

Rev 01
1st Jun
2012

NOTICE INVITING TENDER

(Document No PS:MSX:NIT)

TENDER NO. BHEL/NR/SCT/PANKI/MAIN CIVIL/1114

NAME OF WORK: ALL CIVIL, ARCHITECTURAL AND
STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR
1 X 660 MW PANKI TPS, PANKI, U.P.

Bharat Heavy Electricals Limited



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NOTICE INVITING E-TENDER (NIT)
BIDDER TO SUBMIT OFFERS ON PORTAL
<https://bhel.abcprocure.com>

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To

Dear Sir/Madam

Sub : NOTICE INVITING E-TENDER

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

1. **Salient Features of NIT**

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	BHEL/NR/SCT/PANKI/MAIN CIVIL/1114
ii	BROAD SCOPE OF JOB	ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1 X 660 MW PANKI TPS, PANKI, U.P.
iii	DETAILS OF TENDER DOCUMENT	
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i> Applicable
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i> Applicable
c	Volume-IC	<i>General Conditions of Contract (GCC)</i> Applicable
d	Volume-ID	<i>Forms and Procedures</i> Applicable
e	Volume-II	<i>Price Schedule (Absolute value).</i> Applicable
iv	ISSUE OF TENDER DOCUMENTS	From BHEL website (www.bhel.com) and https://bhel.abcprocure.com Tender documents will be available at website till due date of submission. Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	Date : 06/08/2018 , Time : 1500 HRS Place : on https://bhel.abcprocure.com Applicable
vi	OPENING OF TENDER	At due date / time Date : 06/08/2018 , Time :1530 HRS Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may depute representative to witness the opening of tender. However it being an e-tender it shall be opened online Applicable

vii	EMD AMOUNT	Rs. 1,87,80,000/-	Applicable for all Bidders (including MSE Bidders)
viii	COST OF TENDER	Rs 2000/-.	Applicable for all Bidders (including MSE Bidders)
ix	LAST DATE FOR SEEKING CLARIFICATION	<p>Five days before bid submission due date. Along with soft version also, addressing to contact address given below</p> <p>1) Name: VIRENDER KUMAR GUPTA Designation: Addl. GM Deptt: SCT Address: BHEL-PSNR, PLOT NO. 25, SECTOR – 16A, NOIDA - 201301 Phone: (Landline/Mobile) 0120-2416286 Email : virender.gupta@bhel.in</p> <p>2) Name: CHITTARANJAN SWAIN Designation: Dy. MANAGER Deptt: SCT Address: BHEL-PSNR, PLOT NO. 25, SECTOR – 16A, NOIDA - 201301 Phone: (Landline/Mobile) 0120 - 2416500 Email : cs@bhel.in</p>	Applicable
x	SCHEDULE OF PRE BID DISCUSSION (PBD)		Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	<p>Shri D.R.S. Chaudhary E-1/164 Arera Colony Bhopal 462016 dilip.chaudhary@icloud.com</p>	Applicable
xii	LATEST UPDATES	<p>Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendums) & portal https://bhel.abcprocure.com and not in the newspapers. Bidders to keep themselves updated with all such information</p>	
xiii	TENDER SUBMISSION	on portal https://bhel.abcprocure.com	

2. 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, **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. Unless specifically stated otherwise, bidder shall remit cost of tender and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at Power Sector Regional HQ at Noida issuing the Tender, along with techno-commercial offer. Bidder may also choose to deposit the Tender document cost by cash at the Cash Office as stated above against sl no iv of 1, on any working day; and in such case copy of Cash receipt is to be enclosed with the Techno Commercial offer. Sale of tender Documents shall not take place on National Holidays, holidays declared by Central or State Governments and BHEL PS HQ at Noida, Sundays and second/ last Saturdays.

As this tender is an E-Tender and no paper bids will be accepted therefore the scanned copy of the Demand Draft or the Cash Receipt issued by BHEL PSNR should be uploaded in the E procurement portal. Hard Copy

of the demand draft should reach BHEL PSNR HQ Noida before the due date and time of bid submission. BHEL shall not be responsible for postal or any other delays in this regard.

4. Unless specifically stated otherwise, bidder shall deposit EMD through Cash Deposit (as permissible under the extant Income Tax Act) (before tender opening), Electronic Fund Transfer credited in BHEL account (before Tender Opening) or Banker's Cheque/ Demand Draft/ Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Noida (along with offer).

'One Time EMD' will not be considered for this tender. All the bidders who have 'One Time EMD' with BHEL and want to participate in this tender, would also submit the requisite amount of EMD as mentioned in Clause No. 1, Salient Features of NIT, Sl. No. (vii) above.

However, the One Time EMD can be adjusted against the EMD applicable against this tender on specific request of bidder.

For Electronic Fund Transfer the details are as below:-

a) **Name of the Beneficiary** -: Bharat Heavy Electricals Limited

b) **Bank Particulars**

Bank Particulars

- | | | |
|--------|--|---|
| i) | Bank Name -: | STATE BANK OF INDIA |
| ii). | Bank Telephone No.(with STD code)-: | 011-23475566 |
| iii). | Branch Address-: | CAG II BRANCH, NEW DELHI
4th & 5th FLOOR, REDFORT CAPITAL,
PARASNATH TOWERS, BHAI VEER SINGH MARG,
GOLE MARKET, NEW DELHI-110001 |
| iv). | Bank Fax No. (with STD code) -: | 011-23475566 |
| v). | Branch Code -: | 17313 |
| vi). | 9 Digit MICR Code of the Bank Branch -: | 110002562 |
| vii). | Bank Account Number -: | 10813608647 |
| viii). | Bank Account Type -: | CASH CREDIT |
| ix). | 11 Digit IFSC Code of Beneficiary Branch-: | SBIN0017313 |

(Note:- In case of E-Tenders, no paper bids shall be accepted, therefore, the scanned copy of the Banker's Cheque/ Demand Draft/ Pay Order/ Details of payment made through Electronic Fund Transfer should be uploaded in the E-Procurement Portal and hard copy of the same should reach BHEL-PSNR HQ Noida before the due date and time of bid submission. BHEL shall not be responsible for postal or any other delays in this regard.)

For other details please refer General Conditions of Contract.

5. **Procedure for Submission of Tenders**: This is an E-tender floated online through our E-Procurement Site <https://bhel.abcprocure.com>. The bidder should respond by submitting their offer online only in our e-Procurement platform at <https://bhel.abcprocure.com>. Offers are invited in two-parts only.

Documents Comprising the e-Tender

The tender shall be submitted online ONLY EXCEPT TENDER FEE & EMD (in physical form) as mentioned below:

a. **Technical Tender (UN priced Tender)**

All Technical details (eg. Eligibility Criteria requested (as mentioned below)) should be attached in e-tendering module, failing which the tender stands invalid & may be REJECTED. Bidders shall furnish the following information along with technical tender (preferably in pdf format):

- i. Tender Cost and Earnest money Deposit (EMD) furnished in accordance with NIT Clause 3.0 & 4.0.
- ii. Technical Bid (without indicating any prices).

b. Price Bid:

- i. Prices are to be quoted in the attached Price Bid format online on e-tender portal.
- ii. The price should be quoted for the accounting unit indicated in the e-tender document.
- iii. Note: It is the responsibility of tenderer to go through the Tender document to ensure furnishing all required documents in addition to above, if any. Any deviation would result in REJECTION of tender and would not be considered at a later stage at any cost by BHEL.
- iv. A person signing (manually or digitally) the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrantee that he has authority to bind such other persons and if, on enquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the signatory liable for all cost and damages.
- v. A tender, which does not fulfil any of the above requirements and/or gives evasive information/reply against any such requirement, shall be liable to be ignored and rejected.
- vi. In case offer is sent through hard copy/fax/telex/cable/electronically in place of e-tender, same shall not be considered.

DO NOT'S

Bidders are requested NOT to submit the hard copy of the Bid. In case offer is sent through hard copy/fax/telex/cable/electronically in place of e-tender, the same shall not be considered. **Also, uploading of the price bid in prequalification bid or technical bid may RESULT IN REJECTION of the tender.**

Digital Signing of e-Tender

Tenders shall be uploaded with all relevant PDF/zip format. The relevant tender documents should be uploaded by an authorized person having Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION digital signature certificate (DSC).

The Requirement:

1. A PC with Internet connectivity &
2. DSC (Digital Signature Certificate)(Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION)

BHEL has finalized the e-procurement service Provider:-

M/s AbcProcure, Ahmedabad

A-202/208, Wall Street-II, Opp. Orient Club, Nr. Gujarat College,
Ellis Bridge, Ahmedabad-380006

The contact details of the service provider are given below:

Name	Contact Nos.	e-mail ID	Role	Location
Swapnil Hamilton	+91 79 40270549	swapnil.h@eptl.in	Support Executive	HO – Ahmedabad
Hardik Oza	+91 79 40270560	Hardik.oza@eptl.in	Support Executive	HO – Ahmedabad
Ankur Bhatt	+91 79 40270590	ankur.bhatt@eptl.in	Support Executive	HO – Ahmedabad
Prashant Rajyaguru	+91 79 40270545 / 9016859416	prashant@eptl.in	Ast. Manager – Implementation & Support	HO – Ahmedabad
Dharam Rathod	+91 79 40270596 / 9374519754	dharam@eptl.in	Manager – Implementation & Support	HO – Ahmedabad
Pradip Parmar	+91 79 40270532 / 9328657215	pradip@eptl.in	Sr Manager – Implementation & Support	HO – Ahmedabad
Devang Patel	+91 79 40270576 / 99983 05442	devang@eptl.in	Sr Manager – Implementation & Support	HO – Ahmedabad

The process of utilizing e-procurement necessitates usage of **DSC (Digital Signature Certificate) (Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION)** and you are requested to procure the same immediately, if not presently available with you. Please note that only with DSC, you will be able to login the e-procurement secured site and take part in the tendering process.

1. The contact details of the DSC Certifying Authority as given below

1	GNFC	www.ncodesolutions.com
2	e-Mudhra	http://www.e-Mudhra.com
3	Safescrypt	www.safescrypt.com

Vendors are also requested to go through seller manual available on <https://bhel.abcprocure.com>.

6. **Not Used**

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

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

9. **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:

(**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 -1))

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

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

- a) $P_1, P_2, P_3, P_4, P_5, \dots, P_N$ etc. be the packages (under execution/ executed during the 'Period of Assessment' in all Regions 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. $P_T = P_1 + P_2 + P_3 + P_4 + \dots + P_N$)
- b) Number of Months ' T_1 ' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package P_1 . Similarly T_2 for package P_2, T_3 for package P_3 , etc. for the tendered scope. Now calculate cumulative total months ' T_T ' for total similar Packages ' P_T ' for all Regions (i.e. $T_T = T_1 + T_2 + T_3 + T_4 + \dots + T_N$)
- c) Sum ' S_1 ' of 'Monthly Performance Evaluation' Scores ($S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5} \dots S_{1-T_1}$) 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 ' = $S_1 + S_2 + S_3 + S_4 + S_5 + \dots + S_N$.)
- d) **Overall Performance Rating ' R_{BHEL} ' for the Similar Package/Packages** (under execution/ executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL

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

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

- e) Bidders to note that the risk of non-evaluation or non-availability of the 'Monthly Performance Evaluation' reports as per relevant formats is to be borne by the Bidder.
- f) Table showing methodology for calculating 'a', 'b' and 'c' above

Sl. No.	Item Description	Details for all Regions							Total
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
1	Similar Packages for all Regions → (under execution/ executed during period of assessment)	P_1	P_2	P_3	P_4	P_5	...	P_N	Total No. of similar packages for all Regions = P_T i.e. Sum (Σ) of columns (iii) to (ix)
2	Number of Months for which 'Monthly Performance Evaluation' as per relevant formats should have been done in the 'period of assessment' for corresponding Similar 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

Sl. No.	Item Description	Details for all Regions							Total
		(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	
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

Note:

- 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
- For R_{BHEL} = 60, P_{Max} = '1'
- For R_{BHEL} ≥ 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/LOA from BHEL.

The "FIRST TIMER" tag shall remain till completion of all the contracts against which vendors 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'.

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). In the unlikely event of all bidders shortlisted against Technical and Financial Qualification criteria not meeting the criteria on 'Assessment of Capacity of Bidders' detailed above, OR leads to a single tender response on applying the criteria of 'Assessment of Capacity of Bidders' OR due to non-approval by Customer, then BHEL at its discretion reserves the right to consider the further processing of the Tender based on the **Overall Performance Rating 'R_{BHEL}'** only, starting from the upper band.
- v). 'Under execution' shall mean works in progress as per the following:
- a. Up to execution of 90% of anticipated Contract Value in case of Civil, MM, Structural and Turbo Blower Packages
 - b. Up to Steam Blowing in case of Boiler/ESP/Piping Packages
 - c. 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 -
- a. **Short hold:** Evaluation shall not be applicable for this period, however Loading will be considered.
 - b. **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.
- ix). Performance evaluation in CL 9 above is applicable to prime bidder and Consortium partner (or Technical tie up partner) for their respective scope of work.

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

BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.

14. Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
15. 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 Clause No. 1, Salient Features of NIT, Sl. No. (xi) above.**

15a. **Integrity Pact (IP)**

- i) 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. A panel of Independent External Monitors (IEMs) have been appointed to oversee implementation of IP in BHEL.

The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory who signs in the offer) along with techno-commercial 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. Details of IEM for this tender is given at point 1 (xi) above.

- ii) Please refer Section-8 of the IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to the IEM mentioned in the tender.

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.

For all clarifications/issues related to the tender, contact details are as per **Clause No. 1, Salient Features of NIT, Sl. No. (ix) above.**

16. The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
17. 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 a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders-
18. Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise
19. (a) 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.
- (b) 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).

- (c) 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 L1 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.**
- (d) If it is found that L1 bidder has quoted higher in online sealed 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).
- (e) If reverse auction process is unsuccessful, sealed envelope price bids of all the techno-commercially qualified bidders shall be opened and the tender shall be processed accordingly. However, the envelope sealed bid(s) of techno-commercially acceptable bidder(s) who had agreed to participate in the RA and had failed to submit the online sealed bid shall not be opened.
20. On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
21. In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
22. The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
23. **Consortium Bidding** (or Technical Tie up) shall be allowed only if specified in Pre Qualifying Requirement (PQR) criteria, and in such a case the following shall be complied with:
- 23.1 Prime Bidder and Consortium Partner or partners are required to enter into a consortium agreement with a validity period of six months initially. In case the consortium is awarded the contract, then the Consortium Agreement between the Prime Bidder and Consortium Partner or partners shall be extended till contractual completion period including extension periods if any applicable.
- 23.2 'Stand-alone' bidder cannot become a **'Prime Bidder' or a 'Consortium bidder' or 'Technical Tie up bidder' in a consortium (or Technical Tie up) bidding.** Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected.
- 23.3 Number of partners for a consortium Bidding (or Technical Tie up) shall be as specified in the PQR
- 23.4 Prime Bidder shall be as specified in the Pre Qualification Requirement, else the bidder who has the major share of work
- 23.5 In order to be qualified for the tender, Prime Bidder and Consortium partner or partners shall satisfy (i) the Technical 'Pre Qualifying Requirements' specified for the respective package, (ii) "Assessment of Capacity of Bidder" as specified in clause 9.0
- 23.6 Prime Bidder shall comply with additional 'Technical' criteria of PQR as defined in 'Explanatory Notes for the PQR'
- 23.7 Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified

- 23.8 In case customer approval is required, then Prime Bidder and Consortium Partner or partners shall have to be individually approved by Customer for being considered for the tender.
- 23.9 Prime Bidder shall be responsible for the overall execution of the contract
- 23.10 In case of award of job, Performance shall be evaluated for Prime Bidder and Consortium Partner or partners for their respective scope of work(s) as per prescribed formats
- 23.11 In case the Consortium partner or partners back out, their SDs shall be encashed by BHEL. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.
- 23.12 In case the prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.
- 23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of two similar works with the same consortium partner or partners under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'stand alone' bidder for similar works, subject to certification from BHEL about the active involvement of the Prime Bidder for satisfactory execution of the works.
- 23.14 The consortium partner shall submit SD equivalent to 2% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value. In case there are two consortium partners, then each partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value.
- 23.15 In case of a Technical Tie up, all the clauses applicable for the Consortium partner shall be applicable for the Technical Tie up partner also
24. The bidder shall upload documents in support of possession of 'Qualifying Requirements' duly self-certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
25. The bidder may have to produce original document for verification if so decided by BHEL.
26. It may please be noted that guidelines/rules in respect of Suspension of Business dealings', 'Vendor evaluation format', 'Quality, Safety & HSE guidelines', milestone/ completion certificate, etc may undergo change from time to time and the latest one shall be followed. The abridge version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' is available on www.bhel.com on "**supplier registration page**".
- 27.0 The offers of the bidders who are on the banned/ hold list as also the offer of the bidders, who engage the services of the banned/ hold firms, shall be rejected. The list of **banned/ hold firms** is available on BHEL web site www.bhel.com
- 27.1 Integrity commitment, performance of the contract and punitive action thereof:
- 27.1.1 **Commitment by BHEL:**
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.
- 27.1.2 **Commitment by Bidder/ Supplier/ Contractor:**
- (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.

- (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.
- (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 indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the prices 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 extent guidelines of the company available on www.bhel.com and / or under applicable legal provisions.

28.0 Not Applicable

29.0 The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

30.0 Order of Precedence

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

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

for BHARAT HEAVY ELECTRICALS LTD

(SCT)

Enclosure:-

- (i) Annexure-1: Pre Qualifying criteria.
- (ii) Annexure-2: Check List.
- (iii) Annexure-3: Authorization of representative who will participate in the online Reverse Auction Process
- (iv) Annexure-4: Feedback form
- (v) Annexure -5: Integrity Pact (IP)
- (vi) Other Tender documents as per this NIT.

ANNEXURE - 1**PRE QUALIFYING REQUIREMENTS**

JOB	ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1 X 660 MW PANKI TPS, PANKI, U.P.
TENDER NO	BHEL/NR/SCT/PANKI/MAIN CIVIL/1114

SL. NO.	NAME AND DESCRIPTION OF PRE-QUALIFICATION CRITERIA	BIDDER'S CLAIM IN RESPECT OF FULFILLING THE PQR CRITERIA
A	Submission of Integrity Pact duly signed	Applicable
B	Assessment of Capacity of bidder to execute the work as per clause 9.0 pf NIT	Applicable – by BHEL
C	<u>Technical</u> <u>Bidder who wish to participate should have experience as follows:</u>	Applicable
C-1	Bidder should have executed similar work for any one of the following in the last seven years from latest date of bid submission: One (1) work of value not less than Rs. 142.20 Crores. OR Two (2) works each of value not less than Rs. 88.90 Crores. OR Three (3) works each of value not less than Rs. 71.10 Crores.	
C-2	Civil Works: Execution of : At least 22800 CUM of RCC completed within a period of twelve consecutive months in cumulative of two concurrently running/ completed contracts OR At least 15200 CUM of RCC completed within a period of twelve consecutive months in one running/ completed contracts.	Applicable
C-3	TG Deck: Completion & Hand over of one STG Deck of ≥ 400 MW for mechanical Erection.	Applicable
C-4	Execution of Structure work for: 1) At least 3712 MT for Structure Fabrication work, completed within a period of twelve consecutive months in cumulative of two concurrently running/ completed contracts. And At least 3712 MT for Structure Erection work, completed within a period of twelve consecutive months in cumulative of two concurrently running/ completed contracts.	Applicable

	OR	
	<p>2) At least 2784 MT for Structure Fabrication work, completed within a period of twelve consecutive months in one running/ completed contracts.</p> <p style="text-align: center;">And</p> <p>At least 2784 MT for Structure Erection work, completed within a period of twelve consecutive months in one running/ completed contracts.</p>	
C-5	<p>Certificate of Completion of fabrication and erection of Mill Bunker structure for at least one unit of minimum capacity 400MW in a Thermal Power Plant.</p> <p style="text-align: center;">OR</p> <p>Execution of Structure work in Bunker for:</p> <p>1) At least 640 MT for Structure Fabrication work, completed within a period of twelve consecutive months in cumulative of two concurrently running/ completed contracts.</p> <p style="text-align: center;">And</p> <p>At least 640 MT for Structure Erection work, completed within a period of twelve consecutive months in cumulative of two concurrently running/ completed contracts.</p> <p style="text-align: center;">OR</p> <p>2) At least 480 MT for Structure Fabrication work, completed within a period of twelve consecutive months in one running/ completed contracts.</p> <p style="text-align: center;">And</p> <p>At least 480 MT for Structure Erection work, completed within a period of twelve consecutive months in one running/ completed contracts.</p>	Applicable
D D-1	<p><u>Financial</u></p> <p><u>TURNOVER:</u> Bidders must have achieved an average annual financial turnover (Audited) of Rs. 53.30 Crores or more over last three Financial Years (FY) i.e. (2014-2015, 2015-2016, 2016-2017). Bidder shall submit audited accounts (balance sheets and profit & loss account) in support of this.</p> <p>In case audited financial statements have not been submitted for all the three years as indicated above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e. total divided by three.</p> <p>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.</p>	Applicable

D-2	<u>NET WORTH:</u> Net worth (only in case of company) of the Bidder based on the latest Audited Accounts as furnished for 'D-1' above should be positive. Net Worth = Paid up share capital* + Reserves. (*: Share Capital OR Partnership Capital OR Proprietor Capital as the case may be.)	Applicable
D-3	<u>PROFIT:</u> Bidder must have earned profit in any one of the three financial years as applicable in the last three financial years defined in 'D-1' above. PROFIT shall be PBT earned during any one year of last three financial years as in 'D-1' above.	Applicable
E	Approval of Customer	Applicable
F	Consortium Criteria	Applicable

Explanatory Notes for QR 'C' :

1. Time period for achievement of the Qualification Requirements is in the last 7 years ending on the 'latest date of Bid Submission' of Tender.
2. For Sl. No. "C-1, C-2, C-3, C-4 and C-5", 'Executed' means the bidder should have achieved this criteria, even if the total contract has not been completed or closed. Actual executed value shall be considered, irrespective of completion status of contract (s) under consideration.
3. For Sl. No "C-1" above the word 'Similar Works' means "Piling AND/OR Civil AND/OR Structural Works AND/OR Chimney AND/OR Cooling Tower".
4. For evaluation of PQR, the credentials of the bidder alone, and not that of the Group Company shall be considered.
5. In case of Consortium the following shall be complied with:
 - a. If Bidder i.e. Prime Bidder, meets the technical criteria at C-1 & C-2 above, they shall be allowed to have a technical tie up or consortium with another experienced party meeting the technical criteria at Sl. No. C-3, C-4 & C-5 above.
 - b. Number of partners including Prime Bidder shall be NOT more than 03 (three).
 - c. All other conditions of consortium shall be as per clause no 23.0 of NIT.
6. For sl.no. 'C-1' above 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-

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

Where

P = Updated value of work

R = Value of executed work

X_N = All India Avg. Consumer Price index for industrial workers for the month, three months prior to the month of latest due date of bid submission (e.g. If latest bid submission date is 03-Apr-17, then bid submission month shall be reckoned as April'17 and index for Jan'17 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 the month, three months prior to the month of latest due date of bid submission (e.g. If latest bid submission date is 03-Apr-17, then bid submission month shall be reckoned as April'17 and index for Jan'17 shall be considered).

