



भारत हेवी इलेक्ट्रिकल्स लिमिटेड  
(भारत सरकार का उपक्रम)

**BHARAT HEAVY ELECTRICALS LIMITED**  
(A Govt. of India Undertaking)

**TCN – 07**

Ref: PSER:SCT:SDG-C2062:TCN-07

Date: 27-08-2020

Sub	Tender Change Notice (TCN) – 07.	
Job	Civil, Structural & Architectural works for Main Plant & BOP (excluding piling and levelling & grading work) for 1x660 MW, Unit no. 5, WBPCL Sagardighi TPP Extension Project.	
Ref	1.0	Tender no PSER:SCT:SDG-C2062:20.
	2.0	BHEL's NIT, vide reference no PSER:SCT:SDG-C2062:8055, Date: 18-07-2020.
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:SDG-C2062:TCN-01, Date: 27-07-2020.
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:SDG-C2062:TCN-02, Date: 03-08-2020.
	5.0	BHEL's TCN-03, vide reference no PSER:SCT:SDG-C2062:TCN-03, Date: 10-08-2020.
	6.0	BHEL's TCN-04, vide reference no PSER:SCT:SDG-C2062:TCN-04, Date: 13-08-2020.
	7.0	BHEL's TCN-05, vide reference no PSER:SCT:SDG-C2062:TCN-05, Date: 14-08-2020.
	8.0	BHEL's TCN-06, vide reference no PSER:SCT:SDG-C2062:TCN-06, Date: 20-08-2020.
	9.0	All other pertinent issues till date.

With reference to above, following points/documents, relevant to tender, may please be noted and complied with while submitting the offer.

1. Revised PRE QUALIFICATION CRITERIA (ANNEXURE-1), REV-01 is attached superseding previous criteria issued along with NIT. Bidder shall quote their offer accordingly.
2. Revised Price Schedule, **VOLUME-III-PRICE SCHEDULE-REV-01** is attached superseding **VOLUME-III-PRICE SCHEDULE-REV-00** issued earlier along with NIT. **Bidders shall quote as per this revised Volume-III, Rev-01 only.** Bidders are also requested to submit a declaration in techno-commercial offer that they have submitted their price bid as per **REVISED Price Schedule** format.
3. Revised 'No deviation certificate' as per enclosed Annexure-2. Bidder shall submit no deviation certificate as per enclosed format only.
4. All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,  
for BHARAT HEAVY ELECTRICALS LTD

SR. ENGR (SCT)

Encl : As above.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

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

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : (033) 2339-8000/ 2339 8231

ANNEXURE-1 (REV-01)**PRE QUALIFICATION CRITERIA**

JOB	CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBDCL SAGARDIGHI TPP EXTENSION PROJECT.
TENDER NO	PSER:SCT:SDG-C2062:20.

SL NO.	CRITERIA
1.0	<b>FINANCIAL CRITERIA</b>
(a)	BIDDER SHOULD HAVE AVERAGE MINIMUM ANNUAL FINANCIAL TURNOVER OF INR 40.76 Cr DURING THE LAST 3 (THREE) YEARS, ENDING ON 31-03-2019 OR CORRESPONDING FINANCIAL YEAR FOLLOWED BY THE BIDDER AND HAVING POSITIVE NET WORTH AS ON LATEST AUDITED ACCOUNTS AS SUBMITTED FOR PARA 1(C).
(b)	BIDDER MUST HAVE EARNED PROFIT IN ANY ONE OF THE LAST THREE FINANCIAL YEARS ENDING ON 31-03-2019 OR CORRESPONDING FINANCIAL YEAR FOLLOWED BY THE BIDDER. AUDITED BALANCE SHEET AND PROFIT & LOSS ACCOUNT OF THE COMPANY FOR LAST 3 (THREE) FINANCIAL YEARS, ENDING ON 31-03-2019 OR CORRESPONDING FINANCIAL YEAR FOLLOWED BY THE BIDDER NEED TO BE SUBMITTED IN SUPPORT OF ABOVE.
(c)	IN CASE AUDITED BALANCE SHEET AND PROFIT AND LOSS ACCOUNT HAS NOT BEEN SUBMITTED FOR ALL THREE YEARS INDICATED ABOVE THEN THE APPLICABLE FINANCIAL AUDITED STATEMENTS SUBMITTED BY THE BIDDERS AGAINST THE REQUISITE THREE YEARS WILL BE AVERAGED FOR THREE YEARS.
(d)	IF FINANCIAL STATEMENTS ARE NOT REQUIRED TO BE AUDITED STATUTORILY, THEN INSTEAD OF AUDITED FINANCIAL STATEMENTS, FINANCIAL STATEMENTS ARE REQUIRED TO BE CERTIFIED BY CHARTERED ACCOUNTANT.
2.0	<b>TECHNICAL CRITERIA</b>
2.1	BIDDER SHOULD HAVE EXECUTED PILING OR CIVIL OR STRUCTURE OR 'CIVIL AND STRUCTURAL WORKS' OR RCC CHIMNEY OR RCC COOLING TOWER OR RCC SILO OR MILL BUNKER OR ANY COMBINATION OF THESE DURING THE LAST 7 (SEVEN) YEARS, ENDING ON THE LATEST DATE OF BID SUBMISSION, VALUE OF WHICH SHOULD NOT BE LESS THAN EITHER OF THE FOLLOWING:  A) 1 (SINGLE) WORK OF VALUE NOT LESS THAN Rs.108.68 Cr. OR B) 2 (TWO) WORKS OF VALUE NOT LESS THAN Rs. 67.93 Cr EACH. OR C) 3 (THREE) WORKS OF VALUE NOT LESS THAN Rs. 54.34 Cr EACH.  RELEVANT DOCUMENT IN SUPPORT OF ABOVE SHALL BE SUBMITTED.
2.2	BIDDER SHOULD HAVE EXECUTED THE FOLLOWING QUANTITY IN EACH CASE DURING LAST 7 (SEVEN) YEARS, ENDING ON THE LATEST DUE DATE OF SUBMISSION OF OFFER  2.2.1 AT LEAST 14580 CUM OF RCC QUANTITIES WITHIN A COMMON PERIOD OF TWELVE CONSECUTIVE MONTHS IN CUMULATIVE OF TWO RUNNING/COMPLETED CONTRACTS. OR 2.2.2 AT LEAST 9720 CUM OF RCC QUANTITIES WITHIN A PERIOD OF TWELVE CONSECUTIVE MONTHS IN ONE RUNNING/COMPLETED CONTRACT.  RELEVANT DOCUMENT IN SUPPORT OF ABOVE SHALL BE SUBMITTED.

