| 1.12.1 | Control panel |
| | These panels shall be of various types like computerised electronic control panel (mAX DNA & PLC), electrical control panel, mechanical instrumentation panel etc. located in control room, field etc. the scope of work shall include but not be limited to the following activities- |
| 1.12.1.1 | Checking of foundation and chipping of floor and Fabrication of base frame. |
| 1.12.1.2 | Installation of base frame & fixing anti vibration pad. |
| 1.12.1.3 | Placement of panels on base frame and panels which are supplied with base frame as integral part, directly on floor. |
| 1.12.1.4 | Leveling, alignment of the panel using Packing plate & shims etc, bolting with base frame/ welding of integrated base frame with floor inserts. The contractor shall arrange packing plate, shims etc at his own cost. In case of welding, following procedures shall be adopted. Two separate cables from the welding set, one cable from the electrode holder and other for earth point of welding, i.e. the point of welding shall have earth connection directly from the welding set through cable and not through plant machinery, columns etc. |
| 1.12.1.5 | Checking, testing, mounting/fixing in the panel all loose supplied items modules, relays, switches, lamps, push buttons, meters and all other items. |
| 1.12.1.6 | Checking and testing of internal wiring/components. |
| 1.12.1.7 | Mounting of microprocessor based amplifier chassis (to be supplied by BHEL-Trichy) in mAXDNA FSSS panel (to be supplied by BHEL-EDN) |
| 1.12.1.8 | Interconnection among panels, engineering control, diagnostic, plant monitoring system, control desk and field equipment/instruments. |
| 1.12.1.9 | Charging the system, checking and testing functional operation, simulation testing and checking signal flow. |
| 1.12.1.10 | Software/hardware setting of parameters, logic etc. |
| 1.12.1.11 | Software programming, erasing, calibration etc. |
| 1.12.1.12 | Commissioning of all auto control loops. |
| 1.12.1.13 | All the welding joints of the structure shall be applied with anti-corrosive primer and paints immediately after welding. The contractor shall arrange primer and paint at his own cost. |
| 1.12.1.14 | The unit rate shall cover all but not limited to above activities including supply of above items & activities for loose supplied items unless otherwise specified elsewhere |
| 1.12.2 | Control desk |
| | The control desk shall be located in the unit control room. The desk will have the control switches, push buttons, receiver/indicators, annunciation windows/facia, CRT monitor, keyboard/mouse, meters, console, lamps, indicators controllers and such other items. The scope of work shall include but not be limited to following activities. |
| 1.12.2.1 | Checking, testing, in the desk all loose supplied items control switches, push buttons, lamps, indicators, meters, console, CRT monitor, keyboard, controllers, receiver, indicator, recorders, annunciation windows, terminal blocks and such other items. Verify the console that 27 pin connectors and pins are available or not. |
| 1.12.2.2 | Inter desk loop wiring, desk wiring between components and terminal block laying wires, making plugs, lugging & terminating. |
| 1.12.2.3 | Checking & testing of functional operation, simulation, signal flow. |
| 1.12.2.4 | Commissioning of all control loops, protection, interlock, indication and annunciation etc with respect to discrete signal, subsystem and total system. |
| 1.12.2.5 | Commissioning of all auto control loops under BHEL's scope. |
| 1.12.2.6 | All the welding joints of the structure shall be applied with anti-corrosive primer and |

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| | paints immediately after welding. The contractor shall arrange primer and paint at their own cost. |
| 1.12.2.7 | The unit rate shall cover all but not limited to above activities including supply of above items & activities for loose supplied items unless otherwise specified elsewhere. |
| 1.12.3 | Impulse pipe/air line/draft line |
| | The scope of work shall include but not be limited to following activities. |
| 1.12.3.1 | All the pipes shall be thoroughly cleaned and foreign particles shall be removed by blowing compressed air or as per BHEL instruction before cutting/laying. |
| 1.12.3.2 | All the steel supports shall be fabricated by cutting & welding of steel angle/channel/section. Supports shall be erected by welding with permanent steel structure/anchored with the concrete/brick wall. Anticorrosive primer and paints shall be applied on all welded joints. The contractor shall arrange primer and paints at their own cost. |
| 1.12.3.3 | Based on routing, pipe is to be cut to required length by hack saw, cold bent using proper bending machine. |
| 1.12.3.4 | Pipe with all associated fitting shall be laid, held firmly with GI clamps keeping flexibility, proper slopes and ensuring adequacy of support and aesthetic look. Anticorrosive primer and paint shall be applied to the welding joints and the paint will be procured by contractor at his own cost. |
| 1.12.3.5 | Pipe shall be jointed with pipe, tapping point, root valve, socket, reducer, tee, union, elbow, syphon, manifold, isolation valve and such other items by welding/threading. For welding, the nature of welding such as TIG, arc etc. shall be decided by BHEL and binding on contractor. Depending on the nature of welding, contractor shall arrange welding sets, including welding transformer, generators, rectifier, holder etc and consumables including required electrodes, gases, filler wire etc at their own cost. Immediately after welding, anti corrosive primer and paints shall be applied on the welding joints. For threading, thread cutting shall be done by pipe threading die. In all threaded joints, thread sealing compounds and teflon tape should be used. Contractor shall arrange thread sealing compounds and teflon tape at their own cost. |
| 1.12.3.6 | Pipes shall be tagged at both ends at regular intervals by aluminium tags which will be supplied by the contractor within the scope of work. |
| 1.12.3.7 | Pipe shall be hydraulic tested/pneumatically tested and leak shall be arrested. Pipe shall be connected at both tapping point and instrument end with required copper washer. The contractor shall supply copper washer at their own cost. |
| 1.12.3.8 | Before charging the instruments, connection shall be removed from the instrument end, flushed for clearing, connection restored and then commissioning shall be done. |
| 1.12.3.9 | Measurement shall be made on the basis of length actually laid from tapping point to instrument/instrument rack. |
| 1.12.3.10 | Cutting schedule shall be carefully planned such that wastage is minimised. |
| 1.12.3.11 | Permissible wastage allowance shall be +/- 2%. |
| 1.12.3.12 | All necessary hardware & consumables/fasteners as stated elsewhere, shall be supplied by the contractor at their own cost. The unit rate shall cover all but not limited to above activities including supply of above items and loose supplied items unless otherwise specified elsewhere. |
| 1.12.4 | Copper tube/SS tube |
| | The scope of work shall include but not be limited to following activities: |
| 1.12.4.1 | All tubes shall be thoroughly cleaned and foreign particles shall be removed by blowing compressed air . |
| 1.12.4.2 | All the steel supports shall be fabricated by cutting & welding of steel angle/channel/section. Supports shall be erected by welding with permanent steel structure/anchored with the concrete/brick wall. Anticorrosive primer and paints shall be applied on all welded joints. The contractor shall arrange primer and paints at his own cost. |
| 1.12.4.3 | Tray shall be fabricated by cutting using hack saw, making bend as per layout. |

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| | Tray shall be laid over steel support, bolted/welded. |
| 1.12.4.4 | Tube shall be cut to required length by hacksaw or tube cutting machine & bent by bending machine, laid over the tray/steel support keeping uniform spacing, held by aluminium clamp. Tube shall be joined with other tubes, brass/steel connectors, reducer, tee, elbow, straight connector, bulk head connector, needle valve, root valve, instrument/equipment. |
| 1.12.4.5 | All the joints shall be ferrule connection/brazing/welding/flaring. At all the threaded joints, teflon tape shall be used. The contractor shall arrange all equipments/consumables required for these operation at his own cost. |
| 1.12.4.6 | Before charging the instruments, connection shall be removed from the instrument end, flushed for cleaning, connection restored and then commissioning shall be done. |
| 1.12.4.7 | Measurement shall be made on the basis of length actually laid from tapping point to instrument/instrument rack. |
| 1.12.4.8 | Cutting schedule shall be carefully planned such that wastage is minimised i.e. within the permissible range + -2%. |
| 1.12.4.9 | All necessary hardware & consumables/fasteners as stated elsewhere, shall be supplied by the contractor at their own cost. The unit rate shall cover all but not limited to above activities including supply of above items and loose supplied items unless otherwise specified elsewhere. |
| 1.12.5 | Instrument |
| | The instrument shall be located in field/unit control desk/panel/rack/gauge board/skid. The scope of work shall include but not be limited to following activities- |
| 1.12.5.1 | Fabrication of steel frame/pedestal as necessary, cutting and welding of steel channel, angle, flat section. The frame/pedestal shall be erected with permanent steel structure by welding, anchored with concrete/brick wall. Anticorrosive primer and paint shall be applied at the welded joint and the same shall be arranged by the contractor at his own cost. Instrument shall be erected on this frame/pedestal, control panel. |
| 1.12.5.2 | Physical verification, checking/testing of functional operation, calibration /re-calibration, setting /resetting shall be done before erection. Replacement of defective components, rewiring etc should be done. |
| 1.12.5.3 | All accessories like thermowell, isolation valve and other fittings shall be erected by welding/screwing. |
| 1.12.5.4 | For instruments with capillary, capillary shall be properly laid with uniform spacing in a bunch of capillaries, clamped using proper clamp, tagged at both ends and at regular interval. Aluminium tag shall be used at the instrument end for identification. Immediately after welding, anticorrosive primer and paint shall be applied at welded joints. The contractor shall arrange above tags and primer & paint at his own cost. |
| 1.12.5.5 | Charging the instrument, after flushing the connected pipe, shall be done with due care as per procedure. |
| 1.12.5.6 | Checking/ testing of functional operation locally, adjustment and local commissioning. |
| 1.12.5.7 | Checking/testing and commissioning of operation with interlock protection, indication and loop control. |
| 1.12.5.8 | Commissioning with auto control loop. |
| 1.12.5.9 | Fabrication of canopy by cutting and welding of steel plate/section. Erection of canopy over the instrument frame/pedestal/installation. All necessary hardware & consumables / fasteners as stated elsewhere including bolts, nuts, screws, insulation tape, primer, paints shall be supplied by the contractor at their own cost. BHEL will supply GI / Aluminium sheets and structural materials for the same free of cost. Payment for this will be made as per applicable item rate of the rate schedule. |
| 1.12.5.10 | The unit rate shall cover all (except item at 1.12.5.9 above), but not limited to above activities including supply of above items and supply of loose items unless |