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

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

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

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3.a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
3.b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	EMD DETAILS	DD No: Date : Bank : Amount:	
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	YES/NO
8	Copy of PAN Card	Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable	YES/NO
10	Integrity Pact	Applicable	YES/NO
11	Declaration by Authorised Signatory	Applicable	YES/NO
12	No Deviation Certificate	Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable	YES/NO
15	Non Disclosure Certificate	Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable	BY BHEL
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable	YES/NO
20	Analysis of Unit rates	Applicable	YES/NO

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

DATE :

AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

ANNEXURE - 3**Authorization of representative who will participate in the on line Reverse Auction Process;**

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

ANNEXURE – 4**Feedback Form: From where did you get information reg. this tender**

1	NEWSPAPER ADVERTISEMENT (NAME)	
2	BHEL WEBISTE (TENDER NOTIFICATION)	
3	CENTRAL PUBLIC PROCUREMENT PORTAL OF GOVERNMENT OF INDIA (CPP PORTAL)	
4	EMAIL COMMUNICATION FROM BHEL	
5	ANY OTHER SOURCE	

INTEGRITY PACT

Between

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

and

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

Preamble

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

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

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

Section 1 – Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

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

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved

in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

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

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

Section 4 – Compensation for Damages

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

Section 5 – Previous Transgression

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

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

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

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

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

Section 8 –Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

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

Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

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

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

Section 9 – Pact Duration

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

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

Section 10 – Other Provisions

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

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

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

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

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

For & On behalf of the Principal

For & On behalf of the Bidder/ Contractor

(Office Seal)

(Office Seal)

Place-----

Date-----

Witness: _____

Witness: _____

(Name & Address) _____

(Name & Address) _____

TECHNICAL CONDITIONS OF CONTRACT (TCC)

NAME OF WORK: ALL CIVIL, ARCHITECTURAL
AND STRUCTURE WORKS OF MAIN PLANT AND
BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.

BHARAT HEAVY ELECTRICALS LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC) CONTENTS

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I : Project Information

PANKI THERMAL POWER STATION (1x660 MW)

INTRODUCTION

Panki (1X660 MW) is being set up by UTTAR PRADESH RAJYA VIDYUT UTPADAN NIGAM LIMITED (UPRVUNL) at Panki. The site is located within the premises of existing Panki Thermal Power Station, Kanpur. One (01) 660 MW supercritical unit will be installed.

The Bidder shall acquaint himself by a visit to the site, if felt necessary, with the conditions prevailing at site before submission of the bid. The information given here in under is for general guidance and shall not be contractually binding on BHEL/Owner. All relevant site data /information as may be necessary shall have to be obtained /collected by the Bidder.

APPROACH TO SITE

Project Site Location:	Panki, Kanpur
Latitude & Longitude of project site:	North N 26028'20" East E 80014'32"
Nearest Railway Station:	Panki 5 km
Nearest Town:	Kanpur 16km
Nearest Highway:	National Highway – N.H.25
Nearest Airport:	Kanpur (25 km) & Lucknow (80 Km)
Nearest Commercial Airport:	Delhi 140 km

Sl. No.	Title	Description
1	Owner	UTTAR PRADESH RAJYA VIDYUT UTPADAN NIGAM LIMITED (UPRVUNL), LUCKNOW
2	Project Title	Panki Thermal Power Station 1X660 MW TPS Extension
3	Project Site Location	Place - Panki District - Kanpur State - Uttar Pradesh Country - India
4	Land	Land is in possession of UPRVUNL
5	Location Co ordinate	26.28 N, 80.14 E
6	Site Ambient Condition	
I	Monthly mean (DBT) :	Maximum 44.4 °C : Minimum 3.8 °C
II	Extreme Recorded (DBT) :	Maximum 47.3 °C Minimum -0.9 °C
III	Monthly mean (WBT) :	Maximum – 27.3 °C, Minimum 9.2 °C
IV	Relative Humidity :	Maximum 84 % Minimum 28 %

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I : Project Information

V	Average relative humidity Annual	Average 65 %
VI	Seismic Data Rainfall:	Annual average 832.6 mm
VII	Heaviest rainfall recorded in 24 hrs	- 247.4 mm
VIII	Wind Data	Basic wind speed at 10m height 47.00 m/s As per IS: 875 part – III - 1984 For wind resistance design of structure & equipment refer relevant civil section
IX	Seismic Zone	Zone – III As per IS: 1893, For earthquake resistance design of structure & equipment refer relevant civil section

The Nearest Town Kanpur is about 16 Km from site and is easily accessible by Road/ Railway.

INSTRUCTIONS TO TENDERERS

The bidder is advised to visit and examine the site of WORKS and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into the Contract. All costs for and associated with site visits shall be borne by the bidder.

The bidder shall physically visit the site and fully acquaint themselves with site conditions, transportation routes, various distances and the fact that other contractors would be working in this area and their structures are to be protected. The material brought and stacked for construction should not make hindrance to other contractors. **Necessary precaution and arrangements including sprinkling of water during work as acceptable to BHEL for safety & security for the above have to be made by the contractor. No claim will be entertained by BHEL on ground of lack of knowledge and the contractor's rates shall be deemed to have taken this into account.**

The contractor, in the event of this work awarded to him, shall establish an office at site and keep posted an authorized, responsible officer with valid Power of Attorney for the purpose of the contract. Any order or instructions of the 'Engineer' or his duly authorized representative, communicated to the contractor's representative at site office will be deemed to have been communicated to the contractor at his legal address.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

2.0	GENERAL SCOPE OF WORK
2.1	Scope of this tender covers “All Civil, Architectural and Structure Works of Main Plant and BOPs for 1X660 MW PANKI TPS, PANKI, U.P.”
2.2	The brief scope of work is as follows: All Civil, Architectural and Structural works (except Pile, Pile cap and Pedestal) for following major Buildings / Structures: <ol style="list-style-type: none">1. Main Powerhouse, Boiler cum Mill Bay Foundation, ESP Foundations, Fan Foundations.2. BFP Foundations.3. Transformer Foundations and Transformer Yard.4. Service Building.5. CW & ACW Pump House,6. FGD Area (Gypsum Dewatering Building, Limestone Ball Mill Building, FGD absorber, limestone storage silo & Tanks + Air receivers).7. FGD control building and associated structures, Parking for office.8. Compressed Air Building cum DG Room.9. ESP Control Building.10. Fuel Oil Handling System.11. CW Duct and Thrust Block.12. CW Sump & Forebay (Swgr & MCC ROOM).13. Clarified Water Pump House & RCC Tanks.14. CPU Generation Building, Chemical Lab.15. Hydrogen Generation Building & Hydrogen Generation Control Room.16. Air washer building.17. CST & DM tank foundations.18. CST PH, Fire station.19. Administrative building.20. Workshop, Canteen building, Training Centre.21. Ware House/Stores/Storage Yard, Parking Sheds.22. Dispensary & first aid center.23. Drill Tower.24. Additional Switchgear.25. ID Duct support Foundation.26. Pipe & Cable racks (BTG + BOP).27. Storm water Drains & culverts inside plant.28. Pavings (BTG+BOP).29. Plant Road and Levelling grading.30. TG Foundation (except piling).31. Auxiliary Boiler.32. Mill building including Bunker Silos.
2.2.1	The contractor’s scope shall include excavation in soil and rock (if any with/without blasting as per the site conditions), dewatering, dressing to required profile, sheet piling or shoring/strutting, backfilling around completed structures and plinth filling, plinth protection, disposal of surplus earth and rock, concreting including reinforcement and formwork, masonry work, plastering, painting, un-insulated/sandwiched, insulated

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

	<p>metal wall cladding, roofing including permanent steel decking, flooring, acid and alkali resistant lining, doors/windows, ventilators, fire proof doors, under deck insulation, false ceiling in all AC areas, roof water proofing, dismantling of existing structures (below ground and above ground-sheeting, structural steel, other facilities), RCC and brick/block masonry and steel structures, fabrication and erection of all structural steel and miscellaneous steel (i.e. steel stair case, cable/duct/pipe supports, ladders, walkways, railing, chequered plate/grating floor, inserts, anchor bolts, etc.), Engineering consultancy services for Architectural design & drawings of GRIHA and ECBC compliant buildings, paving, fencing, roads, M. S embedment, underground earthing, Gravel filling, precast covers, trestle, cable ducts/duct banks, expansion joints, rain water pipe, water supply, toilet fittings, sewerage, insulation, gates/valves, damp proofing, water proofing of underground structures, anti-weed and anti-termite treatment, roads and drains, trenches, final grading and site clearance before handing over to Owner and other auxiliary items of work, etc. all complete including supply of all materials (except those specified in BHEL scope), consumables, labor, Tools and plants, transportation and storage, sample testing etc. all complete as per BOQ, specifications and drawings for proper and successful execution of the job for 1X660 MW PANKI TPS, PANKI, U.P.</p>
2.2.1	<ul style="list-style-type: none">➤ The area of work shall be cleared of all vegetation, rubbish and other objectionable matter and materials including dismantling, removing and disposing off the existing underground structures / facilities etc. (if found), shall be burnt or otherwise disposed of as directed by the Engineer-in-Charge. No separate payment for these operations shall be made. The cost of all these operations shall be deemed to have been included in the unit rates rendered for the different items under bill of quantities.➤ All the works areas shall be adequately flood lighted to the satisfaction of the Engineer-in-Charge when the work is in progress during the night shifts.➤ The unit rates shall include all material equipment, fixtures, labor construction plant, temporary works and everything whether of permanent or temporary nature necessary for the completion of job in all respects➤ The unit rates quoted for various items of B.O.Q shall include all the stipulations mentioned in Section C and technical specifications under Section D and nothing extra over B.O.Q rates shall be payable➤ Drawings showing enough details for the construction as per the specification shall be furnished to the contractor in a phased manner as far as possible.➤ The bidder should fully apprise himself of the prevailing conditions at the proposed site, climatic conditions including monsoon pattern, local conditions, soil strata and site specific parameters and shall include for all such conditions and contingent measures in the bid, including those which may have not been specifically brought out in the specifications
2.2.2	<p>Cement and Steel Supply: Cement, Reinforcement Steel and Structural Steel (as per BOQ cum Rates Schedule) required for this tender's scope shall be procured by BHEL and issued to contractor as Free of Cost (FOC) Item.</p>
2.2.3	<p>The working area shall be separated from the existing plant area (if required) by cordoning off the area by providing MS / GI sheets of suitable heights with appropriate</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

	frame work as approved by BHEL/ Customer. No extra payment shall be paid to contractor for this work.
2.2.4	The Customer Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd. (UPRVUNL) may depute their representative for checking and supervision of important stages of work. The contractor shall be required to provide all facilities for inspection of works at no extra cost to BHEL. Any defect in quality of work or deviations from drawings / specifications pointed out during such inspection shall be made good by the contractor in the same way as if pointed out by the BHEL Engineer, without any cost implication to BHEL.
2.2.5	The work under this contract shall be carried out as per BOQ Cum Rate Schedule. In case the description / specifications as per BOQ are found to be incomplete, Indian standard specifications shall be followed. Quantities mentioned in the BOQ cum Rate schedules are approximate only and liable for variation due to change in scope of work / variation in schedule of quantities, changes in design etc. The tenderers shall undertake to execute actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out on the basis of quantities actually executed at site and payments will also be regulated for the same. The quantities indicated against each item may vary to any extent and no compensation will be payable in variation of Individual quantity.
2.2.6	The complete works shall be carried out as per BOQ cum Rate schedule. If any work covered in the scope of contract cannot be executed using items available in BOQ, additional / extra items shall be made and rates for such items shall be worked out as per GCC clause 2.15.7. However, contractor shall be bound to execute all the works under the scope of the contract and decision whether an extra item is applicable or not, shall be taken by BHEL Engineer which will be binding on the contractor.
2.2.7	Any activity which is necessarily required for satisfactory execution of any item of BOQ in line with technical specifications shall be deemed to be included in BOQ item even if it is not described in the item description and no extra payment shall be made against such activity.
2.3	<u>The technical requirements for work to be executed under this specification shall be as per Specifications No PE-TS-426-600-C001 (Section C) & PE-TS-999-600-C001 to C023 (Section D, Sub-Section D1 to D23), enclosed with this tender document. (Part - II)</u>
2.4	Contractor's scope also includes following:
2.4.1	Furnishing all labor, materials (except those specified in BHEL scope), supervision, construction plans, equipment, supplies, transport to and from the site, materials handling, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown or specified but reasonably implied or necessary for the proper completion, maintenance and handing over the works, in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provided by BHEL Engineer during the course of works.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

2.4.2	Furnishing samples of all materials required by the engineers for testing / inspection and approval for use in the works. The samples may be retained by the engineer for final incorporation in the works. Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
2.4.3	Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that are required for all works including temporary works.
2.4.4	Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
2.4.5	The scope of work will also include such other related works although they may not be specifically mentioned in the above paragraph and all such incidental items not specified but reasonably implied and necessary for completion of the job as a whole all as desired and as directed by the engineer.
2.4.6	The scope of work covered above is not a comprehensive list of items of work involved. The detail scope of work may vary considerably depending on the actual construction requirements.

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

Sl. No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.0	<u>ESTABLISHMENT</u>			
3.1	<u>FOR CONSTRUCTION PURPOSE:</u>			
3.1.1	Open space for office	Yes		BHEL may provide free of charge limited open space for office and store as and where made available by its customer. Also refer clause no. 3.9.1
3.1.2	Open space for storage	Yes		
3.1.3	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
3.1.4	Bidder's all office equipment, office / store / canteen consumables		Yes	
3.1.5	Canteen facilities for the bidder's staff, supervisors and engineers etc.		Yes	
3.1.6	Firefighting equipment like buckets, extinguishers etc.		Yes	

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

Sl. No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1.7	Fencing of storage area, office, canteen etc. of the bidder		Yes	
3.2	<u>FOR LIVING PURPOSES OF THE BIDDER</u>			
3.2.1	Open space		Yes	
3.2.2	Living accommodation		Yes	
3.3	<u>ELECTRICITY</u>			
3.3.1	<u>Electricity For construction purposes (To be specified whether chargeable or free)</u>		Yes	Construction Power can be provided at single point source at 415V (3-phase) on chargeable basis as and where made available by Owner, however contractor has to deploy DG Sets at no extra cost to BHEL.
3.3.1.1	Single Point source	Yes		
3.3.1.2	Further distribution for the work to be done which include supply of materials and execution		Yes	
3.3.2	<u>Electricity for the office, stores, canteen etc. of the bidder, which include:</u>		Yes	

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

Sl. No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.3.2.1	Distribution from single point including supply of materials and service		Yes	
3.3.2.2	Supply, installation and connection of material of energy meter including operation and maintenance		Yes	
3.3.2.3	Duties and deposits including statutory clearances for the above		Yes	
3.3.2.4	Living facilities for office use including charges		Yes	
3.3.2.5	Demobilization of the facilities after completion of works		Yes	
3.3.3	<u>Electricity for living accommodation of the bidder's staff, engineers, supervisors etc. on the above lines.</u>		Yes	
3.4.0	<u>WATER SUPPLY</u>			
3.4.1	<u>For construction purposes:</u>			
3.4.1.1	Making the water available at single point	Yes		Construction Water may be made available at single point source, as per availability. However Bidder has to

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

Sl. No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.4.1.2	Further distribution as per the requirement of work including supply of materials and execution		Yes	ensure an alternate arrangement for construction water at his own cost by resorting to the methods like bore well, water tankers etc.
3.4.2	<u>Water supply for bidder's office, stores, canteen etc.</u>		Yes	
3.4.2.1	Making the water available at single point		Yes	
3.4.2.2	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.5.0	<u>LIGHTING</u>			
3.5.1	For construction work (supply of all the necessary materials) 1. At office storage area 2. At the preassembly area 3. At the construction site /area		Yes	
3.5.2	For construction work (execution of the lighting work/ arrangements) 1. At office storage area 2. At the preassembly area 3. At the construction site /area		Yes	

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

Sl. No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.5.3	Providing the necessary consumables like bulbs, switches, etc. during the course of construction		Yes	
3.5.4	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
3.6.0	<u>COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER</u>			
3.6.1	Telephone, fax, internet, intranet, e-mail etc.		Yes	
3.7.0	<u>COMPRESSED AIR SUPPLY</u>			
3.7.1	Supply of Compressor and all other equipment required for compressor and compressed air system including pipes, valves, storage systems etc.		Yes	
3.7.2	Installation of the above system and operation and maintenance of the same.		Yes	
3.7.3	Supply of the all the consumables for the above system during the contract period		Yes	
3.8	<u>CONSTRUCTION FACILITIES</u>			
3.8.0	Engineering works for construction:			
3.8.1	Providing the construction drawings for all the works covered under this scope	Yes		

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

Sl. No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.8.2	Drawings for construction methods and detailed shop drawings	Yes	Yes	In consultation with BHEL. Drawings for construction methods and detailed shop drawings shall be prepared by the Contractor as specified in the BOQ.
3.8.3	As-built drawings – where ever deviations observed and executed and also based on the decisions taken at site– routing of small bore pipes		YES	In consultation with BHEL
3.8.4	Shipping lists etc. for reference and planning the activities	Yes		"
3.8.5	Preparation of site construction schedules and other input requirements		Yes	"
3.8.6	Review of performance and revision of site construction schedules in order to achieve the end dates and other commitments	Yes	Yes	"
3.8.7	Weekly construction schedules based on Sl. No 2.1.5		Yes	"
3.8.8	Daily construction / work plan based on Sl. No 2.1.7		Yes	"

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

Sl. No.	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.8.9	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.		Yes	
3.8.10	Preparation of preassembly bay / Fabrication Yard		Yes	
3.9	Other important Conditions regarding facilities to be provided by BHEL / Contractor i.e. Space, Construction Power and Construction Water etc.:			
3.9.1	BHEL may provide free of charge limited open space, for office & storage shed, as and where made available by Customer (UPRVUNL). It is the responsibility of the contractor to construct sheds, fabrication yard, establish batching plant, provide all utilities and dismantle and clear the site after completion of work or as and when required, as a part of his scope of work.			
3.9.2	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.			
3.9.3	Construction power, for construction purposes will be provided on chargeable basis at one point near erection site, from supply point AS AND WHEN IT IS MADE AVAILABLE BY THE CUSTOMER . In the initial stages, the Contractor may have to deploy the DG sets for carrying out the tender works. Further distribution of power (when received) shall be done by contractor at his cost. All wiring must comply with local regulations and will be subject to Engineer's inspection and approval before connecting supply.			
3.9.4	Provision of distribution lines of power and water from the central points to the required place with proper distribution boards observing the safety rules laid down by the authorities of the state shall be done by the contractor, supplying all the materials like cables, distribution board, switch boards, TPN, CBS, ELCBS/ MCCBS / Copper / Brass			

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

	clamps, copper conductor, change over switches, pipes, fittings etc. at his own cost. If any failure is caused in supply of the power and water, it is the responsibility of the contractor to make alternate arrangements at his cost. The contractor shall adjust his working shift / hours accordingly and deploy additional manpower if necessary so as to achieve the targets.
3.9.5	In case of power cuts / load shedding no compensation for idle labour or extension of time for completion of work will be given to contractor.
3.9.6	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.
3.9.7	No claim for damages will be entertained by the Company on account of interruptions of water supply or limitation of quantity of water as aforesaid or on account of the water so taken being not fit for construction purposes or on any other account in connection with such water supply.
3.9.8	CONTRACTOR HAS TO ARRANGE FOR CONSTRUCTION WATER BY PROVIDING SUITABLE BORE WELL WITHIN THE QUOTED RATES. Contractor to satisfy himself that the water drawn by him is fit for construction / consumption and adequately treat such water at his cost when it is not found fit for the said purposes.
3.9.9	The Contractor should make arrangements for storage of sufficient quantity of water required for work.
3.9.10	The Contractor shall during the progress of the work, provide, erect and maintain at his own expenses all necessary temporary workshops, stores, consumables, offices, etc. required for the proper and efficient execution of the work. The planning, setting and erection of these buildings shall have the approval of the Engineer and the Contractor shall at all times keep them tidy and in a clean and sanitary condition to the entire satisfaction of the Engineer.
3.9.11	On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and leveled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event 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.