2.3	BIDDER SHOULD HAVE EXECUTED THE FOLLOWING WORKS IN EACH CASE DURING LAST 7 (SEVEN) YEARS, ENDING ON THE LATEST DUE DATE OF SUBMISSION OF OFFER
	2.3.1.1 AT LEAST 2474 MT QUANTITY OF STRUCTURE FABRICATION WORKS WITHIN A COMMON PERIOD OF TWELVE CONSECUTIVE MONTHS IN CUMULATIVE OF TWO RUNNING/COMPLETED CONTRACTS.
	AND
	2.3.1.2 AT LEAST 2474 MT QUANTITY OF STRUCTURE ERECTION WORKS WITHIN A COMMON PERIOD OF TWELVE CONSECUTIVE MONTHS IN CUMULATIVE OF TWO RUNNING/COMPLETED CONTRACTS.
	OR
	2.3.2.1 AT LEAST 1649 MT QUANTITY OF STRUCTURE FABRICATION WORKS WITHIN A PERIOD OF TWELVE CONSECUTIVE MONTHS IN ONE RUNNING/COMPLETED CONTRACT.
	AND
	2.3.2.2 AT LEAST 1649 MT QUANTITY OF STRUCTURE ERECTION WORKS WITHIN A PERIOD OF TWELVE CONSECUTIVE MONTHS IN ONE RUNNING/COMPLETED CONTRACT.
	OR
	2.3.3 MILL BUNKER STRUCTURE FOR ONE UNIT OF 190 MW OR HIGHER RATING.
	OR
	2.3.4 BIDDER SHOULD HAVE SOLELY EXECUTED BOILER CONSISTING OF STRUCTURES, PRESSURE PARTS OF SAME UNIT FOR AT LEAST ONE UNIT OF 190 MW OR HIGHER RATING.
	RELEVANT DOCUMENT IN SUPPORT OF ABOVE SHALL BE SUBMITTED.
2.4	BIDDER SHOULD HAVE EXECUTED CIVIL WORKS INCLUDING MAJOR FOUNDATIONS, STRUCTURAL STEEL & CONCRETE WORKS AND POWER PLANT BUILDING WORKS, COOLING WATER DUCTS, ROAD WORKS, DRAINAGE AND SEWERAGE SYSTEM IN ATLEAST TWO (2) UNITS OF COAL FIRED POWER STATIONS HAVING UNIT RATING OF MINIMUM 210 MW CAPACITY WITHIN THE LAST 07 YEARS FROM 01/02/2018
3.0	BIDDER SHOULD HAVE VALID PAN.
	RELEVANT DOCUMENT IN SUPPORT OF ABOVE SHALL BE SUBMITTED.
4.0	CONSORTIUM/JV BIDDING IS NOT ALLOWED.
<b>NOTE</b>	
1.0	'EXECUTED' MEANS BIDDER SHOULD HAVE ACHIEVED THE CRITERIA SPECIFIED ABOVE EVEN IF THE CONTRACT HAS NOT BEEN COMPLETED OR CLOSED.
2.0	BIDDER SHOULD FURNISH INFORMATION REGARDING PROJECTS IN HAND, CURRENT LITIGATION, ORDERS REGARDING EXCLUSION/ EXPULSION OR BLACK LISTING.
3.0	AFTER SATISFACTORY FULFILLMENT OF ALL THE ABOVE CRITERIA, OFFER SHALL BE CONSIDERED FOR FURTHER EVALUATION AS PER NIT AND ALL OTHER TERMS OF THE TENDER SUBJECT TO CUSTOMER'S APPROVAL.
4.0	BIDDER MUST NOT BE UNDER BANKRUPTCY CODE PROCEEDINGS (IBC) BY NCLT OR UNDER LIQUIDATION / BIFR, WHICH WILL RENDER HIM INELIGIBLE FOR PARTICIPATION IN THIS TENDER, AND SHALL SUBMIT UNDERTAKING TO THIS EFFECT.

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

1. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated along with all annexures.
2. In case audited Financial statements have not been submitted for all the three years as indicated, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e total divided by three.
3. Net Worth (Only in case of companies) of the bidder should be positive. Net worth shall be calculated based on the latest Audited Accounts as furnished. Net worth = Paid up share capital + Reserves.
4. PROFIT shall be PBT earned during any one year of last three financial years.
5. 'Additional' Criteria in respect of 'Technical' criteria of PQR for Civil, Electrical, CI, unless otherwise specified:
  - i) 'Similar' work means
    - a. Piling or Civil or Structure or 'Civil and Structural works' or RCC Chimney or RCC Cooling Tower or RCC Silo or Mill Bunker or any combination of these shall be considered similar works for all packages mentioned under 'CIVIL WORKS'
    - b. Electrical or C&I or 'Electrical and C&I' shall be considered similar works for all packages mentioned under 'ELECTRICAL AND C&I WORKS'
6. For evaluation of PQR of Civil, Electrical and C&I packages, in case Bidder alone does not meet the 'Additional' pre-qualifying technical criteria, bidder may utilize the experience of its Parent/ Subsidiary Company along with its own experience, subject to following:
  - a. The parent company shall have a controlling stake of  $\geq 50\%$  in the subsidiary company (as per Format-1).
  - b. The Parent Company/ Subsidiary Company of which experience is being utilized for bidding shall submit Security Deposit(SD) equivalent to 1% of the total contract value.
  - c. The parent/ subsidiary company and bidder shall provide an undertaking that they are jointly or severally responsible for successful performance of the contract (as per Format-2).
  - d. In case Bidder is submitting bid as a Consortium Partner, option of utilizing experience of parent/subsidiary Company can be available by Prime Bidder only.
  - e. Parent Company/ Subsidiary Company of which experience is being used for bidding, cannot participate as a 'Standalone Bidder' or as a 'Consortium bidder'.
7. Completion date for achievement of the technical criteria specified in the Common QR should be in the last 7 years ending on the 'latest date of Bid Submission' of Tender irrespective of date of the start of work.
8. 'EXECUTED' means the bidder should have achieved the criteria specified in the Technical criteria of PQR even if the Contract has not been completed or closed
9. In case the Experience/PO/WO certificate enclosed by bidders do not have separate break up of prices for the E&C portion for Electrical and C&I works (i.e. the certificates enclosed are for composite order for supply and erection of Electrical and C&I and other works if any), then value of Erection & Commissioning for the Electrical and C&I portion shall be considered as 15% of the price for supply & erection of Electrical and C&I.
10. Unless otherwise specified, for the purpose of "Technical Criteria" of PQR , the word 'EXECUTED' means achievement of milestones as defined below -
  - "ACHIEVEMENT OF PHYSICAL QUANTITIES" as per PQRs.
  - "READINESS FOR COAL FILLING" of at least one Bunker, in respect of Mill Bunker Structure.
  - "CHARGING" in respect of Power Transformers/ Bus Ducts/ "HT/LT Switchgears" / "HT/LT Cabling".
  - For C&I works: "SYNCHRONISATION" in case of power project / "WORK EXECUTION of the value as defined in PQR" in case of industry.
  - "BOILER LIGHT UP" in respect of Boiler / CFBC / ESP.
  - "CHARGING OF ATLEAST ONE PASS" in respect of ESP(R&M)
  - "GAS IN" in respect of HRSG.
  - "STEAM BLOWING" in respect of Power Cycle Piping.
  - "HYDRAULIC TEST" / ANY OTHER EQUIVALENT TEST LIKE "100% RT/UT OF WELDED JOINTS" of the system in respect of Pressure parts/ LP Piping/CW Piping.
  - "FULL LOAD OPERATION OF THE UNIT" in respect of Insulation work.
  - "SYNCHRONISATION" in respect of STG / GTG.
  - "SPINNING" in respect of HTG.
  - "GAS IN" in respect of FGD

11. Boiler means HRSG or WHRB or any other types of Steam Generator
12. Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass
13. For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5 TPH where ever rating of HRSG/BOILER is mentioned in MW. Similarly, where ever rating of Gas Turbine is mentioned in terms of Frame size, ISO rating of the same in terms of MW shall be considered for evaluation.
14. 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-

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

Where

P = Updated value of work

R = Value of executed work

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

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

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

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

15. Bidder must not be under Bankruptcy Code Proceedings (IBC) by NCLT or under Liquidation / BIFR, which will render him ineligible for participation in this tender, and shall submit undertaking to this effect.

Format-1 /PQ Explanatory Note**Certificate for relationship between Parent Company / Subsidiary Company and the bidder**

To,

.....

.....