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| | otherwise specified elsewhere. |
| 1.12.5.11 | Lab. Instruments: Assistance in setting up, Installation and commissioning. Minor structural work, if required to support Instrument is included in the scope. Arrangement of Power supply and Air supply for Test Bench from termination point is also included in the scope. |
| 1.12.6 | Junction box and transmitter rack |
| | The scope of work shall include but not be limited to following activities: |
| 1.12.6.1 | Fabrication of steel frame/pedestal/base frame by cutting and welding of steel channel, angle, flat, section. The frame/pedestal/base frame shall be erected with permanent steel structure by welding/anchored with concrete/brick wall. Anticorrosive primer and paints shall be applied at the welded joints, and the same shall be supplied by the contractor at his own cost. Some of the JBs may require canopy. In that case clause no. 1.12.5.9 will be applicable. |
| 1.12.6.2 | Physical verification, checking of terminal block/internal tubing, replacement of terminal block of JB and tubing of TR if required. |
| 1.12.6.3 | Placement, leveling and alignment of JB and TR. |
| 1.12.6.4 | Numbering of JB & TR by paints. Paint shall be arranged by the contractor at his own cost. |
| 1.12.6.5 | Fixing the numbering/tag plate. |
| 1.12.6.6 | All necessary hardwares & consumables/fasteners, as stated elsewhere, shall be supplied by the contractor at his own cost. |
| 1.12.7 | Plant monitoring system (MMI) and PADO system (1 set for Unit- 1 & 2 and 1 set for Unit – 3 & 4) |
| | The scope of work shall include but not be limited to the following activities: |
| 1.12.7.1 | Checking of foundation and chipping of floor. |
| 1.12.7.2 | Fabrication and erection of base frame by cutting and welding of steel channel/section, welding and grouting base frame. |
| 1.12.7.3 | Placement, leveling & alignment of power supply/computer cabinet. |
| 1.12.7.4 | Placement of desktop peripherals e.g. keyboard, monitors, printers, mouse, modem. |
| 1.12.7.5 | Fixing and installation of monitors. |
| 1.12.7.6 | Installation of Hub power supply unit. |
| 1.12.7.7 | Laying, termination of interconnecting cables of miscellaneous & special type. |
| 1.12.7.8 | Installation of inter plant bus access coupler module. |
| 1.12.7.9 | Checking, testing, pre-commissioning. |
| 1.12.7.10 | Initialisation, programming and commissioning. |
| 1.12.7.11 | Commissioning of the total system. |
| 1.12.7.12 | All the necessary hardwares & consumables/fasteners as stated elsewhere shall be supplied by the contractor at his own cost. The unit rate shall cover all but not be limited to above activities. |
| 1.13.0 | Pneumatic drives (valve, damper, gate etc.) |
| 1.13.0.1 | Cable checking. Limit switch settings, minor repair of cu -tube etc. |
| 1.13.0.2 | MCC checking. |
| 1.13.0.3 | Commissioning assistance for all valves. |
| 1.14.0 | Commissioning of equipments erected by other agencies. Contractor shall have to commission equipments or system erected by other agencies. |
| 1.15.0 | FINAL PAINTING |
| | Final painting is excluded from the scope, except where specifically mentioned. Only Touch up painting, as required, is in the scope of contract. Supply of touch up paint (both primer and final Paints) is under the scope of work of vendor. However, Paint has to be as per BHEL's specification. ***** |

TENDER NO: PSER:SCT:NBN-E1965:19

VOLUME -III

PRICE SCHEDULE-REV-00

FOR

Handling at site/ storage yard, transportation to site of work, pre-assembly, erection, testing, commissioning and handing over of Electrical & C&I system for Boiler, ESP, TG sets for Unit-IV of 4x250 MW BRBCL, Nabinagar Project, Bihar

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVT. OF INDIA UNDERTAKING)

POWER SECTOR – EASTERN REGION

PLOT NO. – 9 / 1, DJ – BLOCK,

SECTOR – II, KARUNAMOYEE,

SALT LAKE CITY,

KOLKATA – 700091.

**VOLUME-III
PRICE SCHEDULE, REV-00**

JOB: HANDLING AT SITE/ STORAGE YARD, TRANSPORTATION TO SITE OF WORK, PRE-ASSEMBLY, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF ELECTRICAL & C&I SYSTEM OF BOILER, ESP,TG SETS FOR UNIT-4 OF 4X250 MW NABINAGAR TPP, BIHAR

TENDER DOCUMENT NO - PSER:SCT:NBN-E1965:19

PREAMBLE

| SL NO | DESCRIPTION |
|-------|---|
| 1.0 | This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully before filling in rates for various items. Clauses under this preamble shall be read in conjunction with various volumes of tender and other tender sections as applicable and shall have precedence over any contrary statement mentioned any where in this document. |
| 2.0 | The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions. Drawings enclosed with the tender are only preliminary and for guidance/tender purposes giving some idea of the work involved. The work is to be executed as per terms & conditions of the tender and actual drawings/documents, which shall be furnished during execution. |
| 3.0 | Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer. |
| 4.0 | Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc. equipment, strengthening of roads/culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies, transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the complete tender document and this schedule. |
| 5.0 | The quantities of the various items mentioned in this schedule of items are approximate, based on very preliminary information and may vary to any extent or be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of work executed under any part of this contract including extra items, if any but excluding any price variation remains, within fifteen percent ($\pm 15\%$) of the awarded price as per LOI. Variation of $\pm 15\%$ shall be applied separately on part-A & part-B of contract. |
| 6.0 | Prior written approval of BHEL shall be sought by the contractor in case quantity variation of any item crosses +50% (plus fifty percent) limit during execution and approval to be obtained before execution of further quantity for this item. |
| 7.0 | In case Sealed /Paper Price Bids are opened for finalisation of the tender, for any Item Rate/BOQ based service contract, possibility of variation of quantity/ addition/deletion of items can not be ruled out. Under such circumstances, after execution of work, if it is observed that standing as L-1 is changed based on actual quantity executed, the bidder shall give suitable rebate to maintain your standing as L-1. Since this aspect can be assessed at the end of execution, necessary adjustment will be effected at the end of execution in final bill. This condition shall not be applicable where the tender is finalised through Reverse Auction. |
| 8.0 | BHEL reserve the right to rationalize the rates, quoted by L-1 bidder against unit rate items and/ or other optional items with respect to item-wise lowest rates (amongst the participating bidders), before placement of order. The rates of unit rate/optional items shall remain valid till execution of the order, if the job/work is awarded to the bidder. |
| 9.0 | The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing, clearing of old structures and leveling etc. including fixing of grid pillars, benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same. However, if separate rate for such item is available in the rate schedule, the same shall be considered. |
| 10.0 | Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language. |
| 11.0 | All works item wise shall be measured upon completion and paid for at the rates quoted and accepted as per BHEL approved payment schedule/billing break-up. |
| 12.0 | The tenderer shall be deemed to have visited site and made himself aware of all the site conditions, studied the specifications and details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site before submission of his bid/offer. No claim whatsoever due to lack of knowledge of site conditions shall be entertained after award of the work. |
| 13.0 | No splitting of the job is envisaged unless the same is specifically indicated in the TCC/Vol-1F. Decision of BHEL in this regard shall be final and binding to the bidders. |

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| 14.0 | Bidders are not allowed to alter the Price Schedule format including item description, quantity etc. and the offer is liable for rejection if the bidders submit their prices in Price Schedules modified by them. BHEL reserves the right to reject the offers of bidders who submit offers in Price Formats which are modified/ altered by them. Also putting any comments instead of rates/price in the designated column of the rate schedule shall make the offer liable for rejection. |
| 15.0 | Bidders to note that for Civil &/Structural packages, against a particular item against a ST No. appearing in more than one schedule of the BOQ, same rate must be quoted in all schedules for that particular items with same descriptions. If by error, different rates are quoted in different schedules for same ST No. (i.e. item with same description), then the higher of the rates shall be considered for evaluation but awarding shall be done with the lower rate, if the bidder becomes L-1. The same modality shall be applicable for other item rate service contracts where item with same description is repeated in different schedules. |
| 16.0 | For Lumpsum Service Contract : The items/components indicated in the tender is indicative and may vary to any extent. No compensation shall be payable in case of any variation in the items/components listed in the bill of quantities if the executed weight remains within the variation limit. However, in case of deletion of any item or addition of new items over and above the items listed or variation of existing quantity beyond variation limit specified, adjustment (i.e. Payment or recovery as the case may be) shall be done on pro-rata basis based on the Rate per MT worked out from the quoted lump-sum Price and the total weight of components listed /indicated in price schedule plus 15% weight variation limit. |
| 17.0 | Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract. |
| 18.0 | In case of tender for Civil and/or Structural works, if the Non-schedule items are not quoted by the bidder, it will be treated at par with rate of corresponding item of CPWD/PWD/DSR schedule as prescribed in the tender/BOQ cum Rate Schedule. PVC/escalation is not payable for these Non-scheduled items. |
| 19.0 | No interest, whatsoever, shall be payable by BHEL on the security deposit, any bank guarantee submitted or any amount due to successful bidder/contractor. No idling charge whatsoever (either for labour or any other resources) is payable by BHEL for any reason whatsoever. |
| 20.0 | Size and weights of various items are mentioned in the attached BOQ cum rate/price schedule for reference purpose only & these shall not be taken into consideration for quoting/calculating amount in the rate schedule. These shall be utilised as per relevant sections of tender. Bidders shall quote for each item in the rate column, taking unit as mentioned in the quantity column. Rates shall be filled in both figures and words. Amount shall be calculated based upon these rates multiplied by the mentioned quantity for the respective items. |
| 21.0 | Bidder's Total price shall be considered for evaluation unless stated otherwise. |
| 22.0 | In case of BOP packages, if Bidder does not quote/indicate the price for freight charges against indicated rate schedule, the same shall be considered as 2% of basic price and adjusted with the total quoted price against each item keeping the total quoted price unaltered. |