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

(A) - LIST OF T & Ps TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST:

Sl. No.	EQUIPMENT	INDICATIVE QUANTITY
1.	TRANSIT MIXER WITH MATCHING DUMPERS	8 Nos.
2.	CONCRETE PUMPS (STATIC)	2 Nos.
3.	BOOM PLACER	2 Nos.
4.	SUBMERSIBLE PUMP (DIESEL / ELEC)	2 Nos.
5.	PLC OPERATED BATCHING PLANT (MIN 60 CUM PER HOUR)	1 Nos.
6.	MINI BATCHING PLANT CP-15	2 Nos.
7.	CRAWLER / TYRE CRANE- 75 T CAPACITY	1 Nos.
8.	CRAWLER / TYRE CRANE- 40 T CAPACITY	1 Nos.
9.	LIGHT CRANE 18/20 MT	2 Nos.
10.	Hydra 12/14 T Capacity	3 Nos.
11.	15/20 MT TRAILORS WITH PULLING UNIT / TRACTOR – TRAILORS	5 Nos.
12.	DE WATERING PUMP – 5/10/25 HP	1 Nos. EACH
13.	SLUDGE / SLURRY PUMP (DIESEL / ELEC)	1 Nos.
14.	POWER DRIVEN EARTH RAMMER	1 Nos.
15.	REINFORCEMET CUTTING / BENDING MACHINE	3 Nos.
16.	PORTABLE LIGHTING MAST / LIGHTING SYSTEM	4 Nos.
17.	CEMENT STORAGE SHED OF MIN 800 MT CAPACITY	1 Nos.
18.	DG SET 125 kVA	1 Nos.
19.	CONCRETE MIXTURE M/C	APR*
20.	CONCRETE VIBRATORS	APR*
21.	POWER / HAND WINCHES	APR*

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

22.	WELDING MACHINES	APR*
23.	HEATING OVEN	APR*
24.	PORTABLE OVENS	APR*
25.	PORTABLE GRINDING MACHINE F VARIOUS SIZES	APR*
26.	SPRAY PAINTING EQUIPMENT	APR*
27.	PAINT THICKNESS MEASURING EQUIPMENT	APR*
28.	EXCAVATORS	APR*
29.	EARTH COMPACTOR	APR*
30.	PLATE COMPACTOR	APR*
31.	PNEUMATIC JACK HAMMER	APR*
32.	SLUDGE / SLURRY PUMP (DIESEL / ELECT)	APR*
33.	PLATE BENDING MACHINE	APR*
34.	VIBROMAX	APR*
35.	ROAD ROLLER	APR*
36.	ALL SCAFFOLDING MATERIALS	APR*
37.	PLY SHUTTERING BOARD WITH ADEQUATE SUPPRTING STRUCTURE	APR*
38.	PIPE CUTTING MACHINE	APR*
39.	VIBRO - HAMMER / DROP HAMMER ARRANGEMENT	APR*
40.	HYD EXCAVATORS / POCLAINS / JCB	APR*
41.	DUMPERS	APR*
42.	DOZERS	APR*
43.	AIR COMPRESSOR	APR*
44.	WINCH WITH BUILDING HOIST	APR*

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

45.	WATER TANKER WITH SPRINKLER	APR*
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APR*: As per Requirement

NOTES:

1. The above list – (A) is only indicative and these T&Ps may not be required for entire contract period but contractor will ensure that these T & Ps are provided as per the work requirement. **T&P Deployment schedule will be finalized at site based on the work fronts and in consultation with BHEL Engineer. Contractor have to mobilize / maintain the T& P as per the schedule notified time to time by BHEL Engineer.**
2. If any one of T&P mentioned above is not needed for proper execution of scope of work, provided contractor has not utilized BHEL free issued T&P for completing such work, no recovery from contractor shall be applicable.
3. Any additional item required in addition to above mentioned T&P for proper execution of scope of work, contractor has to arrange such T&P within quoted rate on the instruction of BHEL in writing in a reasonable period within two weeks from the written instruction from BHEL.
4. In case deployment of T&P w.r.t requirement, is delayed or deployed for a shorter period or abnormal down time of T&P or in case T&P w.r.t requirement was not deployed by the contractor as per instruction of BHEL and BHEL had to deploy either its own T&P or from outside, the recovery shall be done from the contractor as under:
 - a. In case BHEL had to deploy its own T&P, hire charges of T&P applicable for outside agencies as per extant guidelines for “Hire Charges on issue of Capital Tools & Plants” shall be recovered.
 - b. In case BHEL had to deploy the T&P from outside, actual hiring cost plus applicable overheads shall be recovered.
5. All the tools and tackles/measuring instruments shall be duly tested/calibrated and valid certificate to that effect should be submitted to BHEL site in-charge before the start of work.
6. Other terms and conditions regarding above items please also refer clause for T&P/IMTEs in SCC.
7. All the tools and plants required for this scope of work, except the Tools & Plants provided by BHEL are to be arranged by the contractor within the quoted rates. The list is suggestive

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

in nature. Any additional T & P required to meet BHEL commitments/schedule shall be arranged without any extra cost by the contractor.

8. If the work related to T & Ps mentioned above list - (A) is completed then, Engineer I / C can release the T & P during contract period / extended period if any. However, written permission shall be taken by contractor from BHEL construction Manager before releasing T&P.

B- LIST OF IMTEs/MMEs REQUIRED:

SL NO	EQUIPMENT
1	TOTAL STATION
2	AUTO LEVEL AND STAFF
3	COMPRESSION STRENGTH TESTING EQUIPMENT
4	CONSTRUCTION MATERIAL TEST EQUIPMENT
5	CONCRETE CUBE MOULDS (150 X 150 X 150) mm
6	CONCRETE SLUMP CONE
7	COARSE AGGREGATE SIEVES & SAND SIEVER
8	SIEVES AND SIEVE SHAKER
9	AGGREGATE IMPACT TEST MACHINE
10	LE CHATELEIR'S APPROATUS AUTO CLAVE EQUIPMENT
11	LOS ANGES ABRASION TESTING MACHINE
12	AGGREGATE CRUSHING VALUE APPRATUS
13	THICKNESS GAUGE FOR MEASURING FLAKINESS INDEX
14	ELONGATION GAUGE
15	PYCNOMETER (FOR SPECIFIC GRAVITY OF AGGREGATES)
16	MOTORISED VIBRATION MACHINE FOR CEMENT TESTING
17	PHYSICAL BALANCE FOR LAB WORK
18	RAPID MOISTURE METER
19	VICAT APPARATUS WITH PLUNGERS FOR CEMENT TESTING
20	TOTAL STATION
21	DUMPY LEVEL UP TO 350 MM
22	CORE CUTTER TEST APPARATUS
23	CUBE MOULDS (70MM SIZE)
PROCESS CONTROL ACCESSORIES	
1	HOT AIR OVEN (TEMPERATURE RANGE 50° C TO 300°C)
2	ELECTRONIC BALANCE OF REQUIRED CAPACITY & SIZE

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3	PHYSICAL BALALANCE OF REQUIRED CAPACITY & SIZE
4	THERMOMETRE (RANGE 0°C TO 150°C)
5	POKER THERMOMETER (CONCRETE ROAD) OF REQUIRED RANGE
6	MEASURING JARS (100ml, 200ml, 500ml & 1000ml)
7	DIGITAL pH METER
8	DIGITAL MICROMETER
9	DIGITAL PAINT THICKNESS METER FOR STEEL
10	SCREW GAUGE (0.1mm – 10mm, Least Count .05)
11	DIGITAL PAINT THICKNESS METER FOR MASONRY / CONCRETE PAINTING

NOTES:

1. The above list is only indicative and these IMTEs/MMEs may not be required for entire contract period and will be provided as per need. Contractor will assess actual quantity and period of requirement based on his experience.
2. Other terms and conditions regarding above items please also refer clause for T&P/MMEs.
3. The contractor has to establish / arrange at site the field-testing facilities for testing of civil construction materials and concrete cubes for ensuring the proper quality, grade and strength of the materials used in the construction in line with approved field quality checklist of BHEL/ its client. Contractor has to submit detailed report for testing of all material used etc. All testing shall be done as per IS code specifications/ BHEL's quality plan. If further test is required by the engineer to be carried from outside laboratory, the cost of the same shall be borne by the contractor.
4. All the IMTEs /MMEs required for this scope of work, except the IMTEs / MMEs provided by BHEL, are to be arranged by the contractor within the quoted rates. **The list is suggestive in nature. Any additional IMTEs / MMEs required to be arranged by the contractor.**

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

THE LIST OF T&Ps BEING PROVIDED BY BHEL FOR USE OF CONTRACTOR FREE OF HIRE CHARGES ON SHARING BASIS:

SI No.	EQUIPMENT	QUANTITY	PURPOSE	REMARKS
1	CRAWLER CRANE 250/270 MT	01	FOR HEAVY STRCUTURE ERECTION WORKS WHICH CAN NOT BE EXECUTED USING CRANES IN CONTRACTOR'S SCOPE	ON SHARING BASIS
2	CRAWLER CRANE 135 MT	01	FOR HEAVY STRCUTURE ERECTION WORKS WHICH CAN NOT BE EXECUTED USING CRANES IN CONTRACTOR'S SCOPE	ON SHARING BASIS

NOTES:

1. The contractor shall make necessary arrangement like laying of steel plates, assembly & dismantling of heavy lift attachment, boom, jib etc. for movement and operation of crane.
2. Any other special T&P if supplied by the manufacturer and available with the customer may also be provided to the contractor free of hire charges as and when made available. Special tools and tackles are to be used only for the purpose for which these are meant and to be returned in good condition.
3. For T&P other than cranes, mentioned above and any other provided by BHEL for erection and commissioning purposes, contractor shall transport from BHEL stores, install, operate, carry out maintenance, dismantle after use and return to BHEL stores in working condition.
4. Other terms and conditions regarding above items shall be as per T&P clause in SCC.
5. Cl.4.2.2.16 c.) of SCC shall read as day-today upkeep and running maintenance like filling topping up of lubricants, changing filters, etc. including repair of self-starter, batteries and dynamo of these cranes shall be excluded from the scope of the contractor. In case of breakdown of crane, contractor shall provide the necessary manpower for maintenance of the crane to maintenance agency, failing to do so BHEL will get the job done at the risk and cost of contractor. 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.

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basis**

6. Cl.4.2.2.16 e.) of SCC. The operator, helper & maintenance personal for BHEL's cranes 100 MT & above capacity being provided by BHEL free of cost. Further fuel for operation of all BHEL cranes shall be provided by contractor without any extra cost.

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Chapter – VI: Time Schedule

6.0	TIME SCHEDULE (MOBILIZATION, TIME SCHEDULE, CONTRACT PERIOD)		
6.1	INITIAL MOBILIZATION After receipt of Letter of Award (LOA), Contractor shall discuss with Project Manager / Construction Manager regarding initial mobilization. Contractor shall mobilize necessary resources within 4 weeks of issue of letter of intent or as per the directive of Project Manager / Construction Manager. Such resources shall be progressively augmented to match the schedule of milestones as directed by BHEL Engineer.		
6.2	START DATE / ZERO DATE The schedule date of start of work shall be the date after 4 weeks of issue of LOA; The Actual Date of Start of Contract Period (Zero Date) shall be date of handing over of site to contractor for work and shall be certified by the BHEL Engineer.		
6.3	COMPLETION PERIOD: Entire work as detailed in tender specification shall be completed within 30 (Thirty) months from the actual date of start of work as per the programs / milestones indicated by BHEL. Contractor has to mobilize adequate resources to meet BHEL's commitments to their customer as indicated from time to time. In the event the contractor fails to respond to these requirements, BHEL shall take appropriate actions to meet customer's commitments in line with the provisions of General Conditions of Contract.		
6.3	In case due to reasons not attributable to the contractor, the work gets delayed and scheduled completion gets extended, time extension will be granted by BHEL as per clause no. 2.11 of GCC.		
6.4	The work under the scope of this contract is deemed to be completed in all respects, only when all the works are carried out as per satisfaction of BHEL. The decision of BHEL on completion date shall be final and binding on the contractor.		
6.5	In order to meet above schedule in general, and any other intermediate targets set, to meet customer/ project schedule requirements, contractor shall arrange & augment all necessary resources from time to time on the instructions of BHEL without any extra cost to BHEL.		
6.6	CONTRACT PERIOD: The contract period for completion of entire work under scope of this contract shall be 30 (Thirty) Months from the actual / zero date of start of work.		
6.7	The Milestones are as under:		
	Mile Stone	Schedule from Zero date	Intermediate Milestone (M1 & M2)
	Readiness of Main Trunk Roads	Within 3 Month	

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Chapter – VI: Time Schedule

	Completion of Fan Foundations	Within 12 Month	
	Completion of TG Deck and TG Floor	Within 14 Month	M1
	Completion of Powerhouse Civil and Structure Works for Mechanical Erection	Within 18 Months	M2
	Completion of Transformer Foundations, Rails and Yard	Within 20 Months	
	Completion of Mill and Bunker Structure including Coal Bunkers (Foundations and Superstructure)	Within 24 Month	
	Completion of BOP Buildings	Within 27 Months	
	Finishing Works /Completion in all respect	Within 30 Month	
6.8	<p>Provision of Penalty in case of slippage of Intermediate Milestones:</p> <p>A. Two Major Intermediate Milestones are identified as M1 and M2 above.</p> <p>B. In case of slippage of these identified Intermediate Milestones, Delay Analysis shall be carried out on achievement of each of these two Intermediate Milestones.</p> <p>C. In case delay in achieving M1 Milestone is solely attributable to the contractor, 0.5% per week of executable contract value*, limited to maximum 2% of executable contract value, will be withheld.</p> <p>D. In case delay in achieving M2 Milestone is solely attributable to the contractor, 0.5% per week of executable contract value*, limited to maximum 3% of executable contract value, will be withheld.</p> <p>E. Amount already withheld, if any against slippage of M1 milestone, shall be released only if there is no delay attributable to contractor in achievement of M2 Milestone.</p> <p>F. Amount required to be withheld on account of slippage of identified intermediate milestone(s) shall be withheld out of respective milestone payment (corresponding RA Bill) and balance amount (if any) shall be withheld @10% of RA Bill amount from subsequent RA bills.</p> <p>G. Final deduction towards LD (if applicable), on account of delay attributable to contractor shall be based on final delay analysis on completion/ closure of contract. Withheld amount, if any due to slippage of identified intermediate milestone(s) shall be adjusted against LD or released as the case may be.</p> <p>H. In case of termination of contract due to any reason attributable to contractor before completion of work, the amount already withheld against slippage of intermediate milestones shall not be released and be converted into recovery.</p>		

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Time Schedule

	<i>* Executable Contract Value - Value of work for which inputs/ fronts were made available to contractor and were scheduled for execution till the date of achievement of that milestone.</i>
6.9	CONSEQUENCE OF DELAY It may be noted that in the event, delay in completion is attributable to the contractor; BHEL will impose LD on the contractor as per clause no. 2.7.9 of GCC.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VII: Terms of Payment

7.0	TERMS OF PAYMENT
7.1	The 'Engineer' will certify regarding the actual work executed in the measurement books and bills, which shall be accepted by the contractor in measurement book.
7.2	The Contractor shall be paid monthly running bill as per chapter – X of SCC and Clause Nos. 2.22 & 2.23 of GCC. The format for billing shall be approved by BHEL before raising invoices.
7.3	The contractor on certification of the engineer at site is entitled for payments of his running bills which shall be subject to any deduction/retention specifically under clauses 2.22 of GCC and 10.0 of SCC.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VIII: Taxes & Duties

8.0	TAXES & DUTIES
8.1.1	<p>Price quoted should be inclusive of all applicable Taxes/charges but Excluding GST. The Contractor shall pay all other taxes, fees, royalty, commission etc. which may be levied on the contractor in executing the contract. In case BHEL is forced to pay any of such taxes, it shall be recovered from Contractor's bills or otherwise as deemed fit.</p> <p>GST Shall be payable extra as per following:</p>
8.1.2.	<p>Contractor/Vendor has to issue invoice indicating HSN/SAC code, Description, Value, Rate, applicable tax and other particulars in compliance with the provisions of relevant GST Act and Rules made thereunder. With the implementation of e way bill provisions, contractor shall comply with same as applicable.</p>
8.1.3	<p>Vendor has to submit GST compliant invoice within seven days from the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any hardship to BHEL in claiming the input thereof. In case of goods, vendor has to provide scan copy of invoice & GR/LR/RR to BHEL before movement of goods starts. Special care should be taken in case of month end transactions.</p>
8.1.4.	<p>GST amount claimed in the invoice shall be released on fulfilment of all the following conditions by the Contractor : -</p> <ul style="list-style-type: none">a. Supply of goods and/or services have been received by BHEL.b. Original Tax Invoice has been submitted to BHEL.c. Respective invoice has appeared in BHEL's GSTR - 2A for the month corresponding to the month of invoice. Alternatively, BG of appropriate value may be furnished which shall be valid at least one month beyond the due date of confirmation of relevant payment of GST on GSTN portal or sufficient security is available to adjust the financial impact in case of any default by the contractor.
8.1.5	<p>Contractor shall be solely responsible for discharging his GST liability according to the provisions of GST Law and BHEL will not entertain any claim of GST/interest/penalty or any other liability on account of failure of contractor in complying the provisions of GST Law or discharging the GST liability in a manner laid down thereunder</p>
8.1.6	<p>In case declaration of any invoice is delayed by the vendor in his GST return or any invoice is subsequently amended/alterd/deleted on GSTN portal which results in any adverse financial implication on BHEL, the financial impact thereof including interest/penalty shall be recovered from the Contractor's due payment.</p>
8.1.7	<p>Any denial of input credit to BHEL or arising of any tax liability on BHEL due to non-compliance of GST Law by the Contractor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Contractor.</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VIII: Taxes & Duties

8.1.8	The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract is limited to direct transactions between BHEL & its Contractor. BHEL is not responsible for any liability that may arise due to any transaction beyond the direct transaction between BHEL & its Contractor.
8.1.9	<p><u>Variation in Taxes & Duties:</u></p> <p>Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability.</p> <p>In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its contractor only and within the contractual delivery period only.</p> <p>In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of price bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.</p>
8.1.10	<p><u>Modalities of Tax Incidence on BHEL:</u> Where GST law permits more than one option or methodology for discharging liability of tax/ levy/ duty; the contractor shall approach BHEL before choosing any option to discharge his tax liability. BHEL shall have the right to direct the contractor to adopt the appropriate option considering the amount of tax liability on BHEL as well as procedural simplicity with regard to assessment of the liability.</p> <p>The option chosen by BHEL shall be binding on the contractor for discharging the obligation of BHEL in respect of the tax liability to the contractor.</p>
8.2	<p>BUILDING & OTHER CONSTRUCTION WORKERS (REGULATION OF EMPLOYMENT AND CONDITIONS OF SERVICE) ACT, 1996 (BOCW Act) AND RULES OF 1998 READ WITH BUILDING & OTHER CONSTRUCTION WORKERS CESS Act, 1996 & CESS RULES, 1998.</p>
	<p>In case any portion of work involves execution through building or construction workers, then compliance to the above titled Acts shall be ensured by the contractor and contractor shall obtain license and deposit the cess under the Act. In the circumstances it may be ensured as under:-</p>
8.2.1	<p>It shall be the sole responsibility of the contractor in the capacity of employer to forthwith (within a period of 15 days from the award of work) apply for a license to the Competent Authority under the BOCW Act and obtain proper certificate thereof by specifying the scope of its work. It shall also be responsibility of the contractor to furnish a copy of such certificate</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VIII: Taxes & Duties

	of license / permission to BHEL within a period of one month from the date of award of contract.
8.2.2	It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under these act and rules including that of payment / deposit of 1% cess on gross payment made for value of work involving building or construction workers engaged by the contractor within a period of one month from the receipt of payment.
8.2.3	It shall be the responsibility of the sub-contractor to furnish the receipts /challans towards deposit of the cess together with the number, name and other details of beneficiaries (building workers) engaged by the sub-contractor during the preceding month.
8.2.4	It shall be the absolute responsibility of the sub-contractor to make payment of all statutory payments & compensations to its workers including that is provided under the Workmen's Compensation Act, 1923.
8.2.5	The contractor shall, however ensure before deposit of any BOCW Cess, that customer is not depositing the same in order to avoid excess deposit of cess.
8.2.6	The contractor shall bear cost of BOCW cess either by way of deposit or through recovery by BHEL in case the same is deposited by the customer.
8.2.7	In case of failure in above mentioned compliances, BOCW Cess @ 1% as well as applicable penalty as specified in BOCW Act/Rules shall be deducted from the contractor.

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Chapter-IX: Materials and Other Requirements

9.0	MATERIALS
9.1	The contractor shall at his own expenses provide all materials including paints, welding electrodes etc. required for the work. However for permanent works cement, reinforcement steel and structure steel will be issued free of cost as per BOQ cum Rate Schedule, terms & conditions specified in clause No. 9.14 from BHEL / Customer stores or at a point instructed by BHEL.
9.2	All materials to be provided by the Contractor shall be of the best kind in conformity with the specifications laid down in the contract or as per relevant Indian standard and the Contractor shall, if requested by the BHEL Engineer, furnish proof to the satisfaction of BHEL Engineer that the materials so comply.
9.3	The Contractor shall, at his own expense and without delay, supply to the BHEL Engineer, samples of materials proposed to be used in the works. The BHEL Engineer shall within seven days of supply of samples or within such further period as he may require will intimate to the Contractor in writing, whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the BHEL Engineer for his approval fresh samples complying with the specifications laid down in the Contract. Any delay in approval of samples (original or fresh ones) shall not make the contractor eligible for any compensation.
9.4	The BHEL Engineer shall have full powers for removal of any or all of the materials brought to site by the Contractor which are not in accordance with the Contract specifications or do not conform in character or quality to samples approved by him. In case of default on the part of the Contractor in removing rejected materials, the BHEL Engineer shall be at liberty to have them removed by other means. The BHEL Engineer shall have full powers to procure other proper material to be substituted for rejected materials and in the event of the Contractor refusing to comply; he may cause the same to be supplied by other means. All costs, which may attend upon such removal and / or substitution, shall be borne by the Contractor.
9.5	The Contractor shall indemnify BHEL, its representatives or employees against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties or other charges which may be payable in respect of any article or material or part thereof included in the Contract. In the event of any claim being made or action being brought against BHEL or any agent, servant or employee of BHEL in respect of any such matters as aforesaid, the Contractor shall immediately be notified thereof, provided that such indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by BHEL but the Contractor shall pay any royalties or other charges payable in respect of any such use, the amount so paid being reimbursed to the Contractor only if the use was the result of any drawings / specifications issued after submission of the tender.

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Chapter-IX: Materials and Other Requirements

9.6	The BHEL Engineer shall be entitled to have tests carried out as specified in the Contract for any materials supplied by the Contractor other than those for which, as stated above, satisfactory proof has already been furnished, at the cost of the Contractor and the Contractor shall provide at his expense all facilities which the Engineer may require for the purpose. If no tests are specified in the Contract, and such tests are required by BHEL Engineer, the Contractor shall provide all facilities required for the purpose and the charges for these tests shall be borne by the Contractor only. The cost of materials consumed in tests shall be borne by the Contractor in all cases except when otherwise provided.
9.7	In addition, the Contractor shall perform / submit at his own cost such tests / samples as may be required by the BHEL Engineer out of the materials used by the company except for the costs of materials used in such tests/ samples.
9.8	After acceptance of the Contract, if Contractor desires BHEL to supply any other materials, such material may be supplied by BHEL, if available, at rates to be fixed by the BHEL Engineer along with prevailing departmental charges. BHEL reserve the right not to issue any material. The non-issue of such material will not entitle the Contractor for any compensation whatsoever either in time or in cost.
9.9	Material required for the works, whether brought by the Contractor or supplied by BHEL, shall be stored by the Contractor only at places approved by BHEL Engineer. Storage and safe custody of material shall be the responsibility of the contractor.
9.10	BHEL's officials concerned with the Contract shall be entitled at any time to inspect and examine any materials intended to be used in or on the works, either on the Site or at factory or workshop or other place(s) where such materials are assembled, fabricated, manufactured or at any place (s) where these are lying or from which these are being obtained and the Contractor shall give such facilities as may be required for such inspection and examination.
9.11	All materials brought to the Site shall become and remain the property of BHEL and shall not be removed off the Site without the prior written approval of the BHEL Engineer. But whenever the Works are finally completed and advance, if any, in respect of any such material is fully recovered, the Contractor shall at his own expense forthwith remove from the Site all surplus material originally supplied by him and upon such removal, the same shall re-vest in and become the property of the Contractor.
9.12	It shall be the responsibility of the contractor to obtain prior approval of BHEL, regarding suppliers, type of electrodes etc. before procurement of welding electrodes / TIG wires. On receipt of electrodes at site these shall be subjected to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch No. date of expiry etc. and produce test certificate for each lot / batch with correlation of batch / lot no. with respective test certificate. No electrode will be allowed to be used without valid test certificate.