Dear Sir,

**Sub:** Bid for NIT No .....dated..... for “.....” (name of the tender).

We hereby certify that M/s..... is Parent Company/ Subsidiary Company of M/s .....(the bidder) and details of equity holding of the Parent Company in Subsidiary Company as on .....(not earlier than seven days prior to the Bid Submission Date) are given as below:

Name of Parent Company	Name of Subsidiary Company	Percentage of Equity Holding of Parent Company in Subsidiary Company

**(Insert Name and Signature of Statutory Auditor or practicing Company Secretary of the Bidder)**

Format-2 /PO Explanatory Note**Undertaking from the Parent Company/ Subsidiary Company of the bidder***(On the Letter Head of Parent Company/ Subsidiary Company, as applicable)*

From,

Name:

Full Address:

Telephone No.:

E-mail address:

Fax/No.:

To,

.....

.....

Dear Sir,

We refer to the NIT No..... dated..... for “.....” (name of the Tender).

“We have carefully read and examined in detail the NIT/Tender Terms and Conditions, including in particular, Clause .... of the NIT/Tender, regarding submission of an Undertaking, as per the prescribed Format 1 of the NIT/ Tender.

We confirm that M/s.....(the Bidder) has been authorized by us to use our Technical capability for meeting the Technical Criteria as specified in Clause.....of the PQR of the NIT/Tender referred above.

We agree to submit the Security Deposit equivalent to 1% of the total contract value in addition to Security Deposit to be submitted by Bidder as per Clause.....of the NIT/Tender for fulfillment of all obligations in terms of provisions of the contract, in the event of .....(the Bidder) being selected as the Successful Bidder.

We confirm that we along with M/s.....(the bidder), are jointly or severally responsible for successful performance of the contract.

We confirm that our company shall not participate in the above tender as a ‘Standalone Bidder’ or as a ‘Consortium bidder’ and also shall not authorize any other bidder to use our Technical capability for the above tender.

All the terms used herein but not defined, shall have the meaning as ascribed to the said terms under the referred NIT/Tender.

**Signature of Managing Director/Authorized signatory of Parent/ Subsidiary Company**

VOLUME-III  
PRICE SCHEDULE, REV-01

CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.

TENDER NO. PSER:SCT:SDG-C2062:20

PREAMBLE

SL NO	DESCRIPTION
1	This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully before filling in rates for various items. Clauses under this preamble shall be read in conjunction with various volumes of tender and other tender sections as applicable and shall have precedence over any contrary statement mentioned anywhere in this document.
2	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions. Drawings enclosed with the tender are only preliminary and for tender purposes and giving some idea of the work involved. The work is to be executed as per drawings & documents, which shall be furnished during execution.
3	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
4	Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc. equipment, strengthening of roads/culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies, transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the complete tender document and this schedule.
5	The quantities of the various items mentioned in this schedule of items are approximate, based on very preliminary information and may vary to any extent or be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of work executed under any part of this contract including extra items, if any but excluding any price variation remains, within plus minus fifteen percent ( $\pm 15\%$ ) of the awarded price as per LOI.
6	Prior written approval of BHEL shall be sought by the contractor in case quantity variation of any item crosses +50% (plus fifty percent) limit during execution, an approval to be obtained before execution of further quantity for this item.
7	In case Sealed /Paper Price Bids are opened for finalisation of the tender, for any Item Rate/BOQ based contract, possibility of variation of quantity/ addition/deletion of items can not be ruled out. Under such circumstances, after execution of work, if it is observed that standing as L-1 is changed based on actual quantity executed, the bidder shall give suitable rebate to maintain your standing as L-1. Since this aspect can be assessed at the end of execution, necessary adjustment will be effected at the end of execution in final bill. This condition shall not be applicable where the tender is finalised through Reverse Auction.
8	BHEL reserve the right to rationalize the rates, quoted by L-1 bidder against unit rate items and/ or other optional items with respect to item-wise lowest rates (amongst the participating bidders), before placement of order.
9	The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing , clearing of old structures and leveling etc. including fixing of grid pillars, benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same. However, if separate rate for such item is available in the rate schedule, the same shall be considered.
10	Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language.
11	All works item wise shall be measured upon completion and paid for at the rates quoted and accepted as per BHEL approved payment schedule/billing break-up.
12	The tenderer shall be deemed to have visited site and made himself aware of all the site conditions, studied the specifications and details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site before submission of his bid/offer. No claim whatsoever due to lack of knowledge of site conditions shall be entertained after award of the work.
13	No splitting of the job is envisaged unless the same is specifically indicated in the TCC/Vol-1F. Decision of BHEL in this regard shall be final and binding to the bidders.
14	Bidders are not allowed to alter the Price Schedule format including item description, quantity etc. and the offer is liable for rejection if the bidders submit their prices in Price Schedules modified by them. BHEL reserves the right to reject the offers of bidders who submit offers in Price Formats which are modified/ altered by them. Also putting any comments instead of rates/price in the designated column of the rate schedule shall make the offer liable for rejection.
15	Bidders to note that for Civil &/Structural packages, against a particular item against a ST No. appearing in more than one schedule of the BOQ, same rate must be quoted in all schedules for that particular items with same descriptions. If by error, different rates are quoted in different schedules for same ST No.(i.e. item with same description), then the higher of the rates shall be considered for evaluation but awarding shall be done with the lower rate , if the bidder becomes L-1. The same modality shall be applicable for other item rate sevice contracts where item with same decription is repeated in different schedules.
16	For Lumpsum Service Contract : The items/components indicated in the tender is indicative and may vary to any extent. No compensation shall be payable in case of any variation in the items/components listed in the bill of quantities if the executed weight remains within the variation limit. However, in case of deletion of any item or addition of new items over and above the items listed or variation of existing quantity beyond variation limit specified, adjustment (i.e. Payment or recovery as the case may be ) shall be done on pro-rata basis based on the Rate per MT worked out from the quoted lump-sum Price and the total weight of components listed /indicated in price schedule plus 15% weight variation limit.
17	Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.
18	In case of tender for Civil and/or Structural works, if the Non-schedule items are not quoted by the bidder, it will be treated at par with rate of corresponding item of CPWD/PWD/DSR schedule as prescribed in the tender/BOQ cum Rate Schedule. PVC/escalation is not payable for these Non-scheduled items.
19	No interest, whatsoever, shall be payable by BHEL on the security deposit, any bank guarantee submitted or any amount due to successful bidder/contractor. No idling charge whatsoever (either for labour or any other resources ) is payable by BHEL for any reason whatsoever.
20	Size and weights of various items are mentioned in the attached BOQ cum rate/price schedule for reference purpose only & these shall not be taken into consideration for quoting/calculating amount in the rate schedule. These shall be utilised as per relevant sections of tender. Bidders shall quote for each item in the rate column, taking unit as mentioned in the quantity column. Rates shall be filled in both figures and words. Amount shall be calculated based upon these rates multiplied by the mentioned quantity for the respective items
21	Bidder's Total price shall be considered for evaluation unless stated otherwise.
22	In case of BOP packages, if Bidder does not quote/indicate the price for freight chagses against indicated rate schedule, the same shall be considered as 2% of basic price and adjusted with the total quoted price against each item keeping the total quoted price unaltered.