**VOLUME-III
PRICE SCHEDULE, REV-0**

JOB: HANDLING AT SITE/ STORAGE YARD, TRANSPORTATION TO SITE OF WORK, PRE-ASSEMBLY, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF ELECTRICAL & C&I SYSTEM OF BOILER, ESP, TG SETS FOR UNIT-4 OF 4X250 MW NABINAGAR TPP, BIHAR

TENDER DOCUMENT NO - PSER:SCT:NBN-E1965:19

SCH-1 : TOTAL PRICE

| SL NO | DESCRIPTION | PRICE SCHEDULE REF | TOTAL PRICE (IN INR) |
|-------------|---|---------------------------------|--|
| 1.0 | HANDLING AT SITE/ STORAGE YARD, TRANSPORTATION TO SITE OF WORK, PRE-ASSEMBLY, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF ELECTRICAL (PART-A) & C&I (PART - B) SYSTEM OF BOILER, ESP, TG SETS FOR UNIT-4 OF 4X250 MW NABINAGAR TPP, BIHAR | TOTAL PRICE OF SCH 2 - BREAK UP | <u>IN FIGURES:-</u> <u>IN WORDS:-</u> |
| NOTE | | | |
| 1.0 | Bidder shall quote total price for total price of SCH-1- Part only at SI No. 1 above. All other amounts / rates of each item of works in respective schedules / parts will be derived based on allocated percentages. As such, any uncalled figure/ amount noted at any other place / schedule of Volume-III will not be reckoned & will stand null & void. | | |
| 2.0 | Bidder to note that total price at SI No. 1 above shall be considered for evaluation & awarding. As such grand total price should be complete in all respect for the full scope defined and considering all terms and conditions. | | |
| 3.0 | Bidder's quoted total price at SI. No 1 above, respectively shall be apportioned into amount of various items of works based on allocated percentages against respective item, in respective schedules / parts. (SCH-2, SCH-3 & SCH-4) .As such, bidder shall not indicate / quote any amount / rate in these schedules / parts and any amount / rate quoted against any item shall not be taken into cognizance / account and offer may be liable for rejection. | | |
| 4.0 | Based on the itemwise percentage allocations, the amount for the individual items of the Bill of Quantity shall be arrived at. The rates of individual items shall be derived from the amount against each items after rounded off . | | |
| 5.0 | Bidders to note that this is an item rate contract. Payment shall be made for the actual quantities of work executed at the unit rate arrived at as per SI No.4 above. | | |
| 6.0 | Based on the itemwise percentage allocations, the amount for the individual items of the Bill of Quantity shall be arrived at. The rates of individual items shall be derived from the amount against each items and its quantity after rounding off to upto 9 decimal places. However, RA bill payment shall be done after rounding off the gross amount to two decimal points. Any adjustment, if required, due to such methodology, will be effected / adjusted in final bill. | | |
| 7.0 | Any item as per scope of work, if not included in the price quoted above and shown separately will not be taken cognizance of and the offer shall be liable for rejection. | | |
| 8.0 | Price format shall not be changed by bidder in any case and it may lead to cancellation of their offer. | | |

**VOLUME-III
PRICE SCHEDULE, REV-0**

JOB: HANDLING AT SITE/ STORAGE YARD, TRANSPORTATION TO SITE OF WORK, PRE-ASSEMBLY, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF ELECTRICAL & C&I FOR BOILER, ESP, TG SETS FOR UNIT-4 OF 4X250 MW NABINAGAR TPP, BIHAR

TENDER DOCUMENT NO - PSER:SCT:NBN-E1965:19

SCH 2 - TOTAL PRICE BREAK UP

| SL NO | ITEM/SCHEDULE | WEIGHTAGE |
|--------------|--|-------------------|
| 1 | RATE SCHEDULE, PART-A - ELECTRICAL HANDLING AT SITE/ STORAGE YARD, TRANSPORTATION TO SITE OF WORK, PRE-ASSEMBLY, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF ELECTRICAL FOR BOILER & TG SETS FOR UNIT-4 OF 4X250 MW NABINAGAR TPP, BIHAR | 0.31918120 |
| 2 | RATE SCHEDULE, PART-B - C&I HANDLING AT SITE/ STORAGE YARD, TRANSPORTATION TO SITE OF WORK, PRE-ASSEMBLY, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF CONTROL & INSTRUMENTATION OF BOILER & TG SETS FOR UNIT-4 OF 4X250 MW NABINAGAR TPP, BIHAR | 0.68081880 |
| | GRAND TOTAL (PART-A + PART-B) | 1.00000000 |

| VOLUME-III PRICE SCHEDULE, REV-0 | | | | |
|---|--|------------------|-------------|------------------|
| JOB: HANDLING AT SITE/ STORAGE YARD, TRANSPORTATION TO SITE OF WORK, PRE-ASSEMBLY, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF ELECTRICAL & C&I FOR BOILER, ESP,TG SETS FOR UNIT-4 OF 4X250 MW NABINAGAR TPP, BIHAR | | | | |
| TENDER DOCUMENT NO - PSER:SCT:NBN-E1965:19 | | | | |
| SCH-3 PART-A ELECTRICAL PRICE BREAK UP | | | | |
| SL NO | EQUIPMENT DESCRIPTION | TOTAL QTY | UNIT | WEIGHTAGE |
| 1.0 | HVR TRANSFORMERS 95 KV, 1200mA (ERECTION EXCLUDED) | | | |
| 1.1 | TESTING & COMMISSIONING OF HV RECTIFIER TRANSFORMER FOR ESP INCLUDING DISCONNECTING SWITCH | 36 | NOS | 0.01692508 |
| 1.2 | DRY OUT / OIL FILTRATION OF HV RECTIFIER TRANSFORMER FOR ESP | 36 | NOS | 0.01353779 |
| 2.0 | ERECTION , TESTING & COMMISSIONING OF AUXILIARY CONTROL PANEL (ACP) (DOUBLE FRONT, DRAW OUT TYPE) (12000x1700x2400 mm, approx. wt. of each panel 4.2 MT and supplied in loose shipping section). | 4 | NOS | 0.00813365 |
| 3.0 | ERECTION , TESTING & COMMISSIONING OF ELECTRONIC CONTROL PANEL (ECP) (700x650x2000 mm, approx. wt. of each panel 0.3 MT) | 36 | NOS | 0.01096919 |
| 4.0 | ERECTION , TESTING & COMMISSIONING OF RAPPER CONTROL PANEL (1000x650x2000 mm, approx. wt. of each panel 0.3 MT) | 4 | NOS | 0.00228530 |
| 5.0 | ERECTION , TESTING & COMMISSIONING OF STATCON PANEL (1000x650x2000 mm, approx. wt. of each panel 0.3 MT) | 2 | NOS | 0.00114164 |
| 6.0 | ERECTION , TESTING & COMMISSIONING OF IOS PANEL (1000 L x 500 W x 2050 H), 200 kg | 1 | NO | 0.00057092 |
| 7.0 | FIXING OF BAPCON CONTROLLER IN EC PANEL (280 L x 210 D x 210 H), 5kg | 36 | NOS | 0.00224691 |
| 8.0 | FIXING OF RAPCON CONTROLLER IN EC PANEL (280 L x 210 D x 210 H), 5kg | 8 | NOS | 0.00049931 |
| 9.0 | FIXING OF STATCON CONTROLLER IN EC PANEL (280 L x 210 D x 210 H), 5kg | 2 | NOS | 0.00012483 |
| 10.0 | TESTING & COMMISSIONING OF HEATING ELEMENTS FOR HOPPER (PANEL TYPE) | 1728 | NOS | 0.01468701 |
| 11.0 | TESTING & COMMISSIONING OF THERMOSTAT FOR HOPPER (750 L x 100 D x 100 H) | 72 | NOS | 0.00135493 |
| 12.0 | TESTING & COMMISSIONING OF HEATING ELEMENTS FOR SHAFT INSULATOR HEATERS | 36 | NOS | 0.00045955 |
| 13.0 | TESTING & COMMISSIONING OF HEATING ELEMENTS FOR SUPPORT INSULATOR HEATER | 144 | NOS | 0.00183822 |
| 14.0 | LOCAL START STOP PUSH BUTTON FOR RAPPING MOTOR (180 L x 100 D x 250 H),5 kg | 80 | NOS | 0.00304353 |
| 15.0 | ERECTION , TESTING & COMMISSIONING OF SOOT BLOWER MCC | 1 | NO | 0.00380883 |
| 16.0 | MOTORS (TESTING,COMMISSIONING & DRYOUT) | | | |
| 16.1 | TESTING AND COMMISSIONING OF HT MOTORS (DRYOUT IS EXCLUDED) | 18 | NOS | 0.00308244 |
| 16.2 | DRYOUT OF HT MOTORS | 10 | NOS | 0.00171247 |
| 16.3 | TESTING AND COMMISSIONING OF LT MOTORS (DRYOUT IS EXCLUDED) | | | |
| 16.3.1 | LT MOTORS UPTO 5 KW RATING | 60 | NO | 0.00342493 |
| 16.3.2 | LT MOTORS MORE THAN 5 KW AND UPTO 50 KW RATING | 40 | NO | 0.00313640 |
| 16.3.3 | LT MOTORS ABOVE 50 KW RATING | 40 | NO | 0.00313640 |