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Chapter-IX: Materials and Other Requirements

9.13	All charges on account of Octroi, terminal or sales tax and other duties on material obtained for the works from any source shall be borne by the contractor.
9.14	ISSUE AND ACCOUNTING OF CEMENT, REINFORCEMENT STEEL.
9.14.1	Cement, steel (reinforcement & structure) will be issued as free issue materials from BHEL / UPRVUNL site stores or other issuing points as specified by the Engineer. Such issues would be only for permanent works. Necessary indents shall be raised by the contractor as per procedure laid down by the Engineer-in-Charge about 7 days in advance of the actual requirement for incorporation in the works.
9.14.2	Materials will be issued only for permanent works and not for making templates, other temporary works, enabling works etc. and the same shall not be taken into account for purpose of material reconciliation.
9.14.3	The contractor shall bear all other costs including the lifting, carting from issue points to works site / contractor's stores, custody and handling etc. and return of surplus / serviceable materials to Owner's stores to be designated by the Engineer-in-charge and all expenditure will be made by the contractor.
9.14.4	All steel shall be issued in available lengths / shapes and no claims for extra payment on account of issue of non-standard lengths / shapes will be entertained. For the purpose of billing and accounting only linear measurement will be taken and weight will be calculated as per the IS Co-efficient. The different in unit weight as per IS and actual as issued, if any shall be to the contractor's account and contractor shall quote the rates for corresponding item to take care of such difference.
9.14.5	Cement, as received from the Manufacturer / Stockiest will be issued to the contractor. The theoretical weight of each bag of cement for issue purpose will be considered as 50Kgs. Per Bag. Any type of cement and in any container as received from Manufacturer / Stockiest shall be issued to the contractor No claim whatsoever shall be entertained on this. Cement bags weighing up to 4% less will be accepted by the contractor and accounted for as 50Kg per bag.
9.14.6	The Contractor shall maintain good stores for storing the cement issued to him. The flooring of the storage house, the clearance of cement bags from the sidewalls etc., shall be as per the instructions of the Engineer-in-charge.
9.14.7	The cement stores shall be open for supervision and verification by the Engineer-in-charge or his authorized representative by any time when the Engineer-in-charge feels the need to do so.
9.14.8	In the case of steel materials, the same shall be issued generally on the basis of linear measurement and the corresponding weight will be calculated as per Indian Standard. For the purpose of billing & accounting, only linear measurement will be taken and any difference in weight based on linear measurement & actual weight shall be to contractor's account. Quoted price shall be deemed to include the above & the permissible wastage mentioned. No claim

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Chapter-IX: Materials and Other Requirements

	whatsoever shall be entertained on account of wastage & difference in weight as referred to above.		
9.14.9	Issue of stores material is subject to availability and the contractor shall not be entitled to any claim or compensation for non-supply or delay in the supply under any circumstances. The material will be issued generally during the working hours.		
9.14.10	The Contractor will have to submit their design mix for different grades of Concrete keeping in view the requirements stipulated in IS:456, specifically regarding slump and Water Cement ratio and Specific Gravity of Materials brought to site as analyzed in the laboratories. The design shall be used upon absolute volume method and theoretical consumption of Cement shall be worked out on this basis. For other than above designated mix Concrete items, the coefficients for consumption of cement shall be adopted as per CPWD practice. The theoretical consumption of cement thus worked out shall be binding upon the Contractor for reconciliation of Cement issued by the Owner. For any excess /under consumption based on these coefficients, the Contractor shall be penalized as per contract provisions. Though, permissible wastage specified shall be considered, while effecting penal recovery, no other allowance whatsoever shall be taken for reconciliation purposes.		
9.14.11	The theoretical consumption of cement, reinforcement steel and structural steel required for the work will be calculated on the basis of approved drawings / joint measurements. In the case of cement, the theoretical consumption shall be decided by the Engineer as mentioned above and his decision in this regard shall be final and binding on the Contractor. Reinforcement and structural steel shall be measured by weight in tones. The weight will be arrived at by multiplying the used length by the sectional weight. The sectional weight will be same as were applied at the time of issue. Standard hooks, cranks, bends and authorized laps, chairs, separator pieces etc. specified in drawing or instructed by engineer as required shall be measured and paid for. No payment shall be made for binding wires, spacer block etc. required for keeping the steel in position unless otherwise specified in the contract. No extra payment will be made for modification of already embedded reinforcement, if required due to faulty fabrication or placement.		
9.14.12	The contractor shall submit proper account of material / material reconciliation statement for the material drawn by him from stores once in every three months. Failing compliance of this requirement further issue of steel to the contractor may be suspended and no claim of compensation for delay in execution on this account shall be entertained.		
9.14.13	All the cement & reinforcement steel thus issued shall be properly accounted for as per the following permissible wastage over the theoretical quantity / consumption incorporated in the works.		
	Item	Area	Permissible Variation / Wastage
	Cement	For All works	1.5%
	Reinforcement Bars & MS Earthing Rods	For All works	3%

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	Structural Steel	For All Works	4%
9.14.14	Any unused / serviceable quantity of cement, reinforcement steel & structural steel not returned in good condition & wastages / loss / consumption beyond specified / agreed limits shall be charged at penal rate of Rs 7000 per MT for cement, Rs 60,000 per MT for reinforcement steel & Rs 70,000 per MT for structural steel at the time of preparing final bill, during finalization of the contract. The decision of Engineer-in-charge with regard to applicability of penal rates shall be final & binding upon the contractor.		
9.14.15	For the materials i.e. Reinforcement (TMT), Structure Steel being issued free of cost, the scrap generated shall belong to BHEL.		
9.14.16	Empty cement bags shall be the property of contractor and recovery @ 01/- (Rs. One only) per empty cement bag shall be made from their RA bills.		
9.14.17	<p>SCRAP & SERVICEABLE MATERIALS:</p> <p>All reinforcement steel / Structural steel (rolled sections) of length above 2 M shall be considered as serviceable materials provided the materials be in good and acceptable condition. Structural Steel / Reinforcement steel in length less than 2 M shall be treated as scrap.</p> <p>All plates/ sheets of size above 2 SQM shall be considered as serviceable materials provided the materials be in good and acceptable condition. All plates and sheets below the size of 2 SQM shall be treated as scrap.</p>		

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10.1	EXECUTION OF WORK
10.1.1	The work shall be executed in a workman like manner and to the entire satisfaction of the Engineer and as per technical specification issued with tender, IS codes, technical specifications as applicable. In case of conflict, the decision of the Engineer I/c shall be final & binding.
10.1.2	The Engineer I/c will communicate or confirm his instructions to the Contractor in respect of the execution of the work in a "Work Site Order Book" maintained at his office and the Contractor shall visit this office daily and shall confirm receipt of such instructions by signing the relevant entries in this book or through e-mail. Such entries / e-mails will rank as order or notices in writing within the intent and meaning of these conditions.
10.1.3	Only BHEL approved make of electrodes will be used. All electrodes shall be heated and dried in the electric electrode drying oven to the required temperature for the period specified by the Engineer before these are used in erection work. All welders shall have electrodes drying portable oven at the work spot. The electrodes brought to site will have valid manufacturing test certificate. The test certificate will have co-relation with the lot no. / batch no. given on electrode packets. No electrodes will be allowed to be used in the absence of above requirement. The thermostat and thermometer of electrode drying oven will be also calibrated and test certificate from Govt. approved / accredited test house traceable to National / International standards) will be submitted to BHEL before putting the oven in use. Periodical calibration for the same shall also be arranged by the contractor within the finally accepted rates.
10.2	SETTING OUT
10.2.1	All the works shall be set out to the true lines, grades and elevation indicated on the drawing. The contractor shall be responsible to locate and set out the works. Only one grid reference line and bench mark all be made available for setting out the works under the contract. This reference lines shall be used as datum for the works under the contract and the contractor has to establish for his work area at available points horizontal and vertical control points. The contractor shall inform BHEL well in advance of the times & places at which he wishes to do work in the area allotted to him so that suitable datum points established by him are checked by BHEL / Customer to enable the contractor to proceed with the works. Any work done without being properly located may be removed and / or dismantled by BHEL / Customer at contractor's expense.
10.2.2	The contractor shall at his own expense take all proper and responsible precautions to preserve and maintain these datum marks to its true position. In the event of these marks being disturbed or obliterated by accident or due to any other cause whatsoever, the same may be deemed necessary placed by BHEL / Customer at contractor's expenses.
10.3	SITE DRAINAGE

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10.3.1	All water including sub-soil water which may accumulate on the Site during the progress of the works or in trenches and excavations, including monsoon period shall be removed by the contractor from the Site to the satisfaction of the Engineer. It will also be responsibility of the contractor to de-water all the foundation pits, trenches with suitable de-watering methods like, pumping out, well point system etc. considering the depth of water table at plant site. All such expenditure on de-watering shall be deemed to be included in quoted rates.
10.4	INSPECTION AND STAGE APPROVAL OF THE WORK
10.4.1	The owner or his duly authorized representative shall have at all reasonable times access to the contractor's premises or works and shall have the power to inspect drawings or any portion of the work, examine the materials and workmanship and shall have the authority to reject any work. This would be implemented through joint inspection by the representative of the owner and BHEL and in the form of joint protocols without any extra claims and loss of time and amount.
10.4.2	All work embracing more than one process shall be subject to examination and approval at each stage thereof and the Contractor shall give due notice in writing to the Engineer when each stage is ready. In default of such notice being received, the Engineer shall be entitled to approve the quality and extent thereof at any time he may choose and in the event of any dispute, the decision of the Engineer thereon shall be final and conclusive.
10.5	UNCOVERING AND MAKING GOOD
10.5.1	The Contractor shall uncover any part of the Works and/or make openings in or through the same as the Engineer may from time to time direct for his verification and shall reinstate and make good such part to the satisfaction of the Engineer. If any such part has been covered up or put out of view after being approved by the Engineer and is subsequently found on uncovering to be executed in accordance with the Contract, the expenses of uncovering and / or making opening in or through, reinstating and making good the same shall be borne by BHEL. In any other case all such expenses shall be borne by the Contractor.
10.6	DISCREPANCIES AND ADJUSTMENT OF ERRORS
10.6.1	The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small-scale drawings and figures dimensions in preference to scale and special conditions in preference to general conditions.

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10.6.2	<p>In case of discrepancies between schedules of quantities, the specification and / or the drawings, the following order of preference shall be observed.</p> <p>(a) Description in schedule of quantities.</p> <p>(b) Technical Conditions of Contract.</p> <p>(c) Drawings.</p> <p>(d) Technical Specifications</p> <p>(e) Special Conditions of Contract</p> <p>(f) General conditions of contract</p>
10.6.3	<p>If there are varying or conflicting provisions made in any one document forming part of the contract, the Engineer shall be the deciding authority with regard to the document.</p>
10.6.4	<p>Any error in description, quantity in schedule of quantities or any omission there from shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to the drawings and specifications or from any of his obligations under the contract.</p>
10.7	MATERIAL OBTAINED FROM EXCAVATION
10.7.1	<p>Valuable Materials / Archeologically important materials of any kind obtained from excavation on the Site shall remain the property of BHEL / its client and shall be disposed of as the Engineer may direct, at no extra cost.</p>
10.8	SAFETY CODE
10.8.0	The contractor shall comply with following towards Safety and Social Accountability.
10.8.1	<p>Besides provision with regard to SAFETY under Clause 9.0 of SCC, the contractor will be responsible for Health, Safety & Environment management at site for the construction activities to be carried out by them. The contractor shall continuously take special care to ensure the safety and prevention of human and equipment accidents and maintain good sanitary conditions in and around the site. All the construction work and plant operation must be carried out in the safest possible manner. The Engineer reserves the right to stop any process which, in the Engineer's opinion, is being performed dangerously. In this case the contractor must immediately adhere the requisite safety precautions and any delays attributed to the work stoppage on this account shall not affect the agreed contractual finishing dates.</p>
10.8.2	<p>HSE plan for site operation by Sub Contractor (Doc No. HSEP 13 Rev 00 attached) shall be followed.</p>
10.9	NUISANCE

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10.9.1	The Contractor shall not at any time do, cause or permit any NUISANCE on Site or do anything which shall cause unnecessary disturbance or inconvenience to owners, tenants or occupiers of other properties near the Site and to the public generally.
10.10	TREASURE , TROVE , FOSSILS etc.
10.10.1	All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site shall be the absolute property of BHEL / BHEL's client and the Contractor shall take reasonable precautions to prevent his workmen or any other person from removing or damaging any such article or thing, shall immediately upon discovery thereof and before removal acquaint the Engineer with such discovery and carryout the Engineer's directions as to the disposal of the same.
10.11	PROTECTION OF WORKS
10.11.1	Trees designated by the Engineer shall be protected from damage during the course of the Works and earth level within 1 meter of each such tree shall not be charged. Where necessary, such trees shall be protected by providing temporary fencing.
10.11.2	The contractor shall provide and maintain at his own expense all lights, guards, fencing and watching when and where necessary or required by the Engineer for the protection of the Works or for the safety and convenience of those employed on the Works or the public.
10.11.3	The contractor shall have total responsibility for protecting his works till it is finally taken over by the Engineer. No claim will be entertained by the Engineer for any damage or loss to the contractor's works and the contractor shall be responsible for the complete restoration of the damaged works to its original condition to comply with the specifications and drawings. Should any such damage to the contractor's works occur because of other party not under his supervision or control, the contractor shall make his claim directly with the party concerned. The contractor shall not cause any delay in the repair of such damaged works because of any delay in the resolution of such disputes. The contractor shall proceed to repair the work immediately and no cause thereof will be assigned pending resolution of such disputes.
10.12	RECORD FOR MATERIALS CONSUMED
10.12.1	The contractor shall maintain and furnish to the Engineer the RECORD OF MATERIALS consumed in the works for each activity. The statement showing the theoretical vis-à-vis actual consumption of specified materials, such as structural /reinforcement steel, cement, bitumen, lead, paint etc., shall be enclosed along with the running bills submitted by the contractor. Contractor has to also furnish the test results of the materials used in the work as per IS specifications.
10.13	PROTECTION OF EMBEDMENTS, BOLTS ETC.

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10.13.1	The contractor shall ensure proper protection to the satisfaction of the Engineer, of all bolts, inserts, embedment etc. from weather etc./ by greasing, rapping them with gunny bags or canvas or by any other means as directed by Engineer. Cost of such protections shall be deemed to be included in the rates quoted for the item.
10.14	COMPLETION OF WORK AND COMMENCEMENT OF GURANNTÉE PERIOD
10.14.1	The works shall be completed to the entire satisfaction of the Engineer and in accordance with the completion schedule as specified in the Contract, and all unused stores and materials, tools, plant, equipment, temporary buildings, site office, labor hutments and other things shall be removed and the site and work cleared of rubbish and all waste materials and delivered up clean and tidy to the satisfaction of the Engineer at the Contractor's expenses.
10.14.2	BHEL shall have power to take over from the Contractor from time to time such sections of the work as have been completed to the satisfaction of the Engineer. Such work however shall not be treated as have been completed until the extra / pending works are executed to the satisfaction of Engineer.
10.14.3	The Engineer shall certify to the contractor the date on which the work is completed and the date thereof for commencement of Guarantee Period. Guarantee Period shall be as given in GCC.
10.15	CLEARANCE OF SITE AND REPAIRS.
10.15.1	Contractor has to clear the site / area where mechanical and electrical erection work is to be commenced / or in progress. The contractor shall remove construction materials and equipment lying in the vicinity and causing obstruction in the erection work within 24 hrs. notice. In case, he fails to clear the site, this will be done at his risk & cost by BHEL.
10.16	QUALITY ASSURANCE
10.16.1	Contractor shall prepare a Field Quality Plan (FQP) for this tender's scope, in consultation with BHEL and submit to BHEL / Customer (NTPC) for approval. All works shall be carried out in accordance of the approved Field Quality Plan for this work. The contractor has to establish / arrange at site the field-testing facilities for testing of civil construction materials and concrete cubes for ensuring the proper quality, grade and strength of the materials used in the construction in line with approved field quality checklist of BHEL/ its client. Contractor has to submit detailed report for testing of all material used etc. All testing shall be done as per IS code specifications/ BHEL's quality plan. If further test is required by the engineer to be carried from outside laboratory, the cost of the same shall be borne by the contractor.
10.17	NA
10.18	METHOD OF MEASUREMENT
10.18.1	Method of measurements shall be as per standard specifications included in the tender. For other items measurements shall be as per relevant IS Codes.

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10.19	DEVIATION
10.19.1	The Contractor shall not make any alteration in, addition to or omission from the work as described in the tender documents except in pursuance of the written instructions of the Engineer. No such deviation from the work described in the tender documents shall be valid unless the same has been specifically confirmed and accepted by the Engineer in writing and incorporated in the Contract.
10.19.2	The Engineer may deviate, either by way of addition or deduction, from the work so described, provided that the Contract sum be not thereby varied on the whole by more than the percentage set out in the tender documents. The value of all additions and deductions shall be added to or deducted from the Contract sum. (Whenever the Engineer intends to exercise such a right his intentions shall specify the deviations which are to be made, the lump-sum assessment or the proposed basis of payment, the extra time allowed, if any, and the date for completion of the entire contract). Any objection by the contractor to any matter concerning the order shall be notified by him in writing to the Engineer within seven days from the date of such order, but under no circumstances shall the work be stopped (unless so ordered by the Engineer) owing to differences or controversy that may arise from such an objection. In the absence of such a notification of objection by the Contractor, he will be deemed to have accepted the order and the conditions stated therein.
10.19.3	Valuation of Deviations shall be as per Clause 2.15 & 2.16 of GCC.
10.20	COMPLIANCE TO REGULATIONS AND BYELAWS
10.20.1	The Contractor shall conform to the provisions of any statute relating to the work and regulations and bylaws of any local authority and of any water and lighting Companies or Undertaking with whose system the work is proposed to be connected. He shall, before making any variation from the drawings or the specifications that may be necessitated for such connections give the Engineer, notice specifying the variation proposed to be made and the reasons therefore and shall not carry out any such variation until he has received instructions from the Engineer in respect thereof. The Contractor shall be bound to give all notices required by statute, regulations or by-laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.
10.20.2	<p>In order to give phillip to Pradhan Mantri Kaushal Vikas Yojna:</p> <p>"The contractor shall, at all stages of work deploy skilled/semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute/ Industrial Training Institute/ National Institute of Construction Management and Research (NICMAR), National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/ certified by State/ Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/ semi-skilled workers required in each trade at any stage of work. The contractor shall submit</p>

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	number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer-in-Charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs. 100 per such tradesman per day. Decision of Engineer-in-Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.
10.21	PROGRESS REPORTING :
10.21.1	Contractor is required to draw mutually agreed monthly programme in consultation with BHEL well in advance. Contractor shall ensure achievement of agreed programme and shall also timely arrange additional resources considered necessary at no extra cost to BHEL.
10.21.2	Weekly progress review meetings will be held at site during which actual progress during the week vis-a-vis scheduled programme shall be discussed for actions to be taken for achieving targets. The programme for subsequent week shall also be presented by contractor for discussions. The contractor shall constantly update / revise his work programme to meet the overall requirement. All quality problems shall be discussed during above review meetings. Necessary preventive and corrective action, shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of non-conformities.
10.21.3	The contractor shall submit weekly and monthly progress reports, materials reports, consumables (gases / electrodes) report and other reports as per proforma considered necessary by the Engineer.
10.21.4	The progress report shall indicate the progress achieved against planned , with reasons indicating delays , if any, and shall give the remedial actions which the contractor intends to take to make good the slippage or lost time , so that further works again proceed as per the original programme and the slippages do not accumulate and effect the overall programme.
10.21.5	The daily manpower reports shall clearly indicate the manpower deployed, category wise specifying also the activities in which they are engaged.
10.22	DRAWING AND DOCUMENTS
10.22.1	The detailed drawings, specifications available with BHEL engineers will form part of this tender specification. These documents will be made available to the contractor

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	during execution of work at site. The contractor will also ensure availability of all drawings / documents at work place.
10.22.2	Necessary drawings / documents by BHEL to carry out the construction work will be furnished to the contractor by BHEL (except those proposed to be prepared by contractor, as mentioned in this contract) 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.
10.22.3	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 return to BHEL.
10.22.4	The data furnished in various annexures enclosed with this tender specification are only approximate and for guidance. However, the change in the design and in the quantity may occur as is usual in any such large scale of work.
10.22.5	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.
10.22.6	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-XI: Annexures

Annexure - A: Price Schedule for the Work of “All Civil, Architectural and Structure Works of Main Plant and BOPs for 1X660 MW PANKI TPS, PANKI, U.P.”

Annexure - I: BOQ cum Rate Schedule for the Work of “All Civil, Architectural and Structure Works of Main Plant and BOPs for 1X660 MW PANKI TPS, PANKI, U.P.”

TENDER NO. BHEL/NR/SCT/PANKI/MAIN CIVIL/1114		
<u>PRICE SCHEDULE</u>		
Job -: "ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1 X 660 MW PANKI TPS, PANKI, U.P."		
Sl. No.	DESCRIPTION OF WORK	TOTAL PRICE ("A") IN RUPEES (IN FIGURES AND WORDS)
1.0	TOTAL PRICE ("A") FOR THE TOTAL WORK AS PER TENDER SPECIFICATION FOR "ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1 X 660 MW PANKI TPS, PANKI, U.P."	In Figures: _____ _____ In Words: _____ _____ _____
Notes:-		
<ul style="list-style-type: none"> • The rates of different items for the entire scope of work shall be as per BOQ Cum Rate schedule ("Annexure-I") of TCC of tender. 		