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO. PSER:SCT:SDG-C2062:20**

**SCH-1 : TOTAL PRICE**

SL NO	DESCRIPTION	PRICE SCHEDULE REF	<u>TOTAL QUOTED PRICE (IN Rs)</u>
1.0	<b>TOTAL PRICE FOR CIVIL, STRUCTURAL &amp; ARCHITECTURAL WORKS FOR MAIN PLANT &amp; BOP (EXCLUDING PILING AND LEVELLING &amp; GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.</b>	SCH 2 - BREAK UP OF TOTAL PRICE	<u>IN FIGURES:-</u>
			<u>IN WORDS:-</u>
2.0	<b>NON-SCHEDULE ITEM</b> For items not covered in Schedule 2, quote % above or % below or at par of the CPWD Schedule of rates 2018		
1a)	Rate of complete item		% above / % below / at par of CPWD Rate Schedule 2018
1b)	Rate of supply of material at site only		% above / % below / at par of CPWD Rate Schedule 2018
1c)	Rate for execution complete excluding supply of materials.		% above / % below / at par of CPWD Rate Schedule 2018

**NOTE**

1.0	Bidder shall quote total price for total price of SCH-2- Part only at sl no 1 above. All other amounts/ rates of each item of works in respective schedules/ parts will be derived based on allocated percentages. As such, any uncalled figure/ amount noted at any other place/ schedule of Volume-III will not be reckoned & will stand null & void.
2.0	Bidder to note that total price at sl no 1.0 above shall be considered for evaluation & awarding. As such grand total price should be complete in all respect for the full scope defined and considering all terms and conditions.
3.0	Bidder to note that SCH-2 is Break- up of Total Price.
4.0	Bidder to note that SCH-3 covers Service of respective items, unless specified otherwise in the description of items.
5.0	Bidder to note that SCH-4 covers Supply of respective items, unless specified otherwise in the description of items.
6.0	Bidder's quoted total price at Sl. no 1 above respectively shall be apportioned into amount of various items of works based on allocated percentages against respective item, in respective schedules/ parts. As such, bidder shall not indicate/ quote any amount/ rate in these schedules/ parts and any amount/ rate quoted against any item shall not be taken into cognizance/ account and offer may be liable for rejection.
7.0	Based on the itemwise percentage allocations, the amount for the individual items of the Bill of Quantity shall be arrived at. The rates of individual items shall be derived from the amount against each items after rounding off.
8.0	Bidders to note that this is an item rate contract. Payment shall be made for the actual quantities of work executed at the unit rate arrived at as per Sl No.9 below.
9.0	Unit rates of each item of works of respective schedules/ parts will be derived by dividing derived amount by corresponding quantities. In deriving the unit rates of each item in this manner, figures only upto 4 decimal places will be taken into account. Any adjustment, if required, due to such methodology, will be effected in final bill.
10.0	Successful bidder shall draw a schedule of quantities of various items of work of SCH-4 and obtain BHEL's approval/ clearance in writing before procurement, supply, etc.
11.0	Any item as per scope of work, if not included in the price quoted above and shown separately will not be taken cognizance of and the offer shall be liable for rejection.
12.0	Price format shall not be changed by bidder in any case and it may lead to cancellation of their offer.
13.0	The quantity of items may vary during execution mainly due to actual requirement etc. The unit rates work out from the overall amount quoted & accepted by BHEL shall be considered and no separate unit rates shall be allowed. Unit rates shall be valid throughout the contract period.
14.0	For payment of non schedule items, the rate shall be derived from CPWD Schedule - 2018.

**VOLUME-III  
PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-2 : BREAK UP OF TOTAL PRICE**

<b>SL NO</b>	<b>DESCRIPTION</b>	<b>PRICE SCHEDULE REF</b>	<b>WEIGHTAGE</b>
<b>1.0</b>	<b>SERVICE</b>	<b>SCH 3 -SERVICE</b>	<b>0.91666644</b>
<b>2.0</b>	<b>SUPPLY</b>	<b>SCH 4 -SUPPLY</b>	<b>0.08333356</b>
	<b>TOTAL</b>		<b>1.00000000</b>

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
A	B	C	D	K
100	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. <b>[Measurement of excavation shall be paid as per actual quantity at site and as per clause 5.2.0 of Technical Specification, Section D, Sub-Section D1 OF VOL-II B]</b>			
a	Depth from ground level but not exceeding 2 m	CUM	127,000	0.01159193
b	Depth exceeding 2 m but not exceeding 4 m	CUM	88,000	0.01004026
c	Depth exceeding 4 m but not exceeding 6 m	CUM	40,500	0.00578345
d	Depth exceeding 6 m but not exceeding 8 m	CUM	6,000	0.00107322
e	Depth exceeding 8 m but not exceeding 10 m	CUM	1,200	0.00025793
f	Depth exceeding 10 m but not exceeding 15 m	CUM	20	0.00000495
102	Extra over ST No. 101 for dewatering of ground water by well point method as per IS 9759.	CUM	7,200	0.00028799
A107	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 in loose thickness using/with selected materials from compulsorily excavated earth available within a lead upto 1 Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following. <b>[Measurement of Backfilling shall be paid as per excavation quantity after deduction for concrete etc.]</b>			
a	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	173,500	0.01200488
A109	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	89,200	0.00065659
A111	Supplying and filling sand upto any depth under floors, around foundations, plinths etc. in layers not exceeding 200 mm loose thickness and compacted so as to achieve at least 85% 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	3,000	0.00322407
A200	<b>CONCRETE WORK:</b> 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: <b>(RMC SHALL BE PROVIDED BY BHEL AT BATCHING PLANT IN PROJECT PREMISES . TRANSPORTATION FROM THE BATCHING PLANT UP TO THE POURING POINT SHALL BE UNDER THE SCOPE OF CONTRACTOR)</b>			
A201	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	45	0.00003390
A202	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	8,213	0.00618648
A203	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	450	0.00033896
A204	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	1,800	0.00132475
A205	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	37,800	0.03054426
b	M 30 Grade	CUM	2,700	0.00219402
Ad	M 20 Grade	CUM	6,300	0.00514942
A206	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.			

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
a	M25 Grade	CUM	7,200	0.00597509
b	M 30 Grade	CUM	675	0.00056324
AA207	Providing and laying Design Mix cement concrete confirming 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 at all elevations below/above finished floor level except TG deck, BFP top 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	6,100	0.00541866
b	M 35 Grade	CUM	900	0.00080357
AA208	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 & BFP foundation at all levels including addition of suitable plasticizers 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	M30 grade	CUM	950	0.00122059
b	M35 grade	CUM	1,300	0.00167826
A210	Extra over ST Nos. 205 to AA207 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	7,000	0.00284425
A211	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)			
b	M25 grade	CUM	950	0.00071559
A212	Scree 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	144	0.00010847
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/perforated drain covers/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias 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, transporting, 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	315	0.00040780
b	M 30 grade	CUM	315	0.00040931
A214	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 plasticizer cum waterproofing cement additives confirming 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.			
b	M 30 grade	CUM	5,938	0.00649660
A220	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	595	0.00045671
B200	<b>CONCRETE WORK:</b> Transportation from Batching Plant and placing concrete work including cost of labour, materials (unless otherwise specified in BOQ/ contract specification) and equipment for handling, transportation, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following. <b>(CONCRETE WITH CEMENT, AGGREGATES, REQUIRED ADDITIVES/PLASTICIZER/SUPERPLASTICIZER ETC. AND INCLUDING TRANSPORTATION, POURING/LAYING, COMPACTION AND CURING ETC. ALL COMPLETE IS IN THE SCOPE OF CONTRACTOR)</b>			

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

<b>ST. NO</b>	<b>DESCRIPTION OF ITEM</b>	<b>UNIT</b>	<b>Quantity</b>	<b>WEIGHTAGE</b>
B201	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	5	0.00001480
B202	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	913	0.00292763
B203	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	50	0.00018494
B204	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	200	0.00080873
B205	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	4,200	0.01639017
b	M 30 Grade	CUM	300	0.00118934
Ad	M 20 Grade	CUM	700	0.00262354
B206	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	800	0.00315389
b	M 30 Grade	CUM	75	0.00030038
B211	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)			
b	M25 grade	CUM	106	0.00041789
B212	Scree 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	16	0.00005997
B213	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/perforated drain covers/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias 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	35	0.00013798
b	M 30 grade	CUM	35	0.00014018
B214	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 plastizer 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.			
b	M 30 grade	CUM	313	0.00154167
C200	<b>MISC. CONCRETE RELATED WORKS</b> <b>(Supply of cement is in scope of contractor)</b>			
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	20	0.00001687
b	Reinforced cement concrete of all grades	CUM	20	0.00002482
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	200	0.00000736
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	200	0.00000059