| VOLUME-III PRICE SCHEDULE, REV-0 | | | | |
|---|--|-------|-----|------------|
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| TENDER DOCUMENT NO - PSER:SCT:NBN-E1965:19 | | | | |
| SCH-3 PART-A ELECTRICAL PRICE BREAK UP | | | | |
| 16.4 | DRYOUT OF LT MOTORS | | | |
| 16.4.1 | LT MOTORS UPTO 5 KW RATING | 30 | NO | 0.00112909 |
| 16.4.2 | LT MOTORS MORE THAN 5 KW AND UPTO 50 KW RATING | 20 | NO | 0.00112910 |
| 16.4.3 | LT MOTORS ABOVE 50 KW RATING | 20 | NO | 0.00156820 |
| 17.0 | JUNCTION BOX | | | |
| 17.1 | FIXING OF JUNCTION BOX FOR HOPPER HEATERS (600 L x 278 D x 515 H),15 Kg | 72 | NOS | 0.00450511 |
| 17.2 | FIXING OF JUNCTION BOX FOR SUPPORT INSULATOR HEATERS VAR.06 (450 L x 150 D x 300 H),15Kg | 8 | NOS | 0.00045164 |
| 17.3 | FIXING OF JUNCTION BOX FOR SHAFT INSULATOR HEATERS – VAR.01 (450 L x 150 D x 300 H),15 Kg. | 4 | NOS | 0.00022582 |
| 17.4 | FIXING OF JUNCTION BOX FOR START STOP PB (250 L x 150 D x 400 H), 12 Kg | 8 | NOS | 0.00024338 |
| 17.5 | FIXING OF JUNCTION BOX FOR ALI – HIGH & LOW (250 L x 150 D x 400 H), 12 Kg | 32 | NOS | 0.00097352 |
| 17.6 | FIXING OF JUNCTION BOX FOR OPACITY MONITOR (250 L x 150 D x 400 H), 12 Kg | 4 | NOS | 0.00012169 |
| 17.7 | FIXING OF JUNCTION BOX FOR HOPPER HEATER FEEDBACK | 8 | NOS | 0.00018191 |
| 17.8 | FIXING OF 12 WAY FRP JB FOR ID FAN | 3 | NOS | 0.00006822 |
| 18.0 | LT POWER CABLES LAYING & TERMINATION TO THE RESPECTIVE EQPT. | | | |
| 18.1 | 2C-120 SQ.MM AL | 15000 | MTR | 0.01067862 |
| 18.2 | 3C-120 SQ.MM AL CABLE | 500 | MTR | 0.00040765 |
| 18.3 | 3C-25 SQ.MM AL | 10000 | MTR | 0.00598899 |
| 18.4 | 2C-2.5 SQ.MM CU | 2500 | MTR | 0.00125476 |
| 18.5 | 3C-2.5 SQ.MM CU | 10000 | MTR | 0.00501904 |
| 18.6 | 3C-16 SQ.MM unarmoured FRLS power cable | 2500 | MTR | 0.00141146 |
| 18.7 | 3C-6 SQ.MM, 1100V, STRAN, ABC, Unarmoured | 800 | MTR | 0.00050181 |
| 18.8 | 1C-630 SQ.MM, AL, PVC, FRLS, XLPE, Unarmoured | 1000 | MTR | 0.00108205 |
| 18.9 | 1C-120 SQ.MM, AL, PVC, FRLS, Unarmoured | 5000 | MTR | 0.00298077 |
| 18.10 | 1C-35 SQ.MM, AL, PVC, FRLS, Unarmoured | 5000 | MTR | 0.00219612 |
| 18.11 | 2C-70SQ.MM AL | 6000 | MTR | 0.01476614 |
| 18.12 | 2C-35 SQ.MM AL | 700 | MTR | 0.00037727 |
| 18.13 | 3C-50SQ.MM CU | 500 | MTR | 0.00082675 |
| 18.14 | 3C-70SQ.MM AL | 1000 | MTR | 0.00079426 |
| 19.0 | LT CONTROL CABLES LAYING & TERMINATION TO THE RESPECTIVE EQPT. | | | |
| 19.1 | 12C-1.5 MM ² CU | 12000 | MTR | 0.00689032 |
| 19.2 | 3C-1.5 SQ.MM CU | 12000 | MTR | 0.00602285 |
| 19.3 | 2C-1.5 MM ² CU | 12000 | MTR | 0.00395301 |
| 19.4 | 14C-1.5 MM ² CU | 5000 | MTR | 0.00282293 |
| 19.5 | LT SCREENED COPPER UNARMoured CABLE, 4C-1.5 MM ² | 17500 | MTR | 0.00878332 |
| 19.6 | 10Cx1.5 MM2 CU | 1800 | MTR | 0.00100884 |
| 20.0 | STRUCTURAL ITEM | | | |
| 20.1 | ISA 50 X 50 X 6 | 350 | MTR | 0.00078706 |
| 20.2 | ISMC 75 X 40 | 1020 | MTR | 0.00380713 |
| 20.3 | ISMC 200 | 70 | MTR | 0.00072451 |
| 20.4 | GI FLAT 50X6 | 1600 | MTR | 0.00300575 |
| 20.5 | GI FLAT 30X5 | 2000 | MTR | 0.00332437 |
| 20.6 | GI WIRE 8 SWG | 1000 | KG | 0.00172487 |
| 21.0 | CABLE TRAYS & EARTHING MATERIALS | | | |
| 21.1 | HOT DIP GALVANISED CABLE TRAY COMPLETE WITH COUPLER PLATES, FASTENERS, CLAMPS AND FIXING HARDWARE (LADDER TYPE) (INCLUDING FABRICATION OF IRREGULAR TRAY & ACCESSORIES TO SUIT LAYOUT AS REQUIRED) | | | |
| 21.1.1 | 450 MM WIDE LADDER TYPE | 1400 | MTR | 0.00746478 |
| 21.1.2 | 150 MM WIDE LADDER TYPE | 2500 | MTR | 0.00854655 |

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| SCH-3 PART-A ELECTRICAL PRICE BREAK UP | | | | |
| 21.2 | HOT DIP GALVANISED CABLE TRAY COMPLETE WITH COUPLER PLATES, FASTENERS, CLAMPS AND FIXING HARDWARE (PERFORATED TYPE) (INCLUDING FABRICATION OF IRREGULAR TRAY & ACCESSORIES TO SUIT LAYOUT AS REQUIRED) | | | |
| 21.2.1 | 150 MM WIDE PERFORATED TYPE | 525 | MTR | 0.00177820 |
| 21.3 | CABLE TRAY SUPPORT MATERIAL (INCLUDING FABRICATION OF BASE FRAMES OF SWITCHGEARS, LCP, LPB, STARTERS ETC.) | | | |
| 21.3.1 | STRUCTURAL STEEL (ANGLE/CHANNEL/PLATES) | 10 | MT | 0.00439094 |
| 21.3.2 | CONDUITS OR PIPES(DIA SIZE 1/2" TO 3") | 7200 | Mtr | 0.02483808 |
| 21.4 | EQUIPMENT EARTHING MATERIAL | | | |
| 21.4.1 | GL FLATS.OF VARIOUS SIZES | 5 | MT | 0.00219547 |
| 21.5.2 | GI WIRE 8 SWG /14SWG/3.15MM WIRE DIA | 6020 | MTR | 0.00226403 |
| 22.0 | COMMISSIONING OF ELECTRIC HOIST | 20 | NOS | 0.00094092 |
| 23.0 | COMMISSIONING OF MOTOR OPERATED VALVES | 325 | NOS | 0.01987686 |
| 24.0 | COMMISSIONING OF LRSB AND WALL DESLAGGER | 76 | NOS | 0.00464813 |
| 25.0 | ERECTION AND COMMISSIONING OF DC STARTER PANEL & RESISTANCE BOX (EOP , JOP , SOP) | 3 | NOS | 0.00091269 |
| 26.0 | ONLY COMMISSIONING RATE TO BE QUOTED FOR FOLLOWING ITEMS. | | | |
| 26.1 | THERMOSTAT FOR HOPPER (350X100X100) | 72 | NOS | 0.00219043 |
| 26.2 | THERMOSTAT FOR SUPPORT INSULATOR (35X100X100) | 4 | NOS | 0.00012169 |
| 26.3 | GEARED MOTOR FOR COLLECTING ELECTRODE RAPPING 0.25 KW,1.1RPM | 36 | NOS | 0.00205496 |
| 26.4 | GEARED MOTOR FOR GD SCREEN RAPPING MOTOR 0.25KW, 1.1RPM | 4 | NOS | 0.00030109 |
| 26.5 | GEARED MOTOR FOR EMITTING ELECTRODE RAPPING MOTOR 0.25KW, 2.5 RPM | 36 | NOS | 0.00203463 |
| 26.6 | DISCONNECTING SWITCH (1200X1100X750) | 36 | NOS | 0.00205496 |
| 26.7 | COMMISSIONING OF ELECTRICAL SYSTEM OF CENTRIFUGE UNIT | 1 | NOS | 0.00007841 |
| 27.0 | VFD Panels (Erection, alignment & commissioning) | | | |
| 27.1 | LOAD COMMUTATED INVERTER (LCI) ChannelS for ID fans (3679x2420x1450 mm/ 3000 Kg) | 4 | No | 0.00837917 |
| 27.2 | Adapter Panel (577x1450x2330 mm / 200 Kg) | 4 | No | 0.00181910 |
| 27.3 | Common Control Panel (800x1450x2330 mm/1350 Kg) | 2 | No | 0.00112910 |
| 27.4 | Vaccum Circuit Breaker (2355x1640x2300 mm/ 1350 Kg) | 4 | No | 0.00225820 |
| 27.5 | O&M Panel (600x600x1050 mm/100 Kg) | 1 | No | 0.00043909 |
| 27.6 | Air core DC reactor with flexible coupling (2250x1975x2350/1750 Kg) | 4 | set | 0.00342493 |
| 28.0 | VFD Transformers | | | |
| 28.1 | Erection, Transformer oil filtration (as required), Testing and Commissioning of ONAN type transformer for VFD system (2725x3700x300 mm approx, 9600 Kg) | 4 | No | 0.00303602 |
| 29.0 | FIXING OF INTERLOCKS FOR ECP (ESP) | 36 | NOS | 0.00081859 |
| 30.0 | Opacity Monitor Consisting of Transmitter & Receiver, Electronic Unit, Air Blower unit, Weather Proof housings, Junction boxes, flexible hoses, mounting flanges with pipe for Transmitter, Receiver & Air blower, interconnec-ted cables etc. for mounting on ESP outlet duct. | 4 | SET | 0.00238365 |
| 31.0 | DATA LOGGER PC WITH COLOUR MONITOR (1220 L x 762 D) | 1 | NO | 0.00022582 |
| 32.0 | IOS PC WITH COLOUR MONITOR | 1 | NO | 0.00022582 |
| 33.0 | VFD O&M PC WITH COLOUR MONITOR & PRINTER | 1 | SET | 0.00022582 |
| 34.0 | PRINTER (INKJET) (762 L x 610 W) | 1 | NO | 0.00001521 |