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
100	EARTH WORK					
	Earth work: Earth work In excavation, backfilling and disposal including necessary men/women, materials, equipment, loading, transportation, unloading, dewatering etc as per specification, drawing and as directed by engineer- in-charge for the following:					
101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, dewatering (but excluding special type of dewatering viz. well point method), shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1Km, spreading/levelling of disposed materials etc all complete for following depths below ground level.					-
a	Depth from ground level but not exceeding 2 m	CUM	134377	0.04819	-	-
b	Depth exceeding 2 m but not exceeding 4 m	CUM	92641	0.06024	-	-
c	Depth exceeding 4 m but not exceeding 6 m	CUM	25594	0.07515	-	-
d	Depth exceeding 6 m but not exceeding 8 m	CUM	7587	0.09409	-	-
e	Depth exceeding 8 m but not exceeding 10 m	CUM	2123	0.11302	-	-
102	Extra over ST No. 101 for dewatering of ground water by well point method as per IS 9759.	CUM	10665	0.02681	-	-
107	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected approved materials from compulsorily excavated earth available within a lead upto 1 Km and compacted as specified including re-excavation of stacked earth, sorting, spreading, watering, ramming/compaction by manual/mechanical means, dressing etc all complete as per specification, drawing and as directed by the engineer incharge for the following.					-
a	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	16062	0.03557	-	-
b	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	89614	0.03958	-	-
108	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected approved materials directly from excavation within a lead upto 1Km and compacted as specified including re-excavation of stacked earth, sorting, spreading, watering, ramming/compaction by manual/mechanical means, dressing etc all complete as per specification, drawing and as directed by the engineer incharge for the following					-
a	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	7079	0.01205	-	-
b	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	45008	0.01377	-	-
109	Extra over ST No. 101 and 103 to 108 for carriage of material/earth for every 500m or part thereof beyond an initial lead of 1km.	CUM	71405	0.00402	-	-
110	Earth work in backfilling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness so as to achieve required compaction with approved borrowed soil (borrowed soil to be arranged by the bidder) and compacted as specified including supplying borrowed soil, royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing, all lead and lifts etc all complete as per specification, drawing and as directed by the engineer for the following:					-
a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	7602	0.20445	-	-
111	Supplying and filling sand upto any depth under floors, around foundations, plinths etc. in layers not exceeding 250 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	5906	1.20304	-	-
200	CONCRETE WORKS					
	CONCRETE WORK: Providing and placing concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, batching, mixing, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item					
201	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/ floors, at any depth below finished floor level etc.	CUM	3069	1.89721	-	-
202	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc.	CUM	7235	1.89721	-	-
203	Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc.	CUM	935	1.89721	-	-
204	Concrete of grade M20 (1 part cement, 1.5 part sand, 3 parts of 20 mm graded aggregate by volume) under floors, paving, plinth protection, pipe encasing etc complete.	CUM	384	1.89950	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
205	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, under floors etc at all level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing for the following.					-
a	M 25 Grade	CUM	14314	2.11120	-	-
b	M 30 Grade	CUM	35075	2.12497	-	-
206	Providing and laying Design Mix cement concrete of grade conforming to IS:456 & IS 10262-2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in superstructure at all level above finished floor level , any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing for the following.					-
a	M25 Grade	CUM	500	2.13300	-	-
b	M 30 Grade	CUM	19019	2.14677	-	-
207	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works of grade mentioned below in machine foundations for TG, Gas Turbine, ID/FD/PA fans, BFP, Coal mills, Booster fan, etc at all elevations below/above finished floor level except TG deck and top decks supported over vibration isolation system but including TG foundation columns with addition of suitable plasticizer conforming to IS 9103(latest) to achieve a slump more than 125mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate in concrete all complete as per specification & drawing					-
a	M 30 Grade	CUM	3130	2.24200	-	-
208	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 of grades mentioned below for reinforced concrete works using graded aggregate in top decks of all machine foundations supported on vibration isolation system (excluding supply and installation of vibration system) and top deck of TG foundation at all levels including addition of suitable plastisizers conforming to IS9103 to achieve a slump more than 125 mm in concrete as per manufacturers recommendation, preparation of scheme for concreting, getting it approved by engineer, labour, materials, equipment, handling, batching, transporting, mixing, pumping, placing, leveling, vibrating, compacting, curing, testing, cleaning and rendering the exposed surface with cement sand mortar to give a smooth and even surface, maintaining and submitting records of concreting, petrographic examination and potential reactivity of aggregate etc. all complete as per specification, drawing and instructions of engineer, including UPV testing as directed by engineer in charge, rectification of the defects in concreting observed by ultra-sonic pulse velocity (UPV) testing by cement/epoxy grout etc, but excluding formwork, staging, reinforcement, embedments and temperature control of concrete. Payment terms - a) After casting 75% ; b) After receipt of ultrasonic test report - 25%.					-
a	M35 grade	CUM	1440	2.94248	-	-
209	Extra over St. No. 205 to 208 for controlling of temperature of fresh concrete to less than 23 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc. All complete as per specification, drawing and instruction of engineer in charge.	CUM	1440	0.37290	-	-
210	Extra over ST Nos. 205 to 207 for conducting UPV test for concrete at all levels including all equipments, making necessary arrangements, staging, submission of report etc. all complete as directed by engineer in charge and as per specification.	CUM	1590	0.19965	-	-
211	Providing and encasing of structural steel member with concrete using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades. (Payment of welded wire mesh, chicken wire mesh shall be made separately)					-
a	M20 grade	CUM	463	1.89721	-	-
b	M25 grade	CUM	957	1.89721	-	-
212	Screed concrete conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness, drains etc complete as per following.					-
a	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	543	1.89721	-	-
b	1:1:2 (1 part cement, 1 part sand, 2 parts of aggregate by volume)	CUM	245	1.89721	-	-
A213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like roof slabs/trench covers, fins, lintels, chajjas, beams, columns, wall panels, facias, decorative copings etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.					-
a	M 25 grade	CUM	450	2.83807	-	-
b	M 30 grade	CUM	406	2.85184	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
214	Providing and laying Design Mix cement concrete as per IS:456, IS 3370 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in water retaining/conveying structures including addition of suitable plastisizer cum waterproofing cement additives conforming to IS 9103 latest to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per IS 2545 and specification with 20 mm nominal size graded aggregate for following grades. Watertightness is to be ensured including structural grouting if required.					-
a	M 30 grade	CUM	6434	2.79734		-
215	Dismantling concrete work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification and instructions of engineer in charge.					-
a	Plain cement concrete of all grades	CUM	37	0.38323		-
b	Reinforced cement concrete of all grades	CUM	81	0.51518		-
216	Chipping of concrete in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions, making good the broken surface etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement .	CUDM	1270	0.01778		-
217	Extra over and above St No 216 for cutting of reinforcement , all sizes and types including labour, equipment, return of cut reinforcement to store etc all complete as per specification, drawings and instructions of engineer in charge. Measurement shall be on the cross sectional area of reinforcement cut.	SQCM	430	0.00172		-
218	Cutting Reinforced concrete with mechanised tools like Core drilling machine etc. for cutting pockets, holes, cores in slab, beam, column or foundation as per direction of engineer in charge.	CUDM	137	0.09122		-
219	Providing and applying curing compound (water based) of approved make where ever required as per manufacturer's specification.	SQM	2671	0.03958		-
220	Providing & laying Plum cement concrete 1:3:6 with 75% graded metal of maximum size 40 mm and 25%plums of maximum size 150 mm.	CUM	227	1.88746		-
300	FORM WORKS					-
	FORMWORK: Providing, fixing and removing formwork at all elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering etc. complete as per drawing, specifications and as per direction of engineer in charge for the following:					-
301	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.including chamfering of edges as per drawing, specification and instruction of engineer in charge..	SQM	107355	0.18989		-
302	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, etc. including chamfering of edges as per drawing.for all heights as per specification, drawing and instruction of engineer in charge.	SQM	137477	0.22776		-
303	Fairface Formwork with good quality water proof ply wood of minimum 18mm thickness and smooth surface for TG superstructure (above base raft level) including preparation of scheme, designing, submission and approval of staging drawing with sufficient props, braces and ties at every tier of height of approx. 4m for all heights complete including chamfering of edges, deshuttering as per drawing,specification, and instruction of engineer in charge..	SQM	4145	1.26328		-
304	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm plan area) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.					-
a	Upto 150 mm depth	EACH	67	0.09925		-
b	Pockets of depths more than 150mm and upto 300 mm depth	EACH	141	0.17957		-
c	Pockets of depths more than 300mm and upto 600 mm depth	EACH	211	0.33791		-
d	Pockets of depths more than 600mm and upto 1000 mm depth	EACH	290	0.54501		-
e	Pockets of depths more than 1000mm and upto 1500 mm depth	EACH	364	0.80145		-
f	Pockets of depths more than 1500mm and upto 2000 mm depth	EACH	256	1.06363		-
305	Extra over item no.301 and 302 for curved form work for foundations, footings, beams, walls, trenches, domes, arches etc as per specification.					-
a	Extra for Curve Shuttering for Item No. 301	SQM	700	0.03786		-
b	Extra for Curve Shuttering for Item No. 302	SQM	100	0.04532		-
400	REINFORCEMENT					-
	REINFORCEMENT WORK : Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge for the following:..					-
401	Providing, straightening, cutting, bending, placing in position at all level, binding of mild steel reinforcements conforming to grade 1 of IS:432 part 1 in concrete including cost of reinforcement steel, binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings.	MT	57	35.66777		-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
A403	Transportation, straightening, cutting, bending, placing in position at all level, binding in position of steel reinforcements of TMT steel of grade Fe-500 confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. Note: Reinforcement Steel will be supplied by BHEL and issued as FOC (Free of Cost) Item	MT	7981	3.82081	-	-
405	Providing & fixing of Rebar in existing concrete surface by inserting reinforcement bar with Epoxy based suitable bonding compound of Hilti or equivalent make (HIT-RE-500 of Hilti or equivalent make) for interconnection of new R.C. structure with existing R.C. structure. Depth of drilled hole should be suitable to develop maximum recommended strength as per approved manufacturer's recommendation. This item includes supply of all materials including bonding chemicals, T&P required to execute the work, cost of all labour, transportation of chemical, staging to reach work place etc. all complete as directed by Engineer - in - Charge. Random Pull out non destructive test as directed by engineer shall be conducted to ensure strength of bond and same is included in this item. Reinforcement bar shall be paid separately under item no. 402, 403, 405 as applicable.					-
a	12mm Reinforcement bar	EACH	119	0.16924	-	-
b	16mm Reinforcement bar	EACH	124	0.26792	-	-
c	20mm Reinforcement bar	EACH	10	0.37979	-	-
500	WATER PROOFING WORKS					
	Roof Treatment works: Roof treatment works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, curing, sampling, testing etc at all level as per specification, drawings and as directed by engineer - in - charge for the following: (Material used for roof treatment shall be CFC & HCFC free. The contractor shall submit documentary proof to GRIHA consultant in support of same, wherever required). Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item					
501	Providing and laying underbed grading plaster with cement mortar 1:4 (1 cement : 4 sand) and average thickness of 25 mm including preparation of surface, batching, mixing, leveling etc. all complete.	SQM	31940	0.05737	-	-
A502	Providing and laying underbed P.C.C layer of grade M15 with 10 mm nominal size coarse aggregates and average thickness of 50 mm including preparation of surface, batching, mixing, leveling etc. all complete as per specification & direction of engineer incharge.	SQM	11702	0.12621	-	-
506	Providing and applying PU based water proofing treatment with one coat of polyurethane or any other equivalent material based primer with an application rate of minimum 6 sq.m per litre and two successive liquid coatings of high solids content urethane pre-polymers or equivalent material based finish coats as per relevant IS/ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to minimum 500 gm/sqm/coat application rate. Item includes surface preparation, polyscrim cloth /fabric, polymerised mortar base preparation, etc all complete as per specifications and directions of engineer in charge.	SQM	31025	0.37348	-	-
A506	Providing & Applying two (02) coats of polymer modified cementitious waterproofing coating consisting of 100 % acrylic based polymer solids and portland cement based dry powder (with or without fine specially prepared quartz sand particles). Polymer shall be mixed in the ratio of 1 cement: 0.5 polymer (for minimum solid content of polymer 30%) and applied on concrete surface after cleaning and made free from grease, oils or loosely adhered particles, complete in all respect as per specification, as per manufacturer's specifications and as per direction of Engineer-in-Charge.	SQM	11763	0.37348	-	-
508	Providing and laying wearing course consisting of 40mm thick plain cement concrete of grade M15 (1:2:4) with graded aggregate of 12.5mm size cast in panels of maximum size 1.2mx1.2m and reinforced with 0.56 mm dia. galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	22663	0.19391	-	-
509	Providing and laying wearing course consisting of 25mm thick plain cement concrete of grade M20 (1:1.5:3) with graded aggregate of 12.5mm size cast in panels of maximum size 1.5mx1.5m and reinforced with 0.56 mm dia. galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	9737	0.16580	-	-
510	Providing and laying cement concrete chequered flooring tiles of 22 mm thickness and size 300x300 mm conforming to IS 13801 with 8 mm thick 1:4 cement mortar over the top most layer of roofing treatment in pathway or entire area with fine joints including sealing of joints (silicon/elastomeric sealant) and providing expansion gap in both directions including underbeds (as per drawing) filled up with (silicon/elastomeric) joint sealant, etc all complete. (Water proofing paid elsewhere)	SQM	6873	0.24726	-	-
511	Providing and applying two coats of bitumen grade 85/25 as per IS 702 (@ 1.7kg/sqm)with 1% antistripping compound conforming to IS 6241 in foundation, wall, column etc on concrete surfaces exposed to soil / ash including surface preparation etc. all complete.	SQM	72035	0.05966	-	-
515	Providing and applying IP net coating system(min 200 micron thickness) to exposed concrete surfaces of approved make and as per manufacturer's recommendation.	SQM	12	0.12793	-	-
600	JOINTS AND FILLERS					
	JOINTS AND FILLERS: Joints & fillers including all labour, material, equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge for the following:					
601	Supplying & installation of bitumen impregnated fibre board confirming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete.					
a	12 mm wide joints.	SQM	664	0.22661	-	-
b	20 mm wide joints.	SQM	674	0.36143	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
c	25 mm wide joints	SQM	739	0.44576	-	-
d	50 mm wide joints	SQM	1224	0.86571	-	-
602	Supplying and installation of Dura board HD100 or its equivalent as approved by the Engineer, as filler material in joints including nailing, installation as per manufacturer's recommendation etc. all complete.				-	-
a	12 mm wide joints.	SQM	13	0.28054	-	-
b	20 mm wide joints.	SQM	16	0.45092	-	-
c	25 mm wide joints	SQM	62	0.55763	-	-
d	50 mm wide joints	SQM	58	1.09059	-	-
603	Providing and applying polysulphide based sealant conforming to IS:12118 in joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for following size grooves:				-	-
a	25mmX25mm	RM	1431	0.30406	-	-
b	50mmX25mm	RM	535	0.59148	-	-
604	Supplying and filling in position hot applied bitumin sealing compound (Grade A) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.(The sealant should have VOC content limited to 250 grams per litre as prescribed by GRIHA. All necessary documentation (certificates, manufacturer declarations) to be provided by the contractor to green building consultant, wherever required).				-	-
a	10mm X 40mm	RM	29	0.01836	-	-
b	12mm X 25mm	RM	337	0.01606	-	-
c	20mmX25mm	RM	318	0.02065	-	-
605	Supplying and installation of commercial quality of expanded polystyrene products from reliable manufacturers as approved by the Engineer, as filler material in joints including nailing, installation as per manufacturer's recommendation etc. all complete.				-	-
a	12 mm wide joints.	SQM	100	0.01951	-	-
b	20 mm wide joints.	SQM	75	0.03155	-	-
c	25 mm wide joints	SQM	50	0.03958	-	-
d	50 mm wide joints	SQM	415	0.07688	-	-
608	Supplying and filling in position hot applied bitumin sealing compound (Grade B) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.				-	-
a	10mm X 40mm	RM	50	0.02754	-	-
b	12mm X 25mm	RM	25	0.02295	-	-
c	20mmX25mm	RM	15	0.03213	-	-
609	Providing and sealing of joints with premium grade silicon sealant (Silpruf of GE silicon or approved equivalent) including cleaning of joints, raking out groove, joint filler tapes, application of primer, curing, scaffolding etc. all complete as per manufacturer's recommendation for following size groove>Note: The sealant should have VOC content limited to 250 grams per litre . All necessary documentation (certificates, manufacturer declarations) to be provided by the contractor to engineer in charge, wherever required.				-	-
a	25mmX25mm	RM	100	0.27308	-	-
b	50mmX25mm	RM	100	0.53009	-	-
610	Providing and fixing PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following: (Bulb or Kicker type)				-	-
a	150 mm wide and 8 mm thick	RM	25	0.16178	-	-
b	230 mm wide and 8 mm thick	RM	2466	0.12220	-	-
c	150 mm wide and 6 mm thick	RM	41	0.12220	-	-
d	230 mm wide and 6 mm thick	RM	264	0.18588	-	-
613	Providing and fixing G.I strips minimum 1.5mm thk and 150mm wide including fixing accessories etc. all complete.	Kg	5	0.05852	-	-
614	Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including brass / aluminium screws, rawl plugs etc. all complete.	Kg	10	0.17039	-	-
615	Providing and fixing 300 mm wide Stainless steel strips over expansion joints with minimum lap of 50mm length including stainless steel screws, rawl plugs etc. all complete.	Kg	35	0.18358	-	-
700	MS EMBEDMENTS				-	-
	MS EMBEDMENTS: Embedments including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following:				-	-
703	Fabricating and fixing of mild steel embedment, mild steel foundation bolts, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. Including loading, transportation, unloading etc. all complete from BHEL store to plant site. Mild Steel Material will be supplied by BHEL free of cost.				-	-
a	Mild steel embedment, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	MT	366	7.34444	-	-
b	Mild steel foundation bolt assembly conforming to IS: 2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS 1363, 1364 and IS 3138), washers, anchor plates, stiffener plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete.	MT	75	6.46554	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
704	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.					-
a	MS pipes of all diameters	Kg	869	0.03327	-	-
b	PVC pipes / conduits of all diameters	Kg	333	0.17842	-	-
c	UPVC pipes / conduits of all diameters	Kg	51	0.18645	-	-
d	Expansion anchor fasteners (galvanised) of HILTI make (HUD-1 Universal Fastners) or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide:					-
i	8mm Dia	EACH	175	0.02237	-	-
ii	10mm Dia	EACH	285	0.02754	-	-
iii	12mm Dia	EACH	484	0.03155	-	-
e	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel:					-
i	HST M8	EACH	160	0.05622	-	-
ii	HST M10	EACH	257	0.07974	-	-
iii	HST M12	EACH	441	0.11761	-	-
f	Chemical Epoxy Anchor fasteners (galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with anchoring rod,nuts,washers,chemicals etc. all complete:					-
i	HAS-E5.8 M8	EACH	20	0.12621	-	-
ii	HAS-E5.8 M10	EACH	20	0.15605	-	-
iii	HAS-E5.8 M12	EACH	25	0.20079	-	-
iv	HAS-E5.8 M16	EACH	25	0.30463	-	-
706	Supply and installation of approved 25mm thick vibration damping resilient pads on/around foundation of vibrating equipment and at other locations all complete.	SQM	50	0.84735	-	-
707	Providing, laying and fixing rails(52kg/rm) and guide rails in concrete for transformer, rail track including cutting of rails, joining of rails, anchoring lugs etc all complete.	MT	100	40.57917	-	-
800	GROUTING					-
	GROUTING: Grouting including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, roughening surface, cleaning, ramming, curing etc. at all level, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item					-
801	Providing & grouting with cement slurry mix of approved ratio using pressure pump for water retaining concrete structures as per approved procedure including cost of nipples/ nozzles, cement, admixture, curing, pressure pumps, slurry agitator etc. all complete. Cost shall include fixing of nipples at maximum 500 mm centre to centre spacing, cutting of nipples after completing of grouting, making good of the nipple hole with appropriate non-shrink cement paste, water tightness test etc. all complete wherever specified in the drawing.	SQM	56	0.20079	-	-
802	Providing & grouting of pocket holes, pipe sleeves under base plates, machinery, pipe supporting structures etc. with mix 1:1 (1 cement :1 sand) using non shrink admixture etc. all complete.	CUM	76	7.48041	-	-
803	Providing & grouting of pocket holes, pipe sleeves and under base plate of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with mix 1:1:2 (1 cement : 1 coarse sand : 2 aggregate of 6 mm down graded stonechips) using non shrink admixture as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	65	7.39034	-	-
804	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with ConbextraGP-1 or equivalent as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	104	22.48540	-	-
805	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing, etc. all complete with Conbextra GP-2 or equivalent as per specification, drawing and direction of engineer-in-charge.(Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	97	39.07150	-	-
806	Providing Chemical (epoxy) injection grouting with pressure pump for water retaining concrete structures conforming to IS:6494, including fixing nozzles, cost of approved chemical, admixture, curing etc. all complete . Payment shall be made as per the consumption of chemical grout.	Kg	70	0.82497	-	-
900	DOORS, WINDOWS, VENTILATORS, LOUVERS					-
	DOORS & WINDOWS: Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, preparation of working drawings etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item.					-
901	Providing and fixing wooden frame conforming to IS 4021 made of best quality seasoned CP teakwood free from large or loose knots, cracks or other defects including sand paper smoothing, hold fasts, beading, primer and finish painting / polishing etc. all complete with proper wood joinery, accurately set to required lines or levels and rigidly secured in place. (Finish painting / polishing paid separately)	CUM	9	62.00955	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
902	Providing and fixing teak wood frame panel door shutter as per IS 1003 with 35 mm x 150 mm vertical rail & 35mm x 125 mm horizontal rail and 12 mm thick interlocked panels of teakwood with proper wood joinery including beading, preparation of working drawings,godrej or equivalent make mortice lock with handles on both sides,approved ISI mark anodised fittings like door stopper,300mm long tower bolts,16x300mm long aldrops ,125mm long handles on both sides etc. butt hinges, sliding bolt ,knobs, (all fitting shall be anodised aluminium color dyed), screws, primer and finish painting / polishing etc. all complete. (Finish painting / polishing paid separately)	SQM	38	1.55471	-	-
903	Providing, fitting and fixing solid core flush door shutter as per IS 2202 part II, 35mm thick homogenous particle board bonded with BWP type phenolformaldehyde synthetic resin, partial board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including preparation of working drawings. godrej or equivalent make mortice lock with handles on both sides,approved ISI mark anodised fittings like door stopper,300mm long tower bolts,16x300mm long aldrops ,125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fittings shall be anodised aluminium color dyed), finish synthetic paint over primer, screws etc. all complete as per drawing, specification and instruction of engineer in charge. with commercial faces and teak wood edges. (Finish painting paid separately)	SQM	59	1.68953	-	-
904	Providing and fixing single or double steel door shutters with 45mm thk flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.	SQM	623	2.41812	-	-
905	Providing and fixing single or double steel door shutters with 18 gauge M.S. sheets shutter presenting a flush surface on the outside and inside stiffened with semitubular edge and central stiffening rail which shall convey the lock including fixtures, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.	SQM	148	2.52827	-	-
906	Providing and fixing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 (minimum anodized coating of grade AC15). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately)	SQM	2242	0.23808	-	-
907	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.	SQM	277	3.72099	-	-
908	Providing and fixing steel windows/ventilator with steel sections as per IS:1038, IS:1361 & IS:7452 latest revision including all fittings, metal beadings, hold fasts, shop and final painting ,glazing etc. all complete. (Glazing shall be paid separately)					
a	Openable type	SQM	598	0.95864	-	-
b	fixed type	SQM	480	0.63279	-	-
A908	Providing and fixing windows/ventilator with M.S. grills as per approved design for security purpose made of 25 mm X 6mm M.S. Flats / 12mm – 20mm M.S. square bar of approved design shall be provided to suit security requirements.	Kg	200	0.05335	-	-
A909	Providing and fixing anodised aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing, louvers, grills etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metallic protection etc. including preparation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting whed by engineer in charge, rectification of the defects in concreting observed by ultra-sonic pulse velocity (UPV) testing by cement/epoxy grout etc, but excluding formwork, staging, reinforcement, embedments and temperature control of c	Kg	42690	0.20194	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
A910	<p>Providing, fabricating, supplying and fixing of Aluminium composite panel cladding (ACP) in pan shape in solid or metallic colour of approved shades made out of 4mm thick aluminium composite panel (weight of panel should be 7.5 kg/sqmt) material consisting of 3mm thick FR grade Class B1 as per EN 13501,mineral core sandwiched between two Aluminium sheets (each 0.5mm thick).The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF conforming to AAMA 2605 or Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicon sealant, backer rods etc. The top coated surface of ACP shall comply with the "specification for coated coil for the exterior building application" issued by ECCA (European Coil Coating Association). The aluminium composite panel top and bottom skin should conform to Aluminium Alloy 5005 (AIMg 1) marine grade by engineer in charge, rectification of the defects in concreting observed by ultra-sonic pulse velocity (UPV) testing by cement/epoxy grout etc, but excluding formwork, staging, reinforcement, embedments and temperature control of concrete.</p> <p>Payment terms - a) After casting 75% ; b) After receipt of ultrasonic test report - 25%.71/-</p> <p>Remarks :</p> <ol style="list-style-type: none"> 1. The service order issued without any signature & stamp. 2. BOQ not attached along with service order. <p>Technical Documents required :</p> <ol style="list-style-type: none"> 1. Service order should be issued by competent authority with signature & stamp. 2. Detailed BOQ is required. 3. Completion certificate is required against service order no. PORSR / 131 / 1718 / 00632 dtd 04.12.2017. 4. In completion certificate actual date of start of work, actual date of completion and value executed 					-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
a	4mm thick	SQM	300	1.50136	-	-
B910	Providing and fixing of wooden partition wall of approved make, color, shade including fire resistant transparent paint as per IS : 162 over french polish as per IS:348 or flat oil paint as per IS : 137 etc. all complete as per manufacturer specification.	SQM	270	2.05211	-	-
911	Providing and fixing of door closers as per specification ,of approved make & quality all complete of following type :				-	-
a	Over head hydraulic door closures as per IS 3564	EACH	34	0.56624	-	-
b	Floor mounted Hydraulic door closers as per IS 6315	EACH	34	1.12215	-	-
912	Providing and fixing pressed steel frames fabricated from 16 gauge M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications.	Kg	5695	0.05335	-	-
913	Providing and fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75mm rolling centres interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs, top cover, primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and specification of approved make of following types: The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.(partly coiled and lath/full lath).				-	-
a	Hand Operated	SQM	24	1.06248	-	-
b	Mechanically Operated	SQM	311	1.40785	-	-
c	Electrically operated	SQM	179	1.52316	-	-
Ad	Electrically and mechanically operated	SQM	107	1.98011	-	-
914	Providing and fixing PVC doors (25 thk double skin) of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	119	1.32294	-	-
915	Providing, fixing and fitting of glazing of first grade class in steel/aluminium/wooden frames , where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete.				-	-
a	4 mm thick clear sheet glass	SQM	165	0.44576	-	-
b	4 mm thick clear float glass	SQM	165	0.45322	-	-
c	6 mm thick wired glass	SQM	2776	0.57140	-	-
e	6mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	SQM	125	0.99766	-	-
f	4 mm thick ground glass	SQM	96	0.59664	-	-
g	6 mm thick tinted heat reflecting type float glass	SQM	512	0.69933	-	-
h	6 mm thick clear toughened safety glass	SQM	615	0.85022	-	-
i	Two nos. 6 mm thick clear toughened float glass hermetically sealed and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured)	SQM	591	1.60864	-	-
j	6 mm thick laminated glass	SQM	10	0.57140	-	-
k	6 mm thick clear float glass	SQM	1300	0.57140	-	-
An	One outer 6mm thick tinted heat-reflecting type toughened glass and one inner 6mm thick plain float glass hermetically sealed and separated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).The glazing to be used in all exterior walls shall be of Asahi (India) Glavebel (Belgium), Saint Gobain (France) or Fort (USA) Or equivalent.The glazing to be used should comply to mentioned standards VLT (Visible Light Transmittance)≤ 59 %, SHGC/ SF (Solar Heat Gain Coefficient/ Solar Factor) 0.2 ≤ 0.32 and U- Value 1.2 to 2.5 W/MSq K,The properties of performance and colour of glass shall be as per detail design values as approved by Architect and engineer incharge.The glass should be free from distortion and thermal stress.	SQM	465	1.95863	-	-
Ao	One inner 6mm thick clear float glass and one outer 6mm thick reflective toughened glass hermetically sealed and separated by 12 mm thick gap for thermal insulation. Glass to be used shall be of make Saint Gobain (India),Asahi (India) or equivalent .Outer glass should have solar factor 25% or less, Maximum U-Value of 1.8 to 3.3W/SQMK, VLT min 47%, light reflection internal 10 to 15%, light reflection external 10 to 20%, shading coefficient (0.25-0.28).The properties of performance glass shall be as per detail design values. (only single elevation area to be measured)	SQM	465	1.95863	-	-
916	Supplying and fixing weather stripping of approved make and quality to doors as per instructions of engineer in charge and specification complete.	RM	155	0.09351	-	-
A917	Providing and fixing 12 mm thick BWP particle or equivalent board with decorative veneer (pre-laminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading etc. all complete (excluding aluminium works). All necessary documentation (certificates, manufacturer declarations,recycle contents) to be provided by the contractor to engineer in charge, wherever required.	SQM	720	0.66893	-	-
A918	Providing and fixing steel louvered window with ISMC 75/100 frame all round including verticals with 18G pressed steel louvers, including primer& painting as approved by engineer incharge etc. all complete.	SQM	200	1.27819	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
919	Providing and fixing 1 mm thk. MS sheet sliding shutters with frame and diagonal braces of 50X50X6 angle iron, 3 mm MS gusset plates at junction and corners, 25 mm dia pulley, 50X50X6 angle and T-iron guide at the top and bottom respectively including painting etc. all complete.	SQM	287	1.68437	-	-
920	Roof skylight structure for atrium with 6mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges for sky light for approved shape like dome, pyramidal etc. Joints are properly sealed with sealant, screws with pvc cap, self tapping screws, epdm rubber gasket.etc all complete as per detailed drawing and specification.	SQM	270	1.19902	-	-
A921	Supplying, installing and commissioning of self sliding mechanism for aluminum door (double shutter) including photo operated sensors, fittings, motors, mechanical systems, electrical systems, warranty all inclusive in working condition as per specifications (aluminum and glazing to be paid separately)	NOS	10	49.97228	-	-
A922	Providing and fixing in position wall panelling at all heights with 12mm thick compact laminates of greenlam or equivalent made out from High Pressure thermosetting resin treated Kraft as core material and design paper as a finish surface of size 600 x 600mm or 1200x1200mm having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non-combustible as per BS:476 (part-4) fire performance as per BS:476 (part 6 &7), EN:BS1D0, humidity resistance of 100%, thermal conductivity < 0.043 W/m K as per ASTM 518:1991, having Anti-bacterial and anti-termite property under JIS Z2801:2000, Chemical resistance, Scratch resistant, should have the density >1.35kg/cm3 and fulfilled the criteria of FSC and Green Guard Gold certification and manufactured under EN438-2&3:2005 standard. comprising of a frame made from especially fabricated galvanised mild steel sheet 0.50 mm thick pressed section (galvanizing @120 grams per sqm including both sides) i.e. Vertical studs of size 48 x 34 x 36 mm are placed at 600mm centre to centre in a floor and ceiling channel section of size 50 x 32mm fixed to the floor and soffit at 600mm centres using 12mm dia,50mm long wedge type expanded zinc alloy dash fastener with 10mm bolt. This same channel is then to be fixed in horizontal direction at 600mm centre to centre so as to form a grid of 600mm x 600mm. compact Laminate panels are to be screw fixed with self-tapping pan head nickel coated mild steel screws of size 13 x 3.2mm on to this grid leaving an even groove of 1 mm between the panels. The joints between the panels are to be duly jointed and finished using recommended jointing filler compound and fibre joint tape roll 50mm wide (90 metre) roll and two coats of primer suitable for panelling as per manufacturer's specification as per direction of Engineer-in-Charge all complete. The laminated panel shall be as per approved colour and shade. Finish of Interior wall panelling shall be complete as approved by engineer incharge. The contractor should provide the material cut sheet/ declaration from manufacturer mentioning the recycled content used in manufacturing of compact laminate panels.	SQM	500	2.05211	-	-
1000	BRICKWORK					
	BRICKWORK: Brickwork masonry including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding etc. at all levels as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item					
1001	Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.					
a	Using fly ash lime bricks conforming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	CUM	3206	2.79045	-	-
b	Using burnt clay bricks of class designation 7.5 of nominal dimension	CUM	45	2.45083	-	-
A1001	Providing and Laying Face brick work conforming to IS 2691 in cement sand mortar 1:5 (1 cement 5 coarse sand) in exterior walls, etc. at all heights, places and position above plinth superstructure including raking out joints, pointing, curing, scaffolding etc complete excluding plastering and painting and as directed by engineer incharge. The face brick shall be of superior quality bricks to suit the exposed brick work, standard shape and size with finished edges with crushing strength of 75 kg/cm2.	CUM	354	5.10302	-	-
A1002	Providing brick work in cement mortar 1:5 (1 cement 5 coarse sand) in walls, chambers etc. at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.					
a	Using fly ash bricks conforming to IS 12894 with crushing strength of 75 kg/cm2	CUM	12409	3.12549	-	-
b	Using burnt clay bricks of class designation 7.5 of nominal dimension	CUM	153	2.79562	-	-
1003	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls, chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every third layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification.					
a	Using fly ash lime bricks conforming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	SQM	2523	0.37807	-	-
b	Using fly ash lime bricks conforming to IS 12894 with crushing strength of 50 kg/cm2(including cost of cement for brick making)	SQM	25	0.30119	-	-
1004	Providing brick soling including spreading of earth, ramming, watering including 25mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item). Using brick on edge.					