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
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	200	0.00003445
219	Providing and applying curing compound (water based) of approved make where ever required as per manufacturer's specification.	SQM	1,000	0.00007361
<b>300</b>	<b>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:</b>			
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	107,500	0.04027695
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	39,000	0.01745414
303	Fairface Formwork with good quality water proof ply wood of minimum 18mm thickness and smooth surface for TG superstructure (above base raff level for TG columns connecting beams & topdeck ) 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	1,300	0.00308701
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	100	0.00001899
b	Pockets of depths more than 150mm and upto 300 mm depth	EACH	50	0.00001693
c	Pockets of depths more than 300mm and upto 600 mm depth	EACH	50	0.00003158
d	Pockets of depths more than 600mm and upto 1000 mm depth	EACH	25	0.00002536
e	Pockets of depths more than 1000mm and upto 1500 mm depth	EACH	10	0.00001488
f	Pockets of depths more than 1500mm and upto 2000 mm depth	EACH	10	0.00001972
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	200	0.00001502
b	Extra for Curve Shuttering for Item No. 302	SQM	600	0.00005388
<b>400</b>	<b>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:.</b>			
401	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. <b>(Cost on account of supply of mild steel reinforcement is payable separately under ST S401 of SCH-4 of Vol-III: Supply)</b>	MT	50	0.00089867
402	Straightening, cutting, bending, placing in position at all level, binding in position of steel reinforcements of TMT steel of grade Fe-500D or 500EQR confirming to IS:1786 including cost of reinforcement steel, binding wire, labour, scaffolding, transportation to & from stores, unloading of materials etc. complete all as per specifications, drawings and as directed by Engineer. <b>(BHEL WILL BE PROVIDED REINFORCEMENT STEEL AS FREE OF COST AS PER TCC)</b>	MT	8,250	0.05828611
405	Fixing of Rebar in existing concrete surface by inserting reinforcemnet 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 as applicable.			
a	12mm Reinforcement bar	EACH	50	0.00000407
b	16mm Reinforcement bar	EACH	20	0.00000258
c	20mm Reinforcement bar	EACH	25	0.00000457
406	Supply and Fixing reinforcement bar couplers (of approved manufacturer's as per the relevant IS code) in position for steel reinforcements of TMT steel of grade Fe-500D or 500EQR confirming to IS:1786 including , labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.(Agency has to supply reinforcement bar couplers)			
a	12mm dia	EACH	10	0.00000055
b	16mm dia	EACH	10	0.00000069
c	20mm dia	EACH	10	0.00000088
d	25mm dia	EACH	25	0.00000282

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
e	28mm dia	EACH	25	0.00000480
f	32mm dia	EACH	25	0.00000508
g	36mm dia	EACH	25	0.00000743
h	40mm dia	EACH	25	0.00000959
A406	Providing and Fixing parallel threaded reinforcement couplers for mechanical splices of rebars (TMT/ CRS TMT) for concrete reinforcement including supply of couplers as per IS: 16172 made out of EN8D grade high strength alloy material , threading on rebars to be coupled with coupler, enlargement at connection by forging, protecting the prepared reinforcement bars, fitting & fixing of couplers under specialized supervision, quality tests & checks (for couplers and coupled joints) etc. all complete as per direction of Engineer in charge. The couplers shall match to the properties of rebars of grade equal to Fe 550 D of IS 1786. The cost shall include for all works and tests including mobilisation, demobilisation, loading/unloading of required plant/ machinery at site for threading & forging works, tools & tackles, labour & supervision, consumables and all incidental expenses for satisfactory execution of the work . ( No deduction for labour and binding wire saved for not providing lap length shall be made).			
a	Coupler of class "H" for 16 mm diameter reinforcement bar.	EACH	300	0.00002180
b	Coupler of class "H" for 20 mm diameter reinforcement bar.	EACH	100	0.00000927
c	Coupler of class "H" for 25 mm diameter reinforcement bar.	EACH	300	0.00003548
d	Coupler of class "H" for 28 mm diameter reinforcement bar.	EACH	100	0.00002017
e	Coupler of class "H" for 32 mm diameter reinforcement bar.	EACH	100	0.00002133
f	Coupler of class "H" for 36 mm diameter reinforcement bar.	EACH	50	0.00001561
A407	Welding of lap joints of steel reinforcements of Corrosion Resistant thermo-mechanically treated reinforcement steel (High Strength Deformed steel bars) conforming to grade Fe-500 of IS: 1786 (Latest) including cost of welding electrodes, labour, tools and plants etc. complete as permitted and directed by Engineer. Measurement shall be done for the number of joints welded comprising of weld deposition of 2.5d length each on both side of lap joint (i.e total 5d length of weld deposition). Here, "d" is the diameter of reinforcement bar.			
a	For d=16 mm	EACH	100	0.00001031
b	For d=20 mm	EACH	50	0.00000552
c	For d=25 mm	EACH	100	0.00001472
d	For d=28 mm	EACH	50	0.00000828
e	For d=32 mm	EACH	50	0.00000920
f	For d=36 mm	EACH	50	0.00001104
500	<b>Roof Treatment works:</b> 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: <b>(Supply of cement is in scope of contractor)</b>			
502	Providing and laying underbed grading plaster with cement mortar 1:4 (1 cement : 4 sand) and average thickness of 15 mm including preparation of surface, batching, mixing, leveling etc. all complete.	SQM	3,500	0.00019322
A505	Providing and laying rigid insulation (expanded/extruded polystyrene blocks) as per relevant IS Code in suitable panels over roofs followed by a layer of 15 mm thick cement sand plaster 1:4 (1 cement: 4 coarse sand) and providing of expansion joint at intervals and filling with sealant in both directions as per the recommendation of manufacturer. The insulating properties shall be such that the thermal conductivity shall not exceed 0.026 Kcal m/m deg C. The block shall be strong enough to withstand without deformation the workload and standard loads expected on the roof. Cost shall include making of fillets, cleaning & preparation of surface, expansion joints at suitable intervals etc all complete for following.			
b	50 mm thickness of rigid insulation	SQM	3,500	0.00186783
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, polycrim cloth /fabric, polymerised mortar base preparation, etc all complete as per specifications and directions of engineer in charge.	SQM	10,000	0.01021692
A 510	Providing and laying cement concrete chequered flooring tiles of 20 mm thickness and size 600x600 mm conforming to IS 13801 over the under bed grading plaster with fine joints including sealing of joints (silicon/elastomeric sealant) and providing expansion gap in both directions filled up with (silicon/elastomeric) joint sealant, including underbed 20mm thick 1:4 cement mortar (as per drawings) filled up with (silicon/elastomeric) joint sealant etc all complete as per specification. (Water proofing paid elsewhere), (including cost of cement for tiles making)	SQM	13,500	0.00694610
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	135,000	0.01907943
517	Providing and laying foam concrete blocks in the toilets/sunken slab etc. complete as directed by engineer in charge.	CUM	50	0.00007151