| VOLUME-III PRICE SCHEDULE, REV-0 | | | | |
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| SCH-3 PART-A ELECTRICAL PRICE BREAK UP | | | | |
| 35.0 | DIGITAL AUTOMATIC VOLTAGE REGULATOR FOR BRUSHLESS EXCITATION SYSTEM | | | |
| 35.1 | Transportation from store / storage yard to erection site , Erection, Assembly, Testing & Commissioning of Digital Excitation Equipments / System , System consist of DAVR panels & accessories as per tender specification. | 1 | Set. | 0.00326184 |
| 36.0 | MISCELLANEOUS EQUIPMENTS | | | |
| 36.1 | Ash Level Indicator comprising of level probe with extension lagging pipe, Electronic Unit, Interconnecting Cabling, Conduit, etc. | 144 | Set. | 0.00548289 |
| 37.0 | MINOR CIVIL WORK | | | |
| 37.1 | CHIPPPING / BREAKING OF BRICK WALL AND CONCRETE FLOOR/WALL [INCLUDING FINISHING] | 20 | Cu. M | 0.00031364 |
| 37.2 | SUPPLY & INSTALLATION OF HEAVY DUTY GALVANISED FRICTION ANCHOR FASTNERS OF HILTI / BOSCH OR ANY OTHER APPROVED MAKE OF DIA 10 MM AND 100 MM LENGTH WITH SUPPLY OF ALL HARDWARES AS REQUIRED. | 80 | NOS | 0.00087819 |
| 37.3 | EXCAVATION WITH LIFT UP TO 0.5 METERS INCLUDING DRAINING AND PUMPING OUT WATER TO MAINTAIN REASONABLY DRY WORKING CONDITION FOR ALL ACTIVITIES, INCLUDING BACKFILLING & COMPACTION OF EXCAVATED MATERIAL AFTER COMPLETION OF THE ACTIVITIES ETC. ALL COMPLETE AS PER DRAWINGS AND/OR INSTRUCTIONS OF THE ENGINEER. | 20 | Cu. M | 0.00031364 |
| TOTAL -- PART-A1 - ELECTRICAL | | | | 0.31918120 |

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SCH-3 PART-B : C&I PRICE BREAK UP

| SL. NO. | DESCRIPTION | UNIT | TOTAL QTY | WEIGHTAGE | BILLING SCHEDULE REF. NO |
|------------|---|------|-----------|------------|--------------------------|
| 1.0 | PANELS & CUBICLES | | | | |
| 1.1 | DCS PANELS | | | | |
| 1.1.1 | SUITE OF 1 PANEL (750X750X2415) | NO | 2 | 0.00107393 | 6 |
| 1.1.2 | SUITE OF 2 PANEL (750X750X2415) | NO | 10 | 0.00789192 | 6 |
| 1.1.3 | SUITE OF 3 PANEL (750X750X2415) | NO | 14 | 0.01306672 | 6 |
| 1.1.4 | SUITE OF 4 PANEL (750X750X2415) | NO | 2 | 0.00222709 | 6 |
| 1.1.5 | SUITE OF 5 PANEL (750X750X2415) | NO | 1 | 0.00125769 | 6 |
| 1.2 | GAS ANALYSER CABINET (1000X800X2200) | NO | 1 | 0.00068471 | 6 |
| 1.3 | GENERATOR INSTRUMENTATION CABINET (1000X800X2200) | NO | 1 | 0.00068471 | 6 |
| 1.4 | GRAVIMETRIC FEEDER REMOTE POWER CABINET(1200X2315X600) | NO | 7 | 0.00451533 | 6 |
| 1.5 | DC SCANNER AIR FAN STARTER(900X1120X375) | NO | 1 | 0.00026665 | 6 |
| 1.6 | FTP LOCAL STARTER (600X600X300) | NO | 2 | 0.00046128 | 6 |
| 1.7 | EWLI LOCAL PANEL(600X600X350) | NO | 4 | 0.00076390 | 6 |
| 1.8 | EWLI REMOTE DISPLAY UNIT(99X234X91) | NO | 4 | 0.00034599 | 6 |
| 1.9 | ERV LOCAL CONTROLLER BOX(400X350X270) | NO | 5 | 0.00061254 | 6 |
| 1.10 | STEAM LEAK DETECTION (STLD) SYSTEM PANEL(800X2315X800) | NO | 2 | 0.00140539 | 6 |
| 1.11 | FURNACE FLAME VIEWING SYSTEM - REMOTE PANEL(800X2100X800) | NO | 1 | 0.00034233 | 6 |
| 1.12 | FURNACE FLAME VIEWING SYSTEM - LOCAL PANEL(800X2100X800) | NO | 2 | 0.00068466 | 6 |
| 1.13 | ROTOR STOPPAGE ALARM BOX | NO | 2 | 0.00001803 | 6 |
| 1.14 | TURBINE SUPERVISORY SYSTEM CONSISTING OF SERVER ,MONITOR,PRINTER AND ACCESSORIES | SET | 1 | 0.00216488 | 6 |
| 1.15 | GENERATOR STATOR WATER PANEL, SIGNALING PANEL & SEAL OIL PANEL (Size approx - 1400X2365X800) | SET | 1 | 0.00063062 | 6 |
| 2.0 | HMI SYSTEM & OTHERS | | | | |
| 2.1 | MAX ENGINEER STATIONS (EWS): (1 SET COMPRISES OF 1 NO. CPU, KEYBOARD,PRINTER, ACCESSORIES AND 1 NO. MONITOR) (1500X750X740) | SET | 3 | 0.00090815 | 6 |
| 2.2 | MAXSTORIAN STATIONS (EWS): (1 SET COMPRISES OF 2 NO. CPU,KEYBOARD PRINTER, ACCESSORIES AND 1 NO. MONITOR) (1500X750X740) | SET | 2 | 0.00060543 | 6 |
| 2.3 | MAX OPERATOR WORK STATION (OWS) :COMPUTER CONSISTING OF CPU, PRINTER, ACCESSORIES AND MONITOR) | SET | 3 | 0.00076751 | 6 |
| 2.4 | MAX OPERATOR WORK STATION (OWS) FOR LVS | SET | 4 | 0.00121086 | 6 |
| 2.5 | MAX LINK WORK STATION : (01 SET COMPRISES OF 1 NO. CPU, PRINTER, ACCESSORIES AND 01 NO. MONITOR) (1500X750X740) | SET | 2 | 0.00050456 | 6 |
| 2.6 | PRINTER OF VARIOUS TYPES. (COLOUR LASER A4, A3, B/W MONO LASER A4, COLOUR INKJET A4, DOT MATRIX) | NO | 4 | 0.00012261 | 6 |
| 2.7 | FURNITURE (CONSISTING OF 06 NOS PRINTER TABLES, 06 NOS COMPUTER TABLES & 12 NOS CHAIRS) | SET | 1 | 0.00010092 | 6 |
| 2.8 | STEAM LEAK DETECTION (STLD) SYSTEM PC & MONITOR | SET | 1 | 0.00082886 | 6 |
| 2.9 | NETWORK PANELS AND ENCLOSURES | NO | 4 | 0.00136933 | 6 |
| 2.10 | TSC STATION | NO | 2 | 0.00050456 | 6 |
| 2.11 | GRAPHICAL INTERFACE UNIT(GIU) | NO | 6 | 0.00108124 | 6 |
| 2.12 | AC DISTRIBUTION BOARD (Approx dimension - 16000 x 1700 x 2400) | NO | 1 | 0.00068471 | 6 |
| 2.13 | PROGRAMMABLE LOGIC CONTROLLER WITH DC BATTERY & BATTERY CHARGER | SET | 1 | 0.00075679 | 6 |
| 3.0 | FIELD RACKS AND ENCLOSURES | | | | |
| 3.1 | LOCAL INSTRUMENT ENCLSOURE (1450X2300X950) | NO | 26 | 0.01396105 | 5 |
| 3.2 | LOCAL INSTRUMENT RACK(1800X2150X650) | NO | 16 | 0.00743825 | 5 |
| 3.3 | LOCAL GAUGE BOARD (LGB) ASSEMBLY OF BFP WITH INSTRUMENTS (DD) (2200X300X1800) | NO | 6 | 0.00257298 | 5 |
| 3.4 | LOCAL GAUGE BOARD (LGB) ASSEMBLY FOR CEP WITH INSTRUMENTS (DD) (2000X300X1800) | NO | 1 | 0.00042883 | 5 |
| 3.5 | LOCAL INSTRUMENT RACK (LIR) ASSEMBLY OF BFP FOR INSTRUMENTS (DD)(2000X400X1800) | NO | 3 | 0.00161089 | 5 |
| 3.6 | LOCAL INSTRUMENT RACK (LIR) ASSEMBLY FOR CEP PUMPS WITH INSTRUMENTS (DD)(1300X900X2000) | NO | 1 | 0.00053696 | 5 |
| 3.7 | TURBINE INSTRUMENT RACKS(2750X1500X800) | NO | 12 | 0.00644356 | 5 |
| 3.8 | SLOTTED CHANNEL RACK FOR TURBINE/GEN JB MOUNTING | NO | 15 | 0.00129746 | 5 |
| 3.9 | MINI LIR FOR PRESSURE/TEMP GAUGE FOR BOILER | NO | 28 | 0.00141220 | 5 |
| 4.0 | FIELD INSTRUMENTS & MACHINE MONITORING SYSTEM-LOOSE ITEMS | | | | |
| 4.1 | ELECTRONIC TRANSMITTERS (PR,DIFF. PR.,FLOW,LEVEL,POSITION,TEMP.) | NO | 350 | 0.01065817 | 7 |
| 4.3 | LOCAL GUN MAINT.-ENANCE SWITCH BOX | NO | 16 | 0.00055935 | 7 |
| 4.4 | PRESSURE SWITCH/DIFF. PRESSURE SWITCH | NO | 40 | 0.00121808 | 7 |
| 4.5 | LEVEL SWITCH | NO | 50 | 0.00342331 | 7 |
| 4.6 | TEMP. GAUGE | NO | 300 | 0.00751278 | 7 |
| 4.7 | PRESSURE GAUGE | NO | 400 | 0.00857456 | 7 |
| 4.8 | LEVEL GAUGE | NO | 18 | 0.00097275 | 7 |
| 4.9 | FLAME SCANNER HEAD ASSY. | NO | 32 | 0.00472805 | 7 |
| 4.10 | BHELSCAN-FLAME SCANNER AMPLIFIER | NO | 8 | 0.00072083 | 7 |
| 4.11 | DIFFERENTIAL PRESSURE SWITCH | NO | 15 | 0.00043274 | 7 |
| 4.12 | DIFFERENTIAL EXPANSION DETECTOR | NO | 1 | 0.00003065 | 7 |
| 4.13 | LEVEL INDICATOR | NO | 10 | 0.00093709 | 7 |
| 4.14 | LOAD TRANSDUCER | NO | 3 | 0.00010818 | 7 |