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
a	Using fly ash lime bricks conforming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	SQM	16	0.30750	-	-
b	Using fly ash lime bricks conforming to IS 12894 with crushing strength of 50 kg/cm2(including cost of cement for brick making)	SQM	16	0.23063	-	-
1005	Breaking of existing brick work at all levels including plastering, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.	CUM	50	0.46412	-	-
1006	Providing and encasing of structural steel member with masonry work around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar of 1:6. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification. (Chicken wire mesh to paid separately)	CUM	287	2.89429	-	-
1007	Providing and laying 75 mm thick bed of dry brick aggregate including of excavation, disposal of surplus earth spreading of earth, ramming, watering etc. complete in all respects as directed by the engineer.	SQM	22	0.07229	-	-
1008	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar 1:6 etc. complete.	CUM	19	0.53927	-	-
A1008	Making openings in existing AAC block work or partition wall including making good the broken edges/surface with cement mortar etc. complete	CUM	4	0.53927	-	-
1009	Supply and placing in position mild steel wire fabric of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	1353	0.03557	-	-
1010	Filling existing brick wall/ partition wall opening at all level including making good the broken edges/surface with cement mortar 1:6, painting, finishing to match with existing finishing, scaffolding/supporting at all level, removal of debris upto a lead of 1 km including loading, unloading, transportation etc. all complete.	SQM	46	0.33963	-	-
1011	Providing and filling brick bats in soak pits all complete.	CUM	53	0.41708	-	-
1100	DAMP PROOF COURSE					
	DAMP PROOF COURSE: Damp proof course including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, shuttering, centering, curing etc at all level as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item					
1101	Providing Damp Proof Course of following thickness with 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound all complete. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied one before & one after the DPC.					
a	50mm thick	SQM	2010	0.16006	-	-
1200	CEMENT MORTAR PLASTER					
	PLASTERING: Cement mortar plaster including making grooves wherever required including all labour, material (unless otherwise specified in BOQ/contract specification), scaffolding, curing etc at all level as per specification, drawings and as directed by engineer - in - charge for the following: Note: The masonry mortar to be used should have more than 25% of fly ash content in green buildings. All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to green building consultant, wherever required. Cement will be supplied by BHEL and issued as FOC (free of Cost) item					
1201	Providing 18mm thick plaster in two layers outside the building/boundary wall in cement mortar 1:6 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete	SQM	22989	0.12679	-	-
A1202	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:3 on walls finished to a smooth finish as per specification all complete.	SQM	75691	0.09925	-	-
A1204	Providing 6mm thick plaster on ceiling in cement mortar 1:3 finished to a smooth all complete.	SQM	23494	0.09236	-	-
1207	Forming groove of uniform size from 12X12 mm upto 25X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battons, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	200	0.01147	-	-
1208	Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over chicken wire mesh including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of engineer in charge (chicken wire mesh to be paid separately)	SQM	762	0.22833	-	-
1300	FINISHES TO CONCRETE / PLASTERED SURFACES					
	FINISHES TO CONCRETE / PLASTERED SURFACES: Finishes, painting to concrete, plastered surfaces including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, surface preparation, scaffolding etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following:					
1304	Two or more coats of acrylic distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete.	SQM	16250	0.02605	-	-
A1304	Two or more coats of acrylic washable distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete.	SQM	36838	0.02865	-	-
1305	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	1266	0.03947	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
A1305	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline. Note: The paint should have VOC content limit less than 150 grams per litre All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to engineer in charge, wherever required.	SQM	5565	0.03947	-	-
1306	Providing and applying 2 or more coats of acid/alkali resistant paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	1232	0.15874	-	-
A1306	Providing and applying 2 or more coats of Chemical Resistant Paint of approved brand and colour to floors, walls and ceilings including preparation of surface to receive paint and as approved by engineer in charge at all heights above or below ground level, complete as per specification	SQM	1100	0.15874	-	-
B 1306	Providing and applying 2 or more coats of Oil Resistant Paint of approved brand and colour to floors, walls and ceilings including preparation of surface to receive paint and as approved by engineer in charge at all heights above or below ground level, complete as per specification	SQM	1475	0.15874	-	-
1307	Providing and applying two coats of Epoxy coating with suitable pigments of approved shade as per specification and direction of Engineer. The epoxy paint shall be a two pack material and shall be resistant to water, oil, splash, spillage & acidic environment. The epoxy paint coating shall be of minimum 150 micron thickness over epoxy primer.	SQM	450	0.08944	-	-
1308	Providing and applying 2 or more coats of Chlorinated Rubber paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying chlorinated rubber zinc phosphate primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, inclusive of intermediate coat of Titanium dioxide / micaceous iron oxide complete as per specifications.	SQM	503	0.08290	-	-
1310	Two or more coats of black anti-corrosive bitumastic painting of approved brand and manufacture to give an even shade complete.	SQM	50	0.02605	-	-
A1312	Providing and applying 3 coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc including primer coat complete as per specification. Note: The paint should have VOC content limit less than 200 grams per litre All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to engineer in charge, wherever required.	SQM	22000	0.03580	-	-
A1313	Providing and applying resin bonded granular textured finish , for external applications shall consist of crushed stone/quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film thickness of minimum 2 mm. The final finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulphide sealant of matching color and shade as per specification/drawing/approval of engineer in charge. Note: The paint should have VOC content limit less than 200 grams per litre All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to engineer in charge.	SQM	5640	0.21950	-	-
1316	Providing and applying 2 mm thick plaster of paris punning on walls including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	31899	0.02754	-	-
A1319	Providing and applying Silicon coating of approved make to exposed brick surfaces/exposed concrete surfaces and wherever instructed by Engineer-In-Charge. The treatment shall be in 2 coats or as recommended by approved manufacturer including preparation of surfaces by cleaning, curing, protecting, complete at all heights.	SQM	2848	0.05166	-	-
1321	Providing and applying french polish (minimum 2 coats) on wood surface made from best quality shalac, denatured spirit and other suitable alcohol soluble ingredients and made by a well known approved manufacturer as per IS 348 including required base preparation etc. all complete as per specification	SQM	50	0.09294	-	-
1400	FLOORING AND SKIRTING					
	FLOORING AND SKIRTING: Flooring and skirting at all level including base layer, labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, curing, polishing etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item.					
1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5 mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	28753	0.19334	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
A1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with non-metallic hardener pigmented topping 12mm thick flooring. Under layer of 38mm thick cement concrete mix 1:1:2 (1 cement: 1 sand : 2 stone aggregates 12.5 mm well graded) and top layer of 12mm thick non-metallic concrete of mix 1:2 (1 cement hardner mix with approved quality non-metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	27995	0.19334	-	-
B1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with cement concrete mix 1:1:2 (1 cement: 1 sand: 2 stone aggregate 12.5 mm well graded) including cement slurry, rounding off edges, aluminium strips etc. all complete (Quoted item rate shall be inclusive of providing glass joint strips)	SQM	8134	0.19334	-	-
A1402	Providing and laying 18 mm thick skirting and dado with cement mortar 1:3 (1 cement: 3 sand) finished with a floating coat of neat cement all complete as per specification.	SQM	1807	0.14285	-	-
A1403	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum topping pigment content is 3.5 kg per 50 Kg of Cement) of size 300X300X22 thick of approved shade as per IS 1237, including minimum 20mm cement mortar bedding of 1:3 (1 cement : 3 sand) jointed with neat cement slurry@4.4 kg/sqm,labour,materials, etc. all complete with pigment to match the shade of the tiles including rubbing, curing, grinding and polishing complete with laying as per IS 1443 etc.(inclusive of cost of cement for tiles manufacturing) all complete for following:					
a	Laid in floors	SQM	1258	0.47272	-	-
b	Laid in skirting	SQM	63	0.56107	-	-
A1404	Providing and laying interlocking M35 Grade concrete blocks in paving with approved colour and pattern and should be laid on subbase of 63 mm down aggregate with sand mix bedding of minimum 200 mm thickness as per specifications and recommendations of manufacturer.(inclusive of cost of cement for paver manufacturing)					
c	80mm	SQM	1023	0.37512	-	-
1405	Providing and laying 50 mm thick floor finish with 25mm thk Terrazo Tiles including minimum 25mm thick cement mortar bedding of 1:3 (1 cement : 3 sand) with neat cement slurry@4.4 kg/sqm,labour,materials, etc. all complete.(inclusive of cost of cement for tiles manufacturing)	SQM	2192	0.38151	-	-
1406	Providing and laying polished Kota stone 18mm to 20mm thk in flooring. Under bed shall average 30mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level. The kota stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @4.4kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete.	SQM	2826	0.57083	-	-
1408	Providing polished Kota stone 18mm to 20mm thk in skirting projecting 6mm from adjacent plaster minimum 12 mm thick cement mortar bedding of 1:3 (1 cement : 3 sand) with thick cement slurry @4.4kg/sqm spread over the surface with fine joint finished including cutting brickwall upto the required depth, edging, finishing etc. all complete.	SQM	152	0.50256	-	-
1410	Marble stone Flooring laid in 50mm overall thickness with 18-20mm thick marble slabs (grade -1) with minium 30mm thick underbed of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level.The marbel slabs/tiles laid over underbed with mortar 1:3, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @4.4kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete.	SQM	50	0.85251	-	-
1412	Providing and laying 18-20mm thick polished Granite stone of approved color and texture in flooring with brass/ stainless steel strips. Under bed shall average 30 mm thick of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @3.3kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete.	SQM	7100	2.20815	-	-
1414	Providing and laying polished Granite stone 18-20mm thk in skirting and dado with 6mm thick projection from adjacent plaster minimum 12 mm thick cement mortar bedding of 1:3 (1 cement : 3 sand) with thick cement slurry @3.3kg/sqm spread over the surface with fine joint finished including cutting brickwall upto the required depth, edging, finishing etc. all complete. including mortar ,cement slurry ,pigments, curing, grinding,moulding, granite polishing etc. all complete.	SQM	755	2.19725	-	-
A1416	Providing and laying vitrified ceramic tiles of polished variety of size 600x600 from reputed / approved manufacturer of make Johnson, Qutone, Varmora or equivalent complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following. Note:-The contractor should provide the material cut sheet/ declaration from manufacturer mentioning the recycled content used in manufacturing of tile, to be used).					
b	10mm thick tiles in flooring	SQM	2159	0.61902	-	-
d	10mm thick tiles in skirting and dado upto specific height	SQM	98	0.62590	-	-
A1417	Providing and laying Heavy Duty Anti Skid Ceramic Tiles with Matt Finish of size 300x300mm or 600x600mm from reputed / approved manufacturer of make Johnson,Qutone,Varmora or equivalent complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following. Note:-The contractor should provide the material cut sheet/ declaration from manufacturer mentioning the recycled content used in manufacturing of tile, to be used).					
b	10mm thick tiles in flooring	SQM	1427	0.61902	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
d	10mm thick tiles In skirting and dado upto specific height	SQM	27	0.62590	-	-
A1418	Providing and laying min.10 mm thk Double Charge Glazed vitrified tiles of make Johnson,Qutone,Varmora or equivalent in flooring and skirting over 38 mm thick underbed of 1 part cement and 3 parts coarse sand by weight mixed with sufficient water, cement slurry 3.3kg/sqm complete as per specification laid in pattern. Note:-The contractor should provide the material cut sheet/ declaration from manufacturer mentioning the recycled content used in manufacturing of tile, to be used).	SQM	2209	0.78504	-	-
a	600x600 mm	SQM	2209	0.78504	-	-
1419	Providing and laying granite stone slab of 20mm thickness single piece for wash basin / sink slab /facia of black or approved colour including 20mm underbed of cement mortar 1:3 with cutting,making corners,moulding and opening etc. all complete.	SQM	211	2.41812	-	-
1420	Providing and laying Heavy Duty dust pressed Ceramic Tiles of 7mm thick of reputed manufacturer of approved finish shade and colour including 20mm underbed of cement mortar 1:3 with neat cement slurry @3.3kg/sqm etc. all complete.	SQM	1496	0.31897	-	-
a	600x600 mm	SQM	1496	0.31897	-	-
A1421	Providing and laying Heavy Duty dust pressed (grade-5) Ceramic Tiles (Matt Finish) of size 600x600mm(approved size) and 7mm thick of reputed / approved manufacturer (Johnson,Qutone,Varmora or equivalent) of approved finish, shade and colour. The tiles shall be scratch resistance of minimum 5 on Mohr's scale and shall have a bending strength of 350 Kg./sqm,with Under bed shall average 43mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level including cement mortar with neat cement slurry @3.3kg/sqm all complete. Note:-The contractor should provide the material cut sheet/ declaration from manufacturer mentioning the recycled content used in manufacturing of tile, to be used).	SQM	2386	0.46814	-	-
A1422	Providing & fixing Acid / Alkali resistant (Chemical resistant) tiles conforming to IS:4457 in flooring/Dado and shall be laid over bitumastic lining of min 12mm thick (to be laid in layers of 6mm each). The tiles shall be applied with 6mm thick Potassium Silicate bedding mortar as per IS:4441, 4443 & 4832 and including preparation of surface, application of bitumen primer, curing etc. all complete for following thicknesses. The joints shall be cured with resin type mortar filling up the entire length of the joint. The excess mortar shall be trimmed off to make the joints smooth & place. Seal coat shall then be applied over the epoxy mortar to cover up porosity that may be left in mortar.The tiles should be abrasion resistant & durable. The total thickness alongwith bedding shall be min. 50 mm.	SQM	6749	1.52832	-	-
a	25mm thick	SQM	6749	1.52832	-	-
b	38mm thick	SQM	472	2.23684	-	-
1424	Providing & fixing chemical resistant (AR)(Acid / Alkali) bricks (75mm thick) conforming to IS:4860 in the floor of neutralization pit. Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by 18mm thick bituminastic followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar conforming to IS:4832, part II, seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminastic AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification.	SQM	688	1.47440	-	-
A1424	Providing & fixing chemical resistant (AR)(Acid / Alkali) bricks (115mm thick) conforming to IS:4860 in the floor of neutralization pit. Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by 18mm thick bituminastic followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar conforming to IS:4832, part II, seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminastic AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification.	SQM	2215	2.26074	-	-
1427	Providing and fixing glazed ceramic tiles of approved color and design of size 200x300mm / 300x300mm in dado of approved size, projecting 6mm uniformly from adjacent plaster or wall finish. The mix for 20mm thick underbed plaster shall consist of 1part cement and 3 parts sand by weight. fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry @ 3.3kg/sqm including pigments, curing etc all complete for following thicknesses:	SQM	1787	0.41880	-	-
a	5mm thick	SQM	1787	0.41880	-	-
b	7mm thick	SQM	327	0.41880	-	-
A1428	Providing and laying 2mm thick antistatic PVC flooring / skirting of approved shade,as per IS:3462 and laying as per IS:5318 all complete.	SQM	408	0.08873	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
A1429	Providing and fixing Removable type flooring system (raised access floor) consisting of fire resistant Cementitious panels of 600 x 600x 35 mm and Laminated with 1.2 mm thick fire retardant food grade antistatic laminate top finish to ensure max bonding to the steel surface. Cementitious panels shall be steel welded construction, with an enclosed bottom pan of 64 hemispherical and top plain sheet which are fuse welded at multiple location to form a panel. The panel is coated with 40-60-micron epoxy coat after cleaning, degreasing, phosphate by several tank processes & is heated to achieve max adhesion to the panel surface & corrosion resistance. The inner empty core of the panel is injected with a light weight fire retardant, non-combustible cementations compound at high pressure to fill in all the crevices of the panel and ensures support of not less than 90% of the top surface area of the panel. Pedestal (300mm – 800 mm) must be 25mm dia. pipe with min.2.0 mm thickness with bottom plate of 100x100x min. : 15 Months Date of completion of civil works 17.03.2015 Awarded value Rs. 11,43,09,566/- Executed value Rs. 14,71,50,804/-	SQM	408	2.30625	-	-
1430	Providing and fixing dividing strips in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.					-
a	Glass strips 40 mm wide and minimum 6 mm thick.	RM	200	0.01893	-	-
b	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	250	0.04590	-	-
A1431	Providing and fixing 15mm thick wooden panel flooring and skirting of greenlam or equivalent of approved color,shade multi-layered engineered wooden planks treated with VOC free lacquers and stains to provide extra strengthening, longevity and durability to planks. In all planks each layers are arranged at cross grain to each other for provide the balancing and stability to all three layers. Top layer of flooring is made up of about 3.0 mm thick thermosetting re-polish able natural veneer setting on a core of about 10 mm thick pine wood that produce natural characteristic of wood with 2.0mm thick bottom ply based veneer balancing layer. The planks are joint to each other through plankloc system with glue less technology system and laid on 2mm thick dual barrier underlay protecting sheet having anti-bacterial, Anti-termite, fire-resistant, noise reduction, high wear and abrasion resistance, water resistant properties. The system includes all accessories like beading, Quadrant, Veneered/solid wood skirting, end profile etc.as per as per manufacturer specification and approved by Engineer Incharge. (The contractor should provide the material cut sheet/ declaration from manufacturer mentioning the recycled content used in manufacturing of wooden flooring to be used).	SQM	1226	1.26328	-	-
1500	ROOFING / SIDE CLADDING					-
	ROOFING / SIDE CLADDING: Roofing / side cladding work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item.					-
1502	Designing, providing, erection and fixing permanently color coated galvanized MS troughed metal sheet decking plate of approved colour and conforming to class3 of IS 14246 over roof purlins for cast-					-
a	Span Upto 1800mm	SQM	10004	0.73605	-	-
b	Span Exceeding 1800mm and upto 2500 mm	SQM	3090	0.73605	-	-
1503	Providing and fixing shear connectors of mild steel studs having 16mm dia and minimum 75 mm projected length above purlin passing through metal decking as per relevant IS codes and specification.	QUINTAL	27	11.46013	-	-
1504	Designing, providing and fixing External sheet of Permanent colour coated metal cladding with troughed M.S. sheets of 0.6mm bare metal thickness having minimum yield strength 250 MPa and zinc aluminium alloy coating not less than 275 gm/sqm total on both sides including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed face of the sheet shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of minimum dry film thickness (DFT) 20 microns over suitable primer. Inner face of the sheet shall be provided with suitable pre-coating of minimum DFT 7 microns over suitable primer. The permanent colour coated sheet shall meet the general requirements of IS : 14246 and shall conform to class 3 for the durability.	SQM	12932	0.46871	-	-
1505	Designing, providing, Erection and fixing profiled External Cladding sheet manufactured out of 0.55 mm TCT (Total Coated Thickness) of permanently colour coated zinalume steel (150gsm. zinc-aluminium alloy coating total of both sides as per AS 1397:1993) having 300MPa yield strength. The colour coating shall comprise of 20 microns finish coat over a 5 micron primer coat on the exposed side and a back coat of 5 micron over a primer coat of 5 micron on reverse side.The sheet shall have 500 mm cover width, 47mm height crests at 250mm centres with special male/female side laps and anti-siphoning features to prevent leakage. The sheet shall be fixed with the help of concealed compatible interlocking clips and wafer head zinc coated self drilling fastners/screws 4.2 X 25mm long on to the sub-girts. The clips shall be concealed and no fastners are to penetrate the external sheeting, all complete as per specification.					-
a	final painting with Silicon Modified Polyester(SMP)	SQM	2760	0.46871	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
1508	Designing, providing and fixing Inner sheet of Permanent colour coated metal cladding with troughed M.S. sheets of 0.6mm bare metal thickness having minimum yield strength 250 MPa and zinc-aluminium alloy coating not less than 275 gm/sqm total on both sides of both sheets including fixing to supports / rails by concealed fixing system (Z Purlin) , corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed surface of the sheet shall be permanently colour coated with silicon modified polyester paint of minimum dry film thickness (DFT) 20 microns over suitable primer. Other face of the sheet shall be provided with suitable pre-coating of minimum DFT 7 microns over suitable primer. The permanent colour coated sheet shall meet the general requirements of IS : 14246 and shall conform to class 3 for the durability. The sheet shall be fixed directly to side runners and Z spacers as per IS : 277. The sheet shall be fixed at the rate not more than 1500mm/rimmer applied over hot dipped galvanising @ 275 gm/sqm includin	SQM	7561	0.57312	-	-
1512	Providing and fixing insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including wrapping in black polythene black supported over weld mesh 75X75X1.6 MM dia to hold in position and application of glue & tying with lacing wire, for glass/rock wool as per manufacturer's recommendation.					
a	For insulation in Sandwich Cladding	SQM	9111	0.25300	-	-
Ac	mineral wool insulation(density 48 kg/cum) bound in polythene bags on top of false ceiling panels	SQM	9476	0.25300	-	-
A1514	Providing and installing under deck insulation with PUF material of 50 mm nominal thickness conforming to relevant IS/ASTM standard having a density of 36kg/cum using minimum 0.05 mm thick aluminium foil on exposed surface followed by 24G and 25 mm mesh GI wire netting, fixed at various elevations with 100X50X6 slotted mild steel plate welded to MS plate inserts at the soffit of slab @600 mm c/c including clips etc. Cost of Insulation shall be paid under this item.	SQM	3990	0.29258	-	-
1516	Providing and fixing non metal opaque PVC sheet similar to ONDEX roofing or equivalent including all fixing accessories.	SQM	227	0.54099	-	-
1517	Providing and fixing 1 mm thick corrugated/semicorrugated G.I. sheet in roofs , cladding of minimum galvanisation of 275 gsm total on both sides with minimum 150mm overlapping, 8 dia G.I. hook bolts or 'J' Bolts and nuts @305 mm c/c along with G.I. and bitumen washers including cutting of sheets for opening etc. all complete.	SQM	235	0.32529	-	-
1600	FALSE CEILING					
	FALSE CEILING: False ceiling including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, suspension system etc. at all level as per specification, drawings and as directed by engineer-in-charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item.					
1601	Providing and fixing glass fibre reinforced gypsum plaster board (GRG) ceiling (having gypsum core mixed with glass fibre) system consisting of metal supporting grid system forming panels of specified size, suspended from RCC slab/structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preparation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer.					
a	12 mm thick GRG board with galvanised light gauge steel load bearing supporting GI frame and finished flat (seamless).	SQM	2885	0.32070	-	-
A1601	Providing and Fixing 12.5 mm thick GRG board perforated/ mineral fibre based acoustic ceiling board (600x600MM) in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete as per architectural design and detail. Metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per is :277) and nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated. Suspension system shall be as per manufacturer's specification. Movement platform of structural steel shall be provided if required for the movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Structural steel works for platform for movement is separately payable under relevant items of BOQ). Work shall include 25mm thick resin bonded mineral wool insulation (as per IS:8183) bound in polythene bags on top of ceiling. The work to be complete as per specifications, drawings and direction of engineer. Payment terms - a) On receipt of Gypsum board false ceiling at site - 50%; b) On completion of erection & fixing - 50%.The contractor should provide the material cutsheet/ declaration from manufacturer mentioning the recycled content used in manufacturing of board to be used)	SQM	1443	0.48076	-	-
A1603	Providing and fixing permanently colour coated aluminium false ceiling of approved colour and Luxalon 84 C or approved equivalent with corrosion resistant aluminium alloy panels of minimum thickness 0.5mm . Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, A.C. ducts etc all complete. Suitable M.S. channel grid with minimum MC 75 shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Materials for structural platform grid made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301).	SQM	9527	1.02003	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
A1604	Providing, fixing and laying permanently colour coated aluminium false acoustic ceiling of Hunter Douglas, dunlop or equivalent of approved colour with stove enamel finish of approved make in LINEAR and SQUARE, CURVILINEAR TYPE false ceiling with corrosion resistance aluminium alloys panels of minimum thickness 0.5mm including with acoustic fleece on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures etc. Suitable M.S. channel (minimum MC 75) grid 1200 mm C/C maximum shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. The work to be complete as per specifications, drawings and direction of engineer. (Structural steel works for platform for movement is separately payable under relevant items of BOQ). The contractor should provide the material cutsheet/ declaration from manufacturer mentioning the recycled content used in manufacturing of ceiling material).	SQM	889	0.95692	-	-
A1609	Providing and Fixing 12mm thick Calcium silicate board of HILUX or equivalent in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete as per architectural design and detail. Metal suspension system as per ASTM C-635 shall be hot dipped M.S. galvanized (grade 180 as per IS:277) and nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated. Suspension system shall be as per manufacturer's specification. Movement platform of structural steel shall be provided if required for the movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Structural steel works for platform for movement is separately payable under relevant items of BOQ). Work shall include 25mm thick resin bonded mineral wool insulation (as per IS:8183) bound in plation (as per IS:8183) bound in polythene bags on top of ceiling. The work to be complete as per specifications, drawings and direction of engineer. Payment terms - a) On receipt of Gypsum board false ceiling at site - 50%; b) On completion of erection & fixing - 50%. The contractor should provide the material cutsheet/ declaration from manufacturer mentioning the recycled con	SQM	793	0.63279	-	-
1700	RAIN WATER DOWN TAKE PIPES					
	RAIN WATER DOWN TAKE PIPES: Rain water down take pipes at all level including all labour, material (unless otherwise specified in BOQ/contract specification), transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item.					
1702	Providing and fixing HCl down take pipes of 150mm dia with water tight lead joint etc. all complete.	RM	577	0.91275	-	-
1703	Providing and fixing galvanised MS down take pipes of 100 mm dia- Medium quality as per IS:1239(part-I) / IS:3589 all complete.	RM	2587	0.64254	-	-
1704	Providing and fixing galvanised MS down take pipes of 150 mm dia- Medium quality as per IS:1239(part-I) all complete.	RM	2652	0.84218	-	-
1705	Providing and fixing UPVC down take pipes of 110mm diameter- Class 3 as per IS:4985 all complete.	RM	350	0.20997	-	-
1706	Providing and fixing UPVC down take pipes of 160mm diameter- Class 3 as per IS:4985 all complete.	RM	350	0.30119	-	-
1707	Providing and fixing GI down take pipes conforming to IS:1239 /IS:3589 of medium duty all complete for following diameters.					
a	100 mm Dia	RM	200	0.66606	-	-
b	150 mm Dia	RM	200	0.91676	-	-
c	200 mm Dia	RM	400	1.23918	-	-
1708	Providing and fixing GI down take pipes conforming to IS:1239 /IS:3589 of heavy duty all complete for following diameters.					
a	100 mm Dia	RM	100	0.83989	-	-
b	150 mm Dia	RM	400	1.08658	-	-
c	200 mm Dia	RM	400	1.51111	-	-
1709	Providing and fixing HDPE down take pipes conforming to IS:4984 as per specification of following diameters.					
a	110 mm Dia	RM	200	0.20366	-	-
b	160 mm Dia	RM	100	0.30693	-	-
c	200 mm Dia	RM	400	0.45551	-	-
1800	MISCELLANEOUS WORKS					
	MISCELLANEOUS: Miscellaneous works including all labour, material (unless otherwise specified in BOQ / contract specification), equipment etc. at all level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item.					
1801	Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 230 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	27122	1.20189	-	-
1803	Supply and laying approved quality rounded pebbles / gravels of 40mm size in transformer yards.	CUM	1031	1.42678	-	-
1804	Providing and fixing weep holes in Retaining wall, drains, etc consisting of 100 mm dia HDPE pipe sleeves with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening all complete.	EACH	1515	0.08376	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
1807	Anti termite chemical treatment of soil with Chlorpyrifos/Lindane E.C. 20% with 1% concentration conforming to IS:8944 and as per IS 6313 all complete. (Plinth area of building at ground floor only shall be measured for payment).	SQM	13696	0.06368	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
1808	Laying of earthing mats/rods including risers, transportation from yard stores, loading, unloading, cutting to length, welding, protective painting of joints etc. all complete. (Excavation & Back filling shall be paid separately under respective item of earth work. Earthing mats/rods shall be supplied by BHEL free of cost)	MT	460	4.11282	-	-
1810	Construction of below ground earthing system test links as per drawing/ sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing & specification (excavation & backfilling only will be paid under applicable BOQ items.	EACH	40	3.07386	-	-
1813	Providing Earthing/test pit as per drawing with charcoal & salt, GI pipes, GI earth electrodes, GI wire, GI strips, brick chamber with covers including associated earthwork etc. all complete.	EACH	125	10.53075	-	-
1814	Construction of below ground earthing system test pits as per drawing/ sketches including brickwork, plaster, concreting, reinforcement, formwork, providing & fixing GI strips/pipes, GI wires, covers etc as per drawing & specification including associated earthwork.	EACH	30	7.13504	-	-
A1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 610 g/sqm etc. all complete.	Kg	385	0.03500	-	-
1816	Providing and fixing PVC pressure release valve of minimum dia 90mm in water retaining structure including 160 mm dia housing pipe of minimum length 3.75 m with perforation as per IS4558, nylon jali, perforated end plug, collar, graded filter, excavation, fixing in concrete slab/wall etc. all complete.	EACH	25	3.85007	-	-
1821	Sprinkling of water by water tanker fitted with perforated GI pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust suppression and reduction of suspended material at site for day to day work, as directed by BHEL site engineer (water for this purpose shall be provided by BHEL free of cost and utilisation of machine will be in terms of Tank-hour put in actual use for water sprinkling).	TANK-HR	215	0.24497	-	-
A1837	Providing and laying factory made Autoclave Aerated concrete blocks(AAC) of dimensions 625mmX250mm in cement mortar 1:6 (1 part cement : 6 part coarse sand) conforming to IS 2185 Part III, in Boundary walls, chambers etc. at all depths, places and positions below/above plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting all complete as per specification and drawing and as directed by engineer in charge. AAC blocks shall have min. compressive strength of 30 kg/sq.cm, Density in the range of 550-650 kg/cum, average thermal conductivity of 0.162 W/mk, 2-6 hrs. of fire resistance depending on thickness, and average drying shrinkage of 0.02%. The blocks shall be made of a mixture of fine fly ash, quicklime, cement, gypsum as binding agents and water, aluminium powder as foaming agent, The moulded blocks shall be steam cured in high pressure autoclaves. 1 no. 6 mm diameter MS bar shall be placed at every alternate course and anchored properly with main structure. The item includes the rate of 6 mm MS bar placed at every alternate course. All AAC blocks should have fly-ash content more than 40%. The contractor should submit the documents certifying the percentage of fly-ash content of required quality in AAC blocks. Note: Cement for making of AAC blocks is in the scope of contractor.	CUM	1985	3.11287	-	-
A1838	Providing engineering consultancy services for Architectural design & drawings of GRIHA and ECBC compliant buildings in harmony with the overall plant and presented in the form of presentation drawings, including 3-D perspective rendered view,with color schemes, energy simulation,solar analysis,Daylight Modelling, lighting design, as per ECBC compliance ,Green Building norms and specification including preparation of integrated services drawings in co-ordination with electrical, HVAC & fire systems and taking approval on drawings from BHEL/customer, All activities required for obtaining GREEN BUILDING certification as per specifications etc. all complete.the bidder should have experience in design of green building in industrial power plant setup and completed similar kind of buildings with green building rating. Structural design & drawing, of buildings & foundations are in scope of BHEL and not included in scope of bidder.The scope of bidder shall include coordination with respect to HVAC, electrical & lation (as per IS:8183) bound in polythene bags on top of ceiling. The work to be complete as per specifications, drawings and direction of engineer. Payment terms - a) On receipt of Gypsum board false ceiling at site - 50%; b) On completion of erection & fixing - 50%.The contractor should provide the material cutsheet/ declaration from manufacturer mentioning the recycled content used in manufacturing of board to be used)ached along with service order. Technical Documents required : 1. Service order should be issued by competent authority with signature & stamp. 2. Detailed BOQ is required. 3. Completion certificate is required against service order no. PORSR / 131 / 1718 / 00632 dtd 04.12.2017. 4. In completion certificate actual date of start of work, actual date of completion and value executed					-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
a)	Service building of Approx. 4000 Sq.M. floor area in Ground+ 4 storeys	LS	1	1,938.95185	-	-
b)	Administration Building of Approx. 4500 sqm in G+2 Storeys	LS	1	2,181.32083	-	-
c)	Training Centre of Apprx. 300 sqm in Single storey	LS	1	145.42136	-	-
2000	FENCING AND GATES					
	FENCING AND GATES: Fencing and gates including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc at all level as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item.					
2001	Supplying and erecting in position 2.4 m high PVC coated galvanised chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75mm x 75mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing of height of 600 mm conforming to IS 298 at top of chain link fencing shall be provided with 4 strands of barbed wire hot dip galvanised wire of 12G comprising of 2 ply of wires with barbs of 16G spaced at 100mm. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts, accessories etc. all complete. (Structural post shall be paid separately under item 2007)	RM	1752	0.70622	-	-
2007	Supply and fixing of hot dip galvanised mild steel posts for fencing. Rate of zinc coating shall not be less than 710 g/m2 on steel posts.	MT	20	45.22151	-	-
2008	Supply, fabrication and fixing of mild steel posts for fencing including painting etc all complete.	MT	1	42.32722	-	-
2009	Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, paintings etc. all complete.	MT	16	49.35555	-	-
A2010	Supply, fabrication and installing in position and testing MS Gates out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, paintings & motorized arrangement of opening/closing etc. all complete.	MT	21	47.13249	-	-
2100	WATER SUPPLY					
	WATER SUPPLY: Water supply work including men, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item.					
A2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass long neck bib cocks with flow rate less than 5 LPM (litres per minute) at 45 psi, including sockets, union, nuts etc all complete -15mm nominal bore.(Note: Flow rate of all faucets at 45 psi should be less than 5 lpm. The contractor should submit the cutsheets/ declaration from the manufacturers mentioning the same to Engineer in charge.Note: Flow rate of all faucets at 45 psi should be less than 5 lpm. The contractor should submit the cutsheets/ declaration from the manufacturers mentioning the same to Engineer in charge.	EACH	209	0.39757	-	-
2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc all complete - 15mm nominal bore.	EACH	105	0.12679	-	-
2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality including all specials etc all complete for following sizes:					
a	25mm nominal bore.	EACH	52	0.21169	-	-
b	50mm nominal bore.	EACH	52	0.37462	-	-
2104	Providing and fixing GI pipes class B medium class conforming to IS:1239 pipes shall be concealed and painted with anticorrosive paint, complete for internal works with GI sockets, unions, elbows, tees, nipples etc and clamps including cutting and making good the walls etc all complete for following sizes:					
a	15 mm nominal bore.	RM	50	0.14457	-	-
b	20 mm nominal bore.	RM	165	0.16695	-	-
c	25 mm nominal bore.	RM	490	0.20825	-	-
d	50 mm nominal bore.	RM	220	0.34766	-	-
Ae	40 mm nominal bore.	RM	50	0.27813	-	-
2105	Providing and fixing GI pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:					
a	15 mm nominal bore.	RM	50	0.11875	-	-
b	20 mm nominal bore.	RM	50	0.14113	-	-
c	25 mm nominal bore.	RM	225	0.18244	-	-
d	50 mm nominal bore.	RM	235	0.32127	-	-
Ae	40 mm nominal bore.	RM	50	0.25702	-	-
A2106	Providing and fixing 600mmx900mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws, edge mounted with teak beading and minimum 12 mm thick plywood backing etc all complete.	EACH	116	0.68387	-	-
A2108	Providing and fixing 20 mm diameter stainless steel towel rails (600mm X 20mm) with C.P. mounting brackets all complete.	EACH	78	0.22443	-	-
2109	Providing and fixing 20mm dia chromium plated M.S. pipes wall mounted towel rod with C.P. Brackets etc all complete.	EACH	52	0.22317	-	-
2110	Providing and fixing C.P. Soap holder mounted with C.P. screws etc all complete.	EACH	117	0.17383	-	-
2111	Providing and fixing stainless steel / C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	EACH	120	0.31496	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
2112	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. sll complete.	EACH	118	0.14400	-	-
2113	Providing and fixing chromium plated brass shower rose 100mm dia with 15 or 20 mm inlet dia all complete.	EACH	58	0.02983	-	-
2114	Providing & fixing in position P.V.C. water tank of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete for following capacities. GI pipes shall be paid separately under ST No. 2105.					
b	1000 litres capacity	EACH	1	3.26203	-	-
A2114	Providing and fixing in position HDPE water tank including making all necessary inlet and outlet pipes, fixtures, ball cocks, valves etc. all complete as per specification for following capacities. GI pipes shall be paid seperately under ST no. 2105					
a	500 litres capacity	EACH	19	1.63101	-	-
b	1000 litres capacity	EACH	31	3.26203	-	-
c	2000 litres capacity	EACH	5	6.52349	-	-
A2115	Providing and fixing approved Geyser of 25 Litres capacity with inlet and outlet connections and all other fittings etc. all complete.	EACH	5	4.01587	-	-
2200	SANITARY WORKS					
	SANITARY: Sanitary work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement will be supplied by BHEL and issued as FOC (free of Cost) item.					
2201	Supply and fixing glazed vitreous china Wash Basin of approved make conforming to IS:2556 part 4 of oval shape with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug, 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required etc all complete.					
a	White	EACH	60	1.49620	-	-
b	Colored	EACH	58	1.60807	-	-
A2201	Supply and fixing coloured glazed vitreous oval shape china wash basin 450x550mm conforming to IS: 2556 as per approved sample mounted over 20 mm thk granite beveled edge counter counter.The Basin shall be fitted with approved shape bib cock, photo-voltaic control system for water control with flow rate less than 5 LPM (litres per minute) at 45 psi,CP brass chain with rubber plug, 40mm CP brass waste and bottle trap with necessary union including cutting of notch in granite counter slab etc complete as per specification	EACH	25	1.92968	-	-
2202	Providing and fixing approved vitreous china laboratory sink of size 600x400x200mm conforming to IS:2556 (part-5) with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, 40mm CP brass waste and 40mm CP brass trap with necessaary union complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	15	1.14510	-	-
2203	Providing and fixing stainless steel kitchen sink of size 610x510x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	15	2.14906	-	-
2204	Providing and fixing colour glazed vitreous china European type water closet conforming to IS:2556 with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC flushing cistern (same colour as WC) with valveless fittings, necessary C.P connections etc all complete.					
a	Floor mounted	EACH	69	1.99359	-	-
b	Wall mounted	EACH	1	4.12716	-	-
A2204	Providing and fixing wall mounted coloured glazed vitreous water closet with flushing valve system,water faucet ,Toilet paper holder, open front solid plastic seat and plastic cover,including necessary CP connection etc all complete.having flow rate of 6/3 LPF (litres per flush) or less and faucet having flow rate of 5 LPM (litres per minute) or less.	EACH	30	4.95259	-	-
2205	Providing and fixing colour glazed vitreous indian type Orissa pattern (580x440mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, necessary C.P connections etc all complete.	EACH	46	2.01424	-	-
A2205	Providing and fixing colour glazed vitreous china Orissa pattern (580x440mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, necessary C.P connections etc all complete having flow rate of 6/3 LPF (litres per flush) or less at 45 psi.	EACH	25	2.01424	-	-
2206	Providing and fixing white flat back glazed vitreous china urinals of size 440x265x355 mm with photo voltaic control flushing system as per IS:2556 (part 6, section 1) with flush pipes, lead pipes, gratings, traps and necessary C.P. fittings etc. all complete.	EACH	156	2.42501	-	-
A2206	Providing and fixing white/coloured water efficient flat black glazed vitreous china urinals of size 440x265x355mm with photo voltaic control flushing system as per IS: 2556(pt-6 sec-1) with flush pipes, lead pipes, gratings, traps and necessary C.P fitting etc. all complete as per specification having flow rate of 2 LPF (litres per flush) or less at 45 psi.	EACH	40	2.42501	-	-
2207	Supply, laying and jointing UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.					
a	75mm dia pipes	RM	895	0.10843	-	-
b	110mm dia pipes	RM	1395	0.15719	-	-
c	160mm dia pipes	RM	50	0.20596	-	-
d	200mm dia pipes	RM	50	0.25128	-	-
2208	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete for following.					