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
A 519	Providing and laying protective slope with 25mm average thick (thickness will depend upon the required slope and span of the building) M20 grade screed mixed with polypropylene fibres (RECRON or equivalent) and admixed with integral liquid waterproofing compound conforming to IS: 2645. Green stage saw cutting on the screed will be done in panels (3mx4m) with grooves 10mmx10mm. Finally the groove will be sealed with elastomeric sealant etc all complete as per specification.	SQM	4,500	0.00066248
B519	Providing and laying protective slope with 75mm average thick (thickness will depend upon the required slope and span of the building) M20 grade screed mixed with polypropylene fibres (RECRON or equivalent) and admixed with integral liquid waterproofing compound conforming to IS: 2645. Green stage saw cutting on the screed will be done in panels (3mx4m) with grooves 10mmx10mm. Finally the groove will be sealed with elastomeric sealant etc all complete as per specification.	SQM	9,000	0.00397587
A 520	Providing and laying 120-150 GSM geotextile (non-woven polyester) over the Elastomeric coating etc all complete as per specification. (Cost of Elastomeric coating shall be paid separately)	SQM	13,500	0.00109309
A 521	Providing and laying minimum 1.5mm thick sealer coat over insulating foam, which is a single component cold applied elastomeric waterproofing coating with >=500% elongation confirming to ASTM C836 applied by a spray/brush/roller in 2 coats etc all complete as per specification. Water ponding/flood test is to be conducted after application and water shall be filled up and retained for at least 24 to 48 hours as per specification.	SQM	10,000	0.00088331
A 522	Providing and laying polyurethane foam insulation spray applied an average 40 mm thick two component Hydro flouro-carbon(CFC free), polymeric M.D.I based closed cell(96-98% as per ASTM D2856) multilayer, waterproof, mixed in a ratio of 1:1 by volume with a nominal core density of 45-50 Kg/m <sup>3</sup> as per ASTM D1622 , and a thermal conductivity of 0.023 W/m.k at 25 degree mean temperature as per ASTM C518/91 possessing waterproofing properties as per ASTM C-518/91 ,ASTM C-272 and complying to Fire resistance Class B2 as per DIN 4102 including Compressed air cleaning to make the RCC surface free of dust, debris, laitance etc. and repairing cracks by cutting and making V-groove in 25x25 mm, with polymer modified mortar, filling the groove with Cement Mortar (1:3) mixed with polymer10% by weight of cement etc all complete as per specification.The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane. The testing of material shall be done from authorised lab same shall be furnished before execution of work,as directed by engineer in charge.Performance Guarantee should be given by the manufacturer after completion of the water proofing work for 20 years for material and workmanship.	SQM	10,000	0.00368045
A 523	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer 4 mm thick(min.5kg/sqmt) water proofing membrane, black finished reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufacture of density at 25°C, 0.87-0.89 kg/ litre and viscosity 70-160 cps. Over the primer coat the layer of membrane shall be laid using Butane Torch and sealing all joints etc., and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under: Joint strength in longitudinal and transverse direction at 23°C as 650/ 450N/5cm. Tear strength in longitudinal and transverse direction as 300/250N. Softening point of membrane not less than 150°C. Cold flexibilities shall be up to -2°C when tested in accordance with ASTM, D - 5147. APP membrane shall conform to UEAtc,ASTM D146, DIN52123, ASTM D36, ASTM D5, UEAtc, ASTMD 5147, ASTM D4799. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane. The testing of material shall be done from authorised lab same shall be furnished before execution of work,as directed by engineer in charge.Performance Guarantee should be given by the manufacturer after completion of the water proofing work for 20 years for material and workmanship.	SQM	3,500	0.00128816
A524	Providing and laying water proofing treatment for wet areas like toilets,kitchen,pantry of sunken slab etc. with polymer based water proofing material like tapecrete ,cico or equivalent all complete with water ponding test as per IS Code and as directed by engineer in charge	SQM	100	0.00001472
A525	Providing and laying an angular fillet around parapet wall junction at roof leve of min.50mm x 50mm, shall be trowel applied in cement-sand mortar(cement, sand mortar shall be supplied by you) in 1:3 proportion. A latex based bonding agent should be added (10% by weight of cement) and also a glass cloth must be inserted while the angle fillet is being constructed.	RM	1,700	0.00010011
<b>600</b>	<b>JOINTS AND FILLERS: Joints &amp; 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:</b>			
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	100	0.00004048
b	20 mm wide joints.	SQM	200	0.00010187
c	25 mm wide joints	SQM	262	0.00020211
d	50 mm wide joints	SQM	1,282	0.00198642
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	25	0.00001023
b	20 mm wide joints.	SQM	100	0.00006640
c	25 mm wide joints	SQM	100	0.00007751
d	50 mm wide joints	SQM	50	0.00007398
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:			

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

<b>ST. NO</b>	<b>DESCRIPTION OF ITEM</b>	<b>UNIT</b>	<b>Quantity</b>	<b>WEIGHTAGE</b>
a	25mmX25mm	RM	100	0.00004402
b	50mmX25mm	RM	550	0.00046436
604	Supplying and filling in position hot applied bitumin sealing compound (Grade A) confirming 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	0.00000221
b	12mm X 25mm	RM	200	0.00000766
c	20mmX25mm	RM	200	0.00001016
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	50	0.00000202
b	20 mm wide joints.	SQM	200	0.00001163
c	25 mm wide joints	SQM	200	0.00001502
d	50 mm wide joints	SQM	100	0.00001384
610	Providing and fixing PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following: (Bulb or Kicker type)			
b	230 mm wide and 8 mm thick	RM	80	0.00000936
d	230 mm wide and 6 mm thick	RM	800	0.00014486
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	500	0.00028376
700	<b>MS EMBEDMENTS:</b> 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			

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
701	Fixing of mild steel embedments, 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. <b>(Cost on account of supply is payable separately under ST S701 of SCH-4 of Vol-III: Supply)</b>	MT	225	0.00450364
702	Erection, installation and alignment of 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, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete. <b>(Cost on account of supply of mild steel bolt assembly, nuts, lock nuts, washer, anchor plates, stiffener plates, protective tape, pipe sleeves, templates etc. payable separately under ST S702 of SCH-4 of Vol-III: Supply)</b>	MT	40	0.00094124
703	Same as above items 701 & 702 with BHEL supplied material free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.			
a	Mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc.	MT	25	0.00035660
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, stiffner plates, protective tape, pipe sleeves, templates etc.	MT	2	0.00002691
A703	Fixing of embedments, inserts, pipe sleeves, angle pieces, anchor bolts of various diameters, plates of dimensions as required etc. including scaffolding, setting in position, transportation from BHEL site stores to work spot etc. all complete.	MT	50	0.00071320
704	Supply, 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	2,800	0.00019786
b	PVC pipes / conduits of all diameters	Kg	700	0.00013912
c	UPVC pipes / conduits of all diameters	Kg	400	0.00013220
d	Expansion anchor fasteners (galvanised) of HILTI make(HUD-1 Universal Fasteners) or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide			
i	8mm Dia	EACH	75	0.00000166
ii	10mm Dia	EACH	75	0.00000204
iii	12mm Dia	EACH	75	0.00000243
iv	14mm Dia	EACH	75	0.00000375
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	75	0.00000756
ii	HST M10	EACH	75	0.00001110
iii	HST M12	EACH	75	0.00001656
iv	HST M16	EACH	75	0.00003119
v	HST M20	EACH	75	0.00006200
vi	HST M24	EACH	75	0.00011842
705	Placing, locking and releasing of Vibration Isolation spring modules over the foundation at all elevations including providing all assistance under the supervision of the supplier, transportation from BHEL store, necessary staging, platforms, leveling, alignment etc. all complete.	EACH	96	0.00008515
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	71	0.00010865
707	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. <b>(Cost on account of supply is payable separately under ST S707 of SCH-4 of Vol-III: Supply)</b>	MT	86	0.00226839
800	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: <b>(Supply of cement is in scope of contractor)</b>			