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TENDER DOCUMENT NO - PSER:SCT:NBN-E1965:19

SCH-3 PART-B : C&I PRICE BREAK UP

| SL. NO. | DESCRIPTION | UNIT | TOTAL QTY | WEIGHTAGE | BILLING SCHEDULE REF. NO |
|------------|--|------|-----------|------------|--------------------------|
| 4.15 | LIMIT SWITCH | NO | 200 | 0.00108186 | 7 |
| 4.16 | SHAFT VIBRATION DETECTOR | NO | 14 | 0.00042913 | 7 |
| 4.17 | BEARING VIBRATION DETECTOR | NO | 14 | 0.00042913 | 7 |
| 4.18 | THERMOCOUPLE | NO | 157 | 0.00361714 | 7 |
| 4.19 | RESISTENCE TEMPERATURE DETECTOR | NO | 310 | 0.00714212 | 7 |
| 4.20 | AXIAL SHIFT DETECTOR | NO | 3 | 0.00009196 | 7 |
| 4.21 | FLOW SWITCH/ FLOW METER | NO | 15 | 0.00021637 | 7 |
| 4.22 | SPEED DETECTOR | NO | 4 | 0.00057658 | 7 |
| 4.23 | LEVEL GAUGE FOR DEA, L-2000, 30ATG | NO | 2 | 0.00010808 | 7 |
| 4.24 | THERMOWELL | NO | 50 | 0.00090153 | 7 |
| 4.25 | O2 ANALYSER | SET | 4 | 0.00178744 | 7 |
| 4.26 | THERMOCOUPLE | NO | 120 | 0.00276469 | 7 |
| 4.27 | CONDENSING POT | NO | 50 | 0.00135230 | 7 |
| 4.28 | ROTAMETER/FLOW METER/FLOW INDICATOR | NO | 20 | 0.00061305 | 7 |
| 4.29 | LEVEL PROBE/PROXIMITOR PROBE/OVERALL EXPANSION PROBE | NO | 30 | 0.00091957 | 7 |
| 4.30 | ZERO SPEED SWITCH | NO | 9 | 0.00006491 | 7 |
| 5.0 | 24V DC CHARGER & BATTERIES | | | | |
| 5.1 | 24V DC CHARGER FOR SG & TG | NO | 8 | 0.00717861 | 6 |
| 5.2 | 24 VDC BATTERY CHARGER - DCDB FOR SG MAIN | SET | 4 | 0.00503797 | 6 |
| 5.3 | 24 VDC BATTERIES FOR SG-MAIN CHARGER | SET | 2 | 0.01073887 | 6 |
| 5.4 | 24 VDC BATTERIES FOR TG | SET | 2 | 0.01073887 | 6 |
| 6.0 | JUNCTION BOX | | | | |
| 6.1 | 6-WAY MINIATURE JUNCTION BOX | NO | 32 | 0.00063468 | 3 |
| 6.2 | 12-WAY JUNCTION BOX | NO | 22 | 0.00057077 | 3 |
| 6.3 | 18-WAY JUNCTION BOX | NO | 20 | 0.00028849 | 3 |
| 6.4 | 48-WAY JUNCTION BOX | NO | 2 | 0.00007212 | 3 |
| 6.5 | FRP JUNCTION BOX-72 WAY | NO | 40 | 0.00266654 | 3 |
| 6.6 | FRP JUNCTION BOX-48 WAY | NO | 87 | 0.00407416 | 3 |
| 6.7 | FRP JUNCTION BOX-24 WAY | NO | 105 | 0.00415984 | 3 |
| 6.8 | FRP JUNCTION BOX | NO | 75 | 0.00256935 | 3 |
| 6.9 | STLD FRP JUNCTION BOX | SET | 7 | 0.00012621 | 3 |
| 6.10 | JB FOR SHEAR PIN FAIL.INDN. | NO | 4 | 0.00021617 | 3 |
| 6.11 | SUV 12 JUNCTION BOX FOR TURBINE/GENERATOR | NO | 22 | 0.00087158 | 3 |
| 6.12 | TTX-JB FOR TURBINE/GENERATOR | NO | 35 | 0.00069418 | 3 |
| 6.13 | MINI JUNCTION BOX FOR GENERATOR END-WINDING SENSOR CABLE | NO | 2 | 0.00005049 | 3 |
| 6.14 | TURBINE TSI VIBRATION JB | NO | 10 | 0.00019183 | 3 |
| 7.0 | IMPULSE PIPE | | | | |
| 7.1 | IMPULSE PIPE A106 GR C 1" NB UPTO SCH 80 | MTR | 800 | 0.00645109 | 4 |
| 7.2 | IMPULSE PIPE A106 GR C 1/2" NB UPTO SCH 80 | MTR | 3500 | 0.02454206 | 4 |
| 7.3 | IMPULSE PIPE A106 GR C 1/2" NB UPTO SCH 160 | MTR | 500 | 0.00350601 | 4 |
| 7.4 | IMPULSE PIPE A335 P22 1/2" NB XXS | MTR | 225 | 0.00181437 | 4 |
| 7.5 | 3/4" UPTO SCH 80 IMPULSE PIPE, MATL ASTM-A335 | MTR | 600 | 0.00441749 | 4 |
| 7.6 | 3/4" UPTO SCH 80 IMPULSE PIPE, MATL ASTM-A106 | MTR | 1500 | 0.01104372 | 4 |
| 7.7 | CARBON STEEL TUBE 88.9X4-AA1041055021 | MTR | 50 | 0.00068366 | 4 |
| 7.8 | SEAMLESS CS TUBE 13.5X2.6-HW1021098116 | MTR | 500 | 0.00298008 | 4 |
| 7.9 | CARBONSTEEL TUBE D=33.7X3.38-HW1041046723 | MTR | 20 | 0.00015827 | 4 |
| 7.10 | SEAMLESS CS TUBE 21.3X2.3-HW1021046898 | MTR | 1240 | 0.00869490 | 4 |
| 7.11 | CARBON ST.TUBE CDS 26.9X2.6 | MTR | 35 | 0.00021386 | 4 |
| 7.12 | SEAMLESS 21.3x2.77 HW1061028917 | MTR | 500 | 0.00298008 | 4 |
| 7.13 | SEAMLESS ALLOY ST TUBE 13.5X2.6 HW1061028933 | MTR | 20 | 0.00011920 | 4 |
| 7.14 | IMPULSE PIPE FOR PR. INSTRUMENTS CS 16 X2.6 (BFP -600MTR, CEP-165 MTR.) | MTR | 1500 | 0.00894025 | 4 |
| 7.15 | 3/4" SCH 80 CS IMPULSE PIPE, | MTR | 600 | 0.00462777 | 4 |
| 7.16 | GI PIPE NB15 X 3.25 (IS 1239 GAL) | MTR | 1600 | 0.00408697 | 4 |
| 7.17 | GI PIPE NB25 X 3.25 (IS 1239 GAL) | MTR | 1200 | 0.00306523 | 4 |
| 7.18 | PNEUMATIC COPPER TUBES UP TO 1/4" OD | MTR | 2500 | 0.00638590 | 4 |
| 7.19 | S.S.PIPE .1/8" UPTO 1" OD | MTR | 200 | 0.00053091 | 4 |
| 7.20 | COPPER TUBES >1/4" MM & UPTO 12MM OD | MTR | 1500 | 0.00383154 | 4 |
| 7.21 | VALVES OF VARIOUS TYPES OF SIZE 1/4" TO 1/2" (SS/CS/MS/BRASS ETC). | NO | 40 | 0.00054692 | 8 |
| 8.0 | CABLE LAYING & TERMINATION TO THE RESEPECTIVE EQPT. | | | | |
| 8.1 | FLAME SCANNER CABLE | MTR | 6400 | 0.00513013 | 2 |
| 8.2 | 2P- 8P X 0.5 SQMM O/A SH. INST. CABLE | MTR | 90000 | 0.05859514 | 2 |
| 8.3 | 2P - 8P X 0.5 SQMM P/O SH. INST. CABLE | MTR | 25000 | 0.01627643 | 2 |
| 8.4 | 12P X 0.5 SQMM O/A SH. INST. CABLE | MTR | 10000 | 0.00801583 | 2 |
| 8.5 | 2C - 7C X 2.5 SQMM CONTROL CABLE | MTR | 50000 | 0.03255286 | 2 |
| 8.6 | 10C X 2.5 SQMM CONTROL CABLE | MTR | 5000 | 0.00400791 | 2 |
| 8.7 | 16C X 2.5 SQMM CONTROL CABLE | MTR | 8200 | 0.00616029 | 2 |
| 8.8 | CBL 4C,1.5MM2,1100V,7/0.53,ABC,U/A | MTR | 1000 | 0.00070138 | 2 |
| 8.9 | GROUP CABLE 4X2X0.5 SQ MM | MTR | 17000 | 0.01277133 | 2 |
| 8.10 | GROUP CABLE 8X2X0.5 SQ MM | MTR | 4700 | 0.00353090 | 2 |
| 8.11 | GROUP CABLE 12X2X0.5 SQ MM | MTR | 950 | 0.00076150 | 2 |
| 8.12 | SPECIAL CABLE 5X1.5 SQ MM. | MTR | 1000 | 0.00070138 | 2 |
| 8.13 | CBL FEP INSULATED 2X2X0.5 SQ.MM TYPE-1 | MTR | 4000 | 0.00280554 | 2 |