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
a	200mm dia	RM	1150	0.23923	-	-
b	300mm dia	RM	1255	0.29832	-	-
c	450mm dia	RM	998	0.93627	-	-
d	600mm dia	RM	1334	1.22082	-	-
e	900mm dia	RM	50	1.91499	-	-
2209	Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following:					
a	150mm dia	RM	100	0.15949	-	-
b	250mm dia	RM	75	0.20882	-	-
c	300mm dia	RM	55	0.23005	-	-
d	450mm dia	RM	50	0.30521	-	-
e	500mm dia	RM	55	0.41421	-	-
2210	Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following:					
b	600mm dia	RM	50	1.39580	-	-
2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx450mm including frame from reputed manufacture etc. all complete.	EACH	122	1.28106	-	-
2212	Providing and fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame etc. all complete.	EACH			-	-
A2212	Providing and fixing circular heavy duty C.I. Grill cover with frame, painting etc. all complete.	EACH	35	1.10895	-	-
2213	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber(Clay Brickwork in 1:6 mortar, 12mm plaster in 1:6 mortar & 1:2:4 Cement Concrete) and water tight CI cover with 300x300mm (inside). The weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg etc all complete for following sizes:					
b	150x100mm P or S Type.	EACH	108	0.62475	-	-
2214	Providing and fixing C.I. floor traps size 100 mm inlet and 100 mm Outlet Sand Cast Iron S&S as per IS: 1729 with C.P jalli all complete.	EACH	193	0.40560	-	-
2215	Providing and fixing 100mm heavy duty UPVC floor traps with 100 mm inlet and 100 mm outlet & C.P jalli all complete.	EACH	72	0.39011	-	-
2218	Providing and fixing white viterous urinal partitions of size 675x325x85mm all complete.	EACH	114	0.54673	-	-
2219	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	5	10.99888	-	-
A2223	Providing and fixing Desert Cooler with all fittings etc all complete as per specification	EACH	5	5.73695	-	-
A2224	Providing and fixing suitable water meter (Maximum Working Pressure 16 bar; Maximum Liquid Temperature 60°C; Connection Flanges according to ISO, BS 10, American Water works Association (AWWA) or others; Register water consumption in cum) on 50 mm domestic water inlet pipe	EACH	4	5.16326	-	-
A2225	Providing and fixing suitable water meter (Maximum Working Pressure 16 bar; Maximum Liquid Temperature 60°C; Connection Flanges according to ISO, BS 10, American Water works Association (AWWA) or others; Register water consumption in cum) on 150 mm sewer water outlet pipe	EACH	4	7.45804	-	-
2300	STRUCTURAL STEEL					
	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following:					
2301	Supply, Fabrication,erection and alignment of structural steel with mild steel rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including 2 coats of red oxide zinc-chromate primer (one coat at shop and one coat after erection), connection design & preparation of fabrication drgs, collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20° C for welding over 20 mm and upto 40 mm & 66° C for welding over 40 mm and upto 63 mm & 110° C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete. Including appointment of a separate agency, approved by BHEL, for review and approval of fabrication drgs, in consultation with BHEL Note: Structure Steel will be supplied by BHEI and issued as Free of Cost (FOC) Item.	MT	12554	13.21793	-	-