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
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	100	0.00004026
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	20	0.00025444
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	10	0.00012564
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	48	0.00147806
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	2	0.00006943
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	100	0.00006971
900	<b>DOORS &amp; WINDOWS:</b> 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:			
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 smoothening, 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.	CUM	5	0.00082817
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 handels 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.	SQM	10	0.00006466
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 phenolformaldihyde synthetic resin, partical 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 handels 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	SQM	5	0.00002733
A903	Providing and fixing factory made Solid core wooden flush doors as per IS 2202 part-I & II, 35mm thick homogenous particle board bonded with BWR grade phenolformaldihyde synthetic resin conforming to IS 848, partical 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 handels 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,with commercial faces and teak wood edges,etc. all complete as per drawing, specification and instruction of engineer in charge.	SQM	28	0.00015303
A904	Providing and Fixing single or double steel door shutters with 46mm 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 resin bonded mineral wool / honey comb core (density as per specification), all fittings, Godrej,dorma,geze or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.	SQM	236	0.00192617

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
A906	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 doors, frames, mullions, transom etc. shall be anodized in a bath of sulphuric acid to provide a clear coating of minimum 0.6 mm thickness. The anodized materials shall then be sealed by immersing in boiling water for 15 minutes. A protective transparent coating shall be applied to the sections before shipment from the factory. Where required factory made evenly baked powder coated coloured aluminium extruded sections shall be used. DFT shall not be less than 0.8 mils. Colour shall be as per Colour Schedule or as per instruction of the Engineer-in-Charge 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 and frame shall be paid separately)	SQM	153	0.00067911
A907	Providing and Fixing fire rated hollow metal steel doors (single or double shutter) as per IS 3614 Part-1&2 of pressed galvanised steel conforming to IS 277 with Door shutters of minimum 46 mm thick with , consisting of vertical styles, lock rail, top rail 100 mm wide, bottom rail 200 mm wide, fully flush double skin door with or without vision panel, suitably mounting on door frame (143X57 mm). Door frame shall be manufactured from minimum 1.6 mm (16 gauge) thick SWG G.I. sheet (zinc coating not less than 120gm/sqm) duly filled FR insulation material. The frame is fitted with intumuscent fire seal strip of size 10 x 4 mm (minimum) all-round the frame and fixing with dash fastener of approved size and make, including applying a coat of approved brand fire resistant primer. Frames shall be metered and field assembled with self tabs. The internal construction of the door should be rigid reinforcement pads for receiving appropriate hardware. All doors shall be factory prepared for receiving appropriate all fire rated hardware and provided with necessary reinforcement, stainless steel ball bearing hinges, locks and door closers, panic bar, panic trim, vision panel with fire rated glass. For pair of doors astragals shall be provided on the meeting stile for both active and inactive leaf. The door leaf and frame shall have passed minimum 250 hours of salt spray test and shall be finished with etched primer coating, stove zinc phosphate primer and thermosetting polyurethane aliphatic grade paint of approved colour including spot welded in position at not more than 150mm on centers including all fittings, shop painting, filled with resin bonded honeycomb core as infill material all complete as approved by Engineer-in-Charge, shall be fire proof as per specification and NBC requirements etc. The door shall be tested at CBRI or ARAI for maximum rating of 2 hrs with vision panel and its Fabrication drawing shall also be approved by CBRI, Roorkee. Payments terms - a) on receipt of materials at site - 60%; b) Erection & fixing - 40% <b>Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity</b>	SQM	199	0.00141062
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	50	0.00011027
b	fixed type	SQM	150	0.00022215
909	Providing and fixing anodised aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing 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, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid separately). Weight of aluminium section only shall be measured.	Kg	19,401	0.01059640

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
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 B 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 silicone 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 (AlMg 1) marine grade series and H 22/24 temper with mechanical properties confirming to EN 485-2 standard. The ACP product must conform to either BS 476 part 6 &amp; 7 or ASTM E 84 standards along with EN-13501-1. The manufacturer must furnish Class 1A certificate for this ACP produced in the plant from which it is going to be supplied. The panel shall be designed for 12mm groove in horizontal &amp; in verticals with close joint system. Vertical &amp; Horizontal groove shall be filled by non-staining high performance weather sealant. ACP panel shall have sub frame all around panel and aluminium stiffener profile as per structural requirements. The finished surface of ACP shall be protected with a self-adhesive (Rubber based) peel off foil with 70 microns thickness white or black, tested to withstand up to 6 months' exposure to local weather condition without losing the original peel off characteristic or causing stain or other damages on the coated surface of the aluminium composite panel. Installation of ACP Coping/facia at terrace level sealing the top gap of the parapet wall and ACP Panel shall have GI stiffeners below with required aluminium grid work with necessary MS HDG / aluminium alloy brackets &amp; SS fasteners.2nd barrier of 1mm thk GI sheet laid continuously below the coping to seal the parapet wall. Overlap of GI sheet shall be properly sealed with weather sealant.</p> <p>All shade approval shall be as per Architect's Approval.as per approved sample from Alucobond Plus, Aludecor, Reynobond or equivalent. The system shall be designed to withstand a wind pressure of 200kg/Sqm or as per design requirement and shall be fixed to the Masonry/RC walls or aluminium frame with necessary clamps, brackets and anchor fasteners etc. All clamps and brackets shall be Hot dip galvanized minimum 80 microns thick and shall conform to IS: 4759-1996. The extruded aluminium section shall be anodized in approved colour with a anodic coating of minimum 20 microns. Extruded section shall be 6063 T5 or T6 alloy conforming to ASTM B221. Any other festering straps, nuts, bolts, rivets, washers, etc. shall be in stainless steel SS316 grade. EPDM gaskets, open cell polyethylene backer rods, weather sealant etc. shall be provided as per requirement. Item shall include aluminium base frame with all fixing arrangements to wall/RC members, fastening material and hardware(festering straps, nuts, bolts, rivets, washers etc.), EPDM gaskets, open cell polyethylene backer rods, weather sealant, scaffolding, approach to all height, material handling, transportation, labour, T&amp;P, preparation of working drawings etc.all complete as per drawing, specification &amp; instructions of engineer in charge. Measurement of payment shall be outer finished area of ACP panel.</p> <p>Payments terms - a)on receipt of materials at site - 60%; b) Erection &amp; fixing - 40%</p> <p>Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity</p>	SQM	2,700	0.00830353
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	80	0.00009416
b	Floor mounted Hydraulic door closers as per IS 6315	EACH	80	0.00024244
A912	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 ,galvanising,paintings etc all complete as per specifications.	Kg	2,361	0.00027807
A913	<p>Fixing in position metal rolling shutter and rolling grill type shutter as per specification made from 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 &amp; shop coats of approved enamel paint etc, all complete as per IS 6248, and shall be designed to withstand a wind load of minimum 200 Kg/m2 without excessive deflection as per specification and 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 riveted with stiffening angles.(partly coiled and lath/full lath).The guides shall be either rolled or pressed deep channel sections of minimum75 mm and 25 mm wide fitted with necessary fitting and fixtures.</p> <p>(Cost on account of supply is payable separately under ST S913 of SCH-4 of Vol-III: Supply)</p>			
b	Mechanically Operated	SQM	91	0.00020459
c	Electrically and Mechanically operated	SQM	312	0.00077758