**VOLUME-III
PRICE SCHEDULE, REV-0**

JOB: HANDLING AT SITE/ STORAGE YARD, TRANSPORTATION TO SITE OF WORK, PRE-ASSEMBLY, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF ELECTRICAL & C&I FOR BOILER, ESP, TG SETS FOR UNIT-4 OF 4X250 MW NABINAGAR TPP, BIHAR

TENDER DOCUMENT NO - PSER:SCT:NBN-E1965:19

SCH-3 PART-B : C&I PRICE BREAK UP

| SL. NO. | DESCRIPTION | UNIT | TOTAL QTY | WEIGHTAGE | BILLING SCHEDULE REF. NO |
|-------------|--|------|-----------|------------|--------------------------|
| 8.14 | CBL FEP INSULATED 2X4X0.5 SQ.MM TYPE-2 | MTR | 1000 | 0.00070138 | 2 |
| 8.15 | CBL TH EXTN 2X2X0.5 SQ.MM (KX: NiCr-Ni) | MTR | 3000 | 0.00210415 | 2 |
| 8.16 | CBL TH EXTN 2X2X0.5 SQ.MM (TX: Cu-CuNi) | MTR | 2200 | 0.00077102 | 2 |
| 8.17 | 19CX1.5SQ.MM.UNARMoured FRLS CONT CABLE | MTR | 4500 | 0.00338065 | 2 |
| 8.18 | 2PX0.5SQMM INDIV.& COLL. SHIELDED CABLE | MTR | 250 | 0.00017535 | 2 |
| 8.19 | 4PX0.5SQMM INDIV.& COLL. SHIELDED CABLE | MTR | 1500 | 0.00105208 | 2 |
| 8.20 | 5CX2.5 SQ.MM COPPERCONTROL CABLE | MTR | 2500 | 0.00175346 | 2 |
| 8.21 | 16 PAIR 0.5 SQ.MM SHIELDED CABLE | MTR | 600 | 0.00048095 | 2 |
| 8.22 | 10 PAIR 0.6 SQ.MM.PTFE PROBE CABLE | MTR | 90 | 0.00007214 | 2 |
| 8.23 | SP.ARM. SHIELDED SIGNAL CABLE | MTR | 30 | 0.00002254 | 2 |
| 8.24 | T/C EXTENSION CABLE | MTR | 6000 | 0.00420831 | 2 |
| 8.25 | CO-AXIAL CABLE B/W FIELD & CER | MTR | 500 | 0.00035069 | 2 |
| 8.26 | CO-AXIAL CABLE B/W CER & CR | MTR | 300 | 0.00021042 | 2 |
| 8.27 | CO-AXIAL CABLE B/W CR & LVS | MTR | 50 | 0.00003507 | 2 |
| 8.28 | FIBRE OPTIC CABLE(ONLY LAYING TERMINATION EXCLUDED) | MTR | 4000 | 0.00280554 | 2 |
| 8.29 | GENERATOR END-WINDING SENSOR CABLE | MTR | 500 | 0.00010020 | 2 |
| 8.30 | UTP CABLE | MTR | 5000 | 0.00200396 | 2 |
| 8.31 | 4 TRIADx0.5 SQMM INDIVIDUAL & OVERALL SHIELDED CABLE FOR TURBINE VIBRATION MONITORING SYSTEM. | MTR | 2500 | 0.00100198 | 2 |
| 9.0 | CABLE TRAY | | | | |
| 9.1 | CABLE TRAY; Ladder/Perforated type: 150 MM WIDTH | MTR | 4000 | 0.01522641 | 1 |
| 9.2 | CABLE TRAY; Ladder/Perforated type: 100 MM WIDTH | MTR | 2500 | 0.00951651 | 1 |
| 9.3 | CABLE TRAY; Ladder/Perforated type: 50 MM WIDTH | MTR | 2000 | 0.00651149 | 1 |
| 9.4 | CABLE TRAY Bends of different sizes. | MTR | 265 | 0.00015931 | 1 |
| 9.5 | Reducer type cable tray of various sizes as per job requirement . | MTR | 280 | 0.00015424 | 1 |
| 9.6 | COVERED CABLE DUCT / TRAY OF DIFFERENT SIZES UPTO 400 MM | MTR | 1000 | 0.00335548 | 1 |
| 10.0 | OTHER MISC EQUIPMENTS | | | | |
| 10.1 | ERV CONTROLLER WITH SWITCH | NO | 5 | 0.00009015 | 7 |
| 10.2 | ASLD SENSOR ASSEMBLY | SET | 20 | 0.00108084 | 7 |
| 10.3 | CCTV CAMERA-FRONT WALL AND REAR WALL | NO | 2 | 0.00064870 | 7 |
| 10.4 | LOCAL DRUM LEVEL GAUGE -LEFT AND RIGHT | NO | 2 | 0.00012972 | 7 |
| 10.5 | FURNACE FLAME VIEWING SYSTEM -CAMERA | NO | 2 | 0.00005549 | 7 |
| 10.6 | LOCAL PNEUMATIC CONTROLLER WITH MECHANICAL TRANSMITTER FOR SEAL AIR DYNAVANE. | NO | 2 | 0.00002885 | 7 |
| 10.7 | ELECTRO PNEUMATIC (E/P) CONVERTER | NO | 50 | 0.00135230 | 7 |
| 10.8 | AIR FILTER REGULATOR - 1/4 INCH | NO | 100 | 0.00180306 | 7 |
| 10.9 | PURGE METER FOR MILL | NO | 20 | 0.00012220 | 7 |
| 10.10 | AFR FOR SADC SYSTEM -1 INCH | NO | 16 | 0.00028929 | 7 |
| 10.11 | 1/4"SIZE TEFLON HOSE LENG. | NO | 128 | 0.00015385 | 7 |
| 10.12 | 1"SIZE TEFLON HOSE LENG. | NO | 8 | 0.00000962 | 7 |
| 10.13 | SUPPLY OF CRIMPING LUGS(UPTO 6SQMM)(LUMP SUM) (AS PER REQUIREMENT AT SITE TILL COMPLETION OF JOB) | NO | 15000 | 0.00225102 | 11 |
| 10.14 | BURNER-OIL SKID COMMISSIONING WHICH INCLUDES DISMANTALLING OF SOVs, RE-TUBING OF SOVs, SKID MOUNTED LIMIT SWITCHES AS REQUIRED | NO | 16 | 0.00400761 | 7 |
| 10.15 | EXCITER BOX FOR IGNITER | NO | 16 | 0.00164600 | 7 |