ANNEXURE-I						
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SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
A2302	Extra over ST NO. 2301 for blast cleaning of steel structures to near white metal surface(Sa 2 1/2) and applying zinc silicate primer in coats of minimum 25 micron (DFT) at shop and 25 micron (DFT) after erection, instead of primer coat of red oxide zinc-chromate, including touch-up painting etc all complete.	MT	12554	2.15365	-	-
A2304	Extra over ST No. 2301 for providing and applying two coats of synthetic enamel paint with minimum 50 micron total dry film thickness (DFT) of approved make and shade to achieve an even shade over steel sections already having primer coats of different tint to distinguish the same and keeping overall DFT with primer not less than 100 microns including protection and cleaning, scaffolding etc. all complete.	MT	12554	0.87202	-	-
2307	Supplying, fabrication, erection and alignment of factory made electroforged galvanised grating units with mild steel having minimum galvanisation conforming to IS:2062 in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.					
a	Minimum galvanisation of 610 g/sqm	MT	512	56.19400	-	-
2311	Providing and fixing in position of permanent mild steel bolts (class 4.6 as per IS : 1367 and grade 'C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete.	KG	66	0.04303	-	-
2312	Providing and fixing in positing of high strength structural bolts (of property class 8.8 and product grade 'C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class '8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete.	KG	289	0.04762	-	-
2313	Dismantling of steel structure, lowering of material and carriage of the dismantled material up to field fabrication shop / projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions (weight of such adjacent members and temporarily dismantled members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	60	3.51388	-	-
2314	Addition to, alterations in and/or modification of "Erection Marks" including cutting of parts, gauging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members (weight of such temporarily dismantled and adjacent members not payable) etc all complete for the following:					
a	In erected position	MT	27	7.16602	-	-
b	In fabrication yard	MT	27	6.04330	-	-
2315	Re-erection of dismantled fabricated structural steel members including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required position, aligning in position, tack welding, final welding and touch up painting including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismanatled members, re-alignment of adjacent connected members(weight of such temporarily dismantled members and adjacent members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	27	4.93263	-	-
A2317	Supply, fabrication and erection of minimum 6 mm thick stainless steel liner of grade SS316L on M.S. plate for inside surfaces vertical portion and inclined portion of bunkers including fixing with stainless steel studs, bolting (including countersunk), welding with electrode classification E308L for welding of stainless steel to stainless steel and E309 for stainless steel to mild steel, fabrication detailed drawing etc.all complete. (The measurement for the item of stainless steel liner in hopper shall be based on the actual finished weight of SS liner over hopper)	MT	365	159.66448	-	-
2318	Providing and fixing in position PTFE type sliding bearings of reputed manufacturer, individual bearing suitable for required vertical loads as per the construction drawings and for maximum displacement of ±50 mm including all taxes, duties, transportation, installation, drilling, bolting, erecting, aligning etc all complete for following vertical loads.					
a	20 Tons	EACH	5	6.58258	-	-
b	25 Tons	EACH	5	7.48959	-	-
c	40 Tons	EACH	4	8.09369	-	-
d	50 Tons	EACH	8	8.69894	-	-
e	60 Tons	EACH	12	9.30304	-	-
f	100 Tons	EACH	1	10.51239	-	-
2319	Providing and fixing flexible open ended bellow strap of neoprene of minimum thickness 2 mm and minimum width 200 mm with aluminium stripped edges as sealing below top of bunker and bottom of tripper floor to avoid the coal dust nuisance all complete.	RM	378	1.08314	-	-
2320	Supply, fabrication and fixing of stainless steel pipe hand railing conforming to SS 409 of 32 mm/40 mm dia including transportation, loading/unloading etc. all complete..	MT	15	159.00129	-	-
2321	Supply, fabrication and fixing of MS pipe hand railing of 32 mm/40 mm dia including transportation, loading/unloading etc. all complete. Payments terms - a)on receipt of materials at site - 65%; b) Erection & fixing - 35%	MT	7	56.69025	-	-
2322	Supply, fabrication and fixing of GI pipe hand railing (900 mm high) of 32 mm/40 mm dia (Medium Grade) including transportation, loading/unloading, painting etc. all complete..	MT	74	63.82529	-	-
2323	Conducting radiography test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	3	0.48420	-	-

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
2324	Conducting ultrasonic test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	3	0.33045	-	-
2325	Conducting ultrasonic test on steel plates as per ASTM-A435 or equivalent wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	SQM	3	0.15088	-	-
2326	Conducting magnetic particle test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	3	0.25988	-	-
2327	Conducting dye penetration test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges etc. all complete (over and above the work already specified in the specifications.)	RM	3	0.20825	-	-
2328	Supply, fixing lightning arrester and air terminal over roof of power house building, pump house and other structures including all materials, labour, electrodes etc complete (all materials to be supplied by the contractor).	EACH	2	1.89377	-	-
A2329	Design, supply, fabrication, erection of stoplog gates, Sluice gates etc. with embedments required, lifting beams, special tools & plants, spare parts for three years, machining, casting, all materials such as structural steel, cast steel, stainless steel, brass used for seals, rubber seals, gears, ball and roller bearing, branch bushings, greasing, bolts, nuts, lugs, threaded fastners etc., cleaning, sand blasting, including an application of etching primer, epoxy paint, erection along with a second stage concreting to true plumb and levels, submission of drawings / fabrication drawings for engineers approval, technical specification etc all complete. The leakage through rubber seal shall not be more than 5 lit/min/metre length of seal under maximum head. (Only weight of structural steel including embedments shall be considered for payment purpose, SS component shall be paid separately under relevant BOQ item) (Supply of structural steel is in the scope of contractor only)	MT	23	58.61442	-	-
2332	Design, Supplying, fabricating, erecting in position and testing / examining bolted and / or welded structural steel work for stationary screens made out of rolled sections and / or plates including cutting, straightening if required, edge preparation, bolting / welding of joints, cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc as 750 gms./sqm. followed by application of an etching primer and dipping in black bitumen as per BS 3416, submission of drawings / fabrication drawings for engineers approval etc all complete. (supply of structural steel is in the scope of contractor only)	MT	28	55.29272	-	-
2400	ROAD WORKS					
	ROAD WORKS: Road works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation etc. as per specification, drawing, relevant IRC & IS codes and as directed by the Engineer-in-charge for the following: Note: Cement will be supplied by BHEL and issued as Free of Cost (FOC) Item.					
2401	Preparation of sub grade by excavating earth to required depth for all types of soil/ rock, dressing to camber and consolidating the base including making good the undulation etc and disposal of surplus earth within a lead upto 1 km etc. all complete.	CUM	30797	0.02582	-	-
2402	Supplying and filling with selected good earth of approved quality in layers not exceeding 300 mm loose thickness using borrowed soil (borrowed soil to be arranged by the bidder) and compacted so as to achieve at least 95 % maximum dry density as per IS-2720 (Part-VII) including royalty/seigniorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete.	CUM	855	0.08605	-	-
2404	Providing & laying water bound macadam sub base course in layers of required thickness with crushed stone aggregates 90 to 40 mm down size (IRC 19 - grading -1), stone screening & blinding material including screening, sorting, spreading to template & consolidation with road roller including carriage, spreading & consolidation of blinding material moorum etc all complete.	CUM	8555	1.54553	-	-
2413	Supplying and laying 400mmx150mmx350mm deep precast concrete kerb stone of grade M-20 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete. Note: cement for kerb stone making is in the scope of contractor	RM	15000	0.14858	-	-
A2415	Supply and laying 150mm dia R.C.C NP-3 type Hume pipe in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:3) in 13mm thick joints, finishing of joints with neat cement paste etc all complete. Payment terms - a) On receipt of materials at site - 50%; b) On completion of erection & fixing - 50%.	RM	1623	0.33259	-	-
2416	Dismantling of existing road consisting of premix carpet, kerb stone/ brick on edge, bitumen macadem course, WBM, preparing subgrade to receive new WBM including camber consolidation including disposal of debris within a lead of 1 km etc all complete.	SQM	250	0.03778	-	-
2417	Providing 25 mm compacted thick premix carpet on existing/damaged road surfaces in a single course composed of suitable small size aggregate premixed with a bituminous binder using medium setting grade bitumen on the existing base including tack coat, cleaning of existing surface, mixing, applying, rolling etc all complete.	SQM	250	0.10958	-	-
2419	Providing and laying cement concrete of grade M30 using 20 mm nominal size stone aggregate with approved admixture (if required), provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. all complete. (Excluding the cost of reinforcement and dowel bar)	CUM	8555	2.12497	-	-
2421	Providing & laying dry lean cement concrete of grade M15 with 20 mm nominal size graded stone aggregate over a prepared sub-grade including compaction, finishing, curing etc all complete.	CUM	5045	1.89721	-	-
	REINFORCEMENT FOR ROAD WORKS					

ANNEXURE-I						
BOQ CUM RATE SCHEDULE- MAIN PLANT CIVIL WORKS						
PROJECT: 1X660 MW PANKI THERMAL POWER PLANT, PANKI U.P.						
SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
A2422	Providing and fixing in position MS dowel bar reinforcement including surface painted with bitumen and greasing, dowel end caps with cotton fills etc all complete as per specification, drawing and as directed by Engineer.	MT	49	35.66777	-	-
A2423	Straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 conforming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc all complete as per specification, drawing and as directed by Engineer. Note: Reinforcement Steel will be supplied by BHEL and issued as Free of Cost (FOC) Item	MT	203	3.82081	-	-
A2424	Providing, straightening cutting, bending, placing in position at any level, binding in position of steel reinforcement of mild steel reinforcements including cost of binding wire, labour, scaffolding transportation to & from stores etc all complete as per specifications, drawings and as directed by Engineer.	MT	11	35.66777	-	-
MISCELLANEOUS						
A2425	Providing & installation of bitumen impregnated fibre board of specified thickness conforming to IS 1838 as joint filler including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete as per specification, drawing and as directed by engineer.	RM	1141	0.01133	-	-
A2426	Providing and filling in position hot applied bitumen sealing compound (Grade A) of specified thick confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints, sealant primer etc all complete as per specification, drawing and as directed by Engineer.	RM	17152	0.01606	-	-
A2428	Providing & laying 80 mm thick precast (M35 Grade) interlocking concrete pavers of approved colour and pattern as per specification and recommendation of manufacturer. Note: cement for paver blocks making is in the scope of contractor.	SQM	8117	0.29775	-	-
A2429	Providing and laying 50mm thick sand layer below concrete pavers including compaction etc all complete as per specification, drawing and as directed by Engineer.	SQM	8117	0.08950	-	-
A2430	Providing and laying Impermeable plastic sheeting 125 microns thick laid flat without creases as per IRC 15-2002 etc all complete as per specification, drawing and as directed by Engineer.	SQM	34219	0.00895	-	-
A2431	Providing and laying Inverted Choke with 25 mm course of screenings (Grading-B) over prepared subgrade including compaction etc all complete as per specification, drawing and as directed by Engineer.	CUM	855	1.15600	-	-
A2433	Providing and installation of Variable message signs including Cantilever type MS supports etc. all complete as per drawings, specifications, manufacturer's recommendations, indian standards.	EACH	50	0.21479	-	-
2600	LEVELLING & GRADING					
2601	Cutting of trees having girth more than 300 mm measured at a height of 1m above ground level including removal of roots, stacking the serviceable material like trunks, branches etc at specified area within the plant boundary and disposal of unserviceable parts/materials within a lead upto 1km etc all complete.	Nos.	50	0.10499	-	-
2602	Earth work in stripping of top soil upto a maximum depth of 0.30m below ground level so as to exclude all debris, grass, vegetation, bushes including roots and organic materials etc for levelling and grading including dressing to specified levels & grades and compacting the graded/stripped surface by manual/mechanical means, disposal of stripped materials within a lead upto 1km etc all complete as per specification, drawing and as directed by the engineer-in-charge.	SQM	116250	0.00975	-	-
2603	Earth work in excavation upto any depth below ground level in all types of soil including moorum, ash which can be excavated by any means for grading including setting out, levelling, dewatering (wherever required), dressing the sides & bottom, levelling to grade, all lifts, ramming/compacting the excavated bottom/graded surface, stacking/disposal of surplus excavated materials within a lead upto 1km, spreading/levelling of disposed materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	22125	0.03958	-	-
A2608	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 250mm compacted thickness so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII) with selected approved soil/soft rock directly from excavation within a lead upto 1km and compacted as specified including dewatering if required, sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tising etc all complete as per specification, drawing and as directed by the engineer for the following.	CUM	7920	0.01377	-	-
A2609	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 250mm compacted thickness so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII) with selected approved soil/soft rock from compulsorily excavated earth available within a lead upto 1km and compacted as specified including re-excavation of stacked earth, all lifts, sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tising etc all complete as per specification, drawing and as directed by the engineer for the following.	CUM	98940	0.03958	-	-
2610	Extra over ST No. 2601 to 2609 for carriage of unserviceable material/earth for every 500m or part thereof beyond an initial lead of 1km.	CUM	45600	0.00402	-	-

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SCOPE OF WORK: ALL CIVIL, ARCHITECTURAL AND STRUCTURE WORKS OF MAIN PLANT AND BOPs FOR 1X660 MW PANKI TPS, PANKI, U.P.						
ST. NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Factor (F)	RATE (Rs.) = FACTOR (F) * A / 1000000 (Rounded off to two place after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
A2611	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 250 mm compacted thickness so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII) with approved borrowed soil (borrowed soil to be arranged by the bidder) and compacted as specified including supplying boorrowed soil, royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing, all lead and lifts etc all complete as per specification, drawing and as directed by the engineer for the following.	CUM	2640	0.17785	-	-
Total Amount 'A'						
NOTES:						
1	Bidder's quoted price above shall be complete in all respect for the full scope defined in specification and in accordance with all terms & conditions of tender.					
2	Contractor shall fully understand description and Specifications of items mentioned in BOQ.					
3	Conditional price bids with any deviation / clarification etc. are liable to be rejected. No cutting / erasing / over writing shall be done.					
4	Quantities mentioned in rate schedules are approximate only and liable for variation on either side depending upon site / design requirement. The tentative contract value (CV) of entire scope of work shall be calculated as per finally quoted / accepted rates & the Quantities indicated in BOQ cum Rate Schedule .					
5	Contractor's total quoted price as per rate schedule will be taken as tentative only. The contractor undertakes to execute actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out on the basis of quantities actually executed at site and payments will also be regulated for the same.					
6	In case of any mis-match in rate and amount on price discrepancy, the same will be dealt as per clause no. 1.4 of GCC.					
7	Taxes (GST) shall be payable extra as per relevant clauses in Technical Conditions of Contract.					