**VOLUME-III
PRICE SCHEDULE, REV-0**

JOB: HANDLING AT SITE/ STORAGE YARD, TRANSPORTATION TO SITE OF WORK, PRE-ASSEMBLY, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF ELECTRICAL & C&I FOR BOILER, ESP, TG SETS FOR UNIT-4 OF 4X250 MW NABINAGAR TPP, BIHAR

TENDER DOCUMENT NO - PSER:SCT:NBN-E1965:19

SCH-3 PART-B : C&I PRICE BREAK UP

| SL. NO. | DESCRIPTION | UNIT | TOTAL QTY | WEIGHTAGE | BILLING SCHEDULE REF. NO |
|----------------------------------|---|------|-----------|-------------------|--------------------------|
| 10.16 | Erection and commissioning of PADO system in totality. (Broad list of items are: Server, Workstation (16 nos), Computer (18 nos), Printer (1 no), Switches, PDB, UTP cable laying and connections, ISDN modem, ADSL modem, UPS and other accessories). | | | | |
| 10.16.1 | PADO system for Unit # 1 and Unit # 2 of the project | SET | 1 | 0.00343143 | 6 |
| 10.16.2 | PADO system for Unit # 3 and Unit # 4 of the project | SET | 1 | 0.00343143 | 6 |
| 11.0 | MTM T/C | | | | |
| 11.1 | MTM T/C 8MM OD & 14-32 M DUPLEX | NO | 430 | 0.06028117 | 7 |
| 11.2 | MTM T/C 9.5MM OD & 20-32 M DUPLEX | NO | 20 | 0.00281078 | 7 |
| 11.3 | MTM T/C 3MM OD & 22-30 M DUPLEX | NO | 10 | 0.00147752 | 7 |
| 11.4 | MTM T/C WITH INTEGRALLY MOUNTED TTs | NO | 15 | 0.00237855 | 7 |
| 12.0 | STRUCTURAL STEEL REQD. FOR FABRICATION AND ERECTION (MATERIALS E.G. GI/SS TEES, CROSS, SOCKET, NIPPLE, REDUCER, UNION ETC. ARE TO BE SUPPLIED BY THE BIDDER WITHIN HIS QUOTED RATE.) | | | | |
| 12.1 | FAB. & ERECTION OF AIR FILTER STATION FOR SADC POWER CYLINDER WITH VALVES AND AIR FILTER REGULATOR | NO | 8 | 0.00689012 | 5 |
| 12.2 | FAB. & ERECTION OF DUST COLLECTOR / CATCH POT | NO | 10 | 0.00030652 | 5 |
| 12.3 | FAB. & ERECTION OF STRUCTURAL STEEL (ANGLE, CHANNEL, FLAT, PLATE ETC.) | MT | 20 | 0.01494041 | 11 |
| 12.4 | FABRICATION & ERECTION OF CANOPY (STRUCTURAL MATL. AND GI/SS SHEET WILL BE PROVIDED BY BHEL FREE OF COST) | MT | 20 | 0.00717120 | 5 |
| 13.0 | CALIBRATION/ COMMISSIONING (Erection excluded) | | | | |
| 13.1 | SADC POWER CYLINDERS | NO | 64 | 0.00495883 | 9 |
| 13.2 | BURNER TILT POWER CYLINDER | NO | 4 | 0.00030993 | 9 |
| 13.3 | HEA POWER CYLINDER | NO | 16 | 0.00100892 | 9 |
| 13.4 | POWER CYLINDER FOR SCOOP | NO | 5 | 0.00037839 | 9 |
| 13.5 | GRAVIMETRIC FEEDER WITH LOCAL CONTROL PANEL WITH FEEDER CALIBRATION. | NO | 7 | 0.00128634 | 9 |
| 13.6 | POWER CYLINDER (ON-OFF TYPE) | NO | 55 | 0.00346816 | 9 |
| 13.7 | POWER CYLINDER (REGULATING TYPE) | NO | 27 | 0.00204332 | 9 |
| 13.8 | CONTROL VALVES (ON-OFF) | NO | 23 | 0.00153326 | 8 |
| 13.9 | OPEN/ CLOSE TYPE CONT VALVE (PNEUMATIC) FOR FUEL OIL STATION AT AB, CD & EF ELEVATION. | NO | 56 | 0.00373316 | 8 |
| 13.10 | PNEUMATIC CONTROL VALVE | NO | 50 | 0.00333318 | 8 |
| 13.11 | CONTROL VALVES (REGULATING) | NO | 50 | 0.00448763 | 8 |
| 13.12 | EXTRACTION NRV/SPRAY WATER CONTROL VALVE | NO | 5 | 0.00044876 | 8 |
| 13.13 | GLAND STEAM CONTROL VALVES. | NO | 2 | 0.00017951 | 8 |
| 13.14 | HPBP PR. & TEMP. CONTROL VALVE | NO | 4 | 0.00041811 | 8 |
| 13.15 | HPBP SPRAY BLOCK VALVE | NO | 1 | 0.00008650 | 8 |
| 13.16 | LP BYPASS SPRAY CONTROL VALVE WITH FEEDBACK TRANSMITTER | NO | 2 | 0.00017299 | 8 |
| 13.17 | GOVERNING SYSTEM CONTROL RACK (ERECTION IS EXCLUDED, RATE TO BE QUOTED ONLY FOR CALIBRATION AND COMMISSIONING OF INSTRUMENTS) | NO | 1 | 0.00053696 | 9 |
| 13.18 | LP BYPASS CONTROL RACK (ERECTION IS EXCLUDED, RATE TO BE QUOTED ONLY FOR CALIBRATION AND COMMISSIONING OF INSTRUMENTS) | NO | 1 | 0.00053696 | 9 |
| 13.19 | VACUUM BREAKER VALVE WITH PNEUMATIC ACTUATOR. | NO | 1 | 0.00006847 | 8 |
| 13.20 | HYDROGEN GAS DYIER PANEL | NO | 2 | 0.00021627 | 9 |
| 13.21 | PRESSURE LIMIT VALVE. | NO | 1 | 0.00003065 | 8 |
| 13.22 | LIMIT SWITCH | NO | 4 | 0.00009216 | 9 |
| 13.23 | POSITION TRANSMITTER | NO | 20 | 0.00136932 | 9 |
| 13.24 | LP BY PASS VLV COMMISSIONING WITH CONTROL JB ERECTION | NO | 2 | 0.00009005 | 9 |
| 13.25 | LEVEL SWITCH UNIT WITH AMPLIFIER COMMISSIONING (C&I PART ONLY) | NO | 12 | 0.00113954 | 9 |
| 14.0 | POWER CYLINDERS | | | | |
| 14.1 | POWER CYLINDER FOR HOT AIR DAMPER | NO | 7 | 0.00179085 | 10 |
| 14.2 | POWER CYLINDER FOR COLD AIR DAMPER | NO | 7 | 0.00179085 | 10 |
| 14.3 | SEAL AIR FILTER POWER CYLINDER | NO | 2 | 0.00015136 | 10 |
| 14.4 | REMOVAL, CALIBRATION, RE-MOUNTING AND COMMISSIONING OF INSTRUMENTS FOR SKID. EACH SKID WILL HAVE MINIMUM OF 05 NO. INSTRUMENTS E.G. PG/PS/TG/DPI/DPS/TS/RPM METER WITH PROBE/LS/LG/FS/FI ETC. DRESSING OF CAPILLARY & CABLES IF ANY, REPAIR OF CU-TUBE/IMPULSE PIPE, IF ANY, CHANGING OF TERMINALS OF JB. IF ANY, IS ALSO INCLUDED. | NO | 30 | 0.00691926 | 10 |
| 15.0 | PG TEST ITEMS : | | | | |
| 15.1 | 1/2" IMPULSE PIPE | MTR | 800 | 0.00576993 | 12 |
| 15.2 | COMPENSATING CABLE (2C, CORE SIZE UPTO 2.5 SQMM) LAYING & TERMINATION | MTR | 1300 | 0.00065129 | 12 |
| 15.3 | 2C, CORE SIZE UPTO 2.5 SQMM CABLE LAYING & TERMINATION | MTR | 3000 | 0.00150297 | 12 |
| 15.4 | 4C, CORE SIZE UPTO 2.5 SQMM CABLE LAYING & TERMINATION | MTR | 3000 | 0.00150297 | 12 |
| 15.5 | PRE-FAB CABLE FROM DATA LOGGER TO COMPUTER | MTR | 50 | 0.00002505 | 12 |
| 15.6 | JUNCTION BOX | NO | 80 | 0.00083742 | 12 |
| 15.7 | THERMOCOUPLE | NO | 45 | 0.00056796 | 12 |
| 15.8 | PR. / VACUUM / DP TRANSMITTERS | NO | 70 | 0.00201944 | 12 |
| 15.9 | DATA LOGGER | NO | 1 | 0.00003065 | 12 |
| 15.10 | MANOMETER | NO | 10 | 0.00012621 | 12 |
| 15.11 | THERMOWELL | NO | 100 | 0.00126213 | 12 |
| 15.12 | PRT (PT. RESISTANCE THERMOMETER) | NO | 90 | 0.00113591 | 12 |
| 15.13 | BAROMETER | NO | 1 | 0.00001803 | 12 |
| 15.14 | POWER METER / TRANSDUCER | NO | 10 | 0.00017129 | 12 |
| 15.15 | WELDED TYPE TEST TWs | NO | 75 | 0.00094659 | 12 |
| TOTAL -- PART-B - C&I | | | | 0.68081880 | |