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
A914	Supply and Fixing solid core PVC frame with PVC door shutter minimum 30mm thick and shall be factory fabricated made from min.5 mm PVC sheet.PVC Door Frames shall be made from min.50 x 47 mm section and fabricated from 5 mm PVC sheet having density of 600 kg./cum.The weight per running metre of the door frame including reinforcement should be a minium of 1.5 kg./sqm. Frames shall have smooth surface, without any warping or bending in any member. All the parts of the door frame are to be jointed to each other using solvent adhesive conforming to IS 14182.The sheets used for frame and shutters may be in plain colour, printed design or prelam veneer shade as approved sample, including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	56	0.00010367
B914	Providing and fixing solid core FRP(Fibre Glass Reinforced Plastic) frame with FRP door shutter minimum 30mm thick and shall be factory fabricated .FRP Door Frames shall be made from min.90 X 45 mm section made of laminate of thickness of 2 mm and shall be filled with wooden blocks of exterior grade MDF or seasoned and treated hard wood inside the laminate in all the three legs of the frame. Frames shall have smooth surface, without any warping or bending in any member.The shutter at suitable place to hold fittings and fixtures such as aldrops, tower bolt, handle, sliding door bolt, mortice lock etc.FRP door shall be manufactured conforming to IS 14856.The sheets used for frame and shutters shall be free from any visible defects such as small pores, crazing, blistering, wrinkling, impurities, defective impregnation, colour bolts and aggregate defects, may be in plain colour, printed design or prelam veneer shade as approved sample, including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	20	0.00003828
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			
Ac	6 mm thick clear float glass	SQM	106	0.00012960
d	6 mm thick wired glass	SQM	1,000	0.00124399
e	6mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	SQM	137	0.00020633
f	4 mm thick ground glass	SQM	161	0.00016520
Ag	6 mm thick tinted heat reflecting Low-E coated type float glass panels shall have properties like VLT = 35 to 50%, external reflection=6 to 15%, internal reflection=8 to15%, solar factor=0.36 to 0.43, U value=2.8 to 3.0 W/sqm K.parameters varies as per specification.	SQM	500	0.00151598
Ai	Two nos. 6 mm thick hermetically sealed DGU clear toughened float glass and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured). Double glazed panels with glass having properties like-VLT >30 to 45%, external reflection=8 to 20%, internal reflection=15 to 30%, solar factor=0.26 to 0.29, U value=1.6 to 1.8 W/sqmK parameters varies as per specification.	SQM	500	0.00142875
Ak	Two nos. 6 mm thick hermetically sealed DGU toughened float glass (outer glass tinted and inner glass clear float )and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured). Double glazed panels with glass having properties like-VLT >30 to 45%, external reflection=8 to 20%, internal reflection=15 to 30%, solar factor=0.26 to 0.29, U value=1.6 to 1.8 W/sqmK parameters varies as per specification.	SQM	400	0.00132584
I	6 mm thick laminated glass	SQM	350	0.00139662
Am	8 mm thick toughened clear float glass	SQM	25	0.00007199
Bm	8 mm thick toughened clear float glass with etching	SQM	25	0.00008159
Cm	Two nos. 8 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	50	0.00021100
916	Supplying and fixing weather stripping of approved make and quality to doors as per instructions of engineer in charge and specification complete.	RM	200	0.00003386
917	Providing and fixing 12 mm thick BWP particle board, decorative veneer (prelaminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading etc. all complete (excluding aluminium works).	SQM	100	0.00013228
918	Providing and fixing steel louvered window with ISMC 100 frame all round including verticals with 18G pressed steel louvers, painting etc. all complete.	SQM	100	0.00024401
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	25	0.00008152
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	1,088	0.00207344
A921	Providing and fixing sliding door to be fabricated from mild steel sheet. The shutter shall be double or single leaf shutter as specified. The shutters shall be fabricated of specified size of M.S. angle iron frame diagonally braced with the same size of M.S. angle riveted/ welded together with 3mm gusset plate at junction to form a rigid frame. Sliding doors shall be either double plate or single plate construction as called for in drawings and schedules made out of 18 gauge steel sheets with adequate stiffeners including top and bottom guide rails of specified size angles or T-irons and 25mm diameter pulley or with 25mm diameter ball bearing at the bottom and guide block with steel pulleys at the top. The shutters shall be provided with locking arrangement, handles, stoppers, and holdfasts, other fittings etc all complete as per specification. PAGE 15 OF 33	SQM	16	0.00002944

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
A922	Providing and fixing double leaf glazed sensor operated sliding anodized aluminium doors with digital Display Boards at different locations 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 doors, frames, mullions, transom etc. shall be anodized in a bath of sulphuric acid to provide a clear coating of minimum 0.6 mm thickness. The anodized materials shall then be sealed by immersing in boiling water for 15 minutes. A protective transparent coating shall be applied to the sections before shipment from the factory. Where required factory made evenly baked powder coated coloured aluminium extruded sections shall be used. DFT shall not be less than 0.8 mils. Colour shall be as per Colour Schedule or as per instruction of the Engineer-in-Charge 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 and frame shall be paid separately)	SQM	10	0.00001914
1000	<b>BRICKWORK:</b> 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: (Supply of cement is in scope of contractor)			
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/cm <sup>2</sup> (including cost of cement for brick making)	CUM	500	0.00261581
A1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm / 345mm at all heights, places and position above 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/cm <sup>2</sup> (including cost of cement for brick making)	CUM	5,000	0.02989377
c	Using burnt clay bricks of class designation 7.5 of nominal dimension	CUM	250	0.00175894
A1003	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 fourth 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/cm <sup>2</sup> (including cost of cement for brick making)	SQM	450	0.00033871
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.			
c	Using burnt clay bricks of class designation 7.5 of nominal dimension	SQM	25	0.00001891
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	20	0.00002017
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	20	0.00010590
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	100	0.00001951
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	10	0.00001130
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	1,000	0.00014427

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
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	10	0.00000816
1011	Providing and filling brick bats in soak pits all complete.	CUM	20	0.00002298
1100	<b>DAMP PROOF COURSE:</b> 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: <i>(Supply of cement is in scope of contractor)</i>			
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	40mm thick	SQM	570	0.00016286
1200	<b>PLASTERING:</b> 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: <i>(Supply of cement is in scope of contractor)</i>			
A1201	Providing 20 mm 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 as per specification.	SQM	27,500	0.00533135
1202	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:6 on walls finished to a smooth finish as per specification all complete.	SQM	25,700	0.00357186
1203	Providing 12mm thick plaster in cement mortar 1:6 on walls with rough finish all complete.	SQM	200	0.00002677
A1203	Extra over & above ST No. A1201 1202 & 1203 for using cement mortar 1:4 (1 cement : 4 coarse sand) instead of 1:6 (1 cement : 6 coarse sand).	SQM	53,400	0.00189316
1204	Providing 6mm thick plaster on ceiling in cement mortar 1:4 finished to a smooth all complete.	SQM	15,700	0.00212892
A1204	Extra over & above ST No. 1204 for using cement mortar 1:3 (1 cement : 3 coarse sand) instead of 1:4 (1 cement : 4 coarse sand).	SQM	15,700	0.00043357
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 battens, 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	450	0.00000894
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 <i>(chicken wire mesh to be paid separately)</i>	SQM	220	0.00010361
1209	Ruled pointing in masonry in Cement Mortar 1:3 (1 cement and 3 fine sand) including raking out joints, curing etc. complete.	SQM	100	0.00000978
A1210	Providing drip coarse on plastered surface at all elevations for all type of work such as chajjas, parapet, projections etc. including scaffolding, finishing etc. complete with all labour, tools and plants as per specification, drawing and instructions of engineer in charge.	RM	800	0.00006478
1300	<b>FINISHES TO CONCRETE / PLASTERED SURFACES:</b> 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 manufacturer to give an even shade including a priming coat with distemper primer complete.	SQM	20,000	0.00118658
A1305	Providing and applying two or more coats of acrylic plastic 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	2,500	0.00021586
A1306	Providing and applying 2 or more coats of acid/alkali,chemical 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	3,000	0.00074706
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	500	0.00011141
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	190	0.00002794

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
A1311	Two or more coats of washable synthetic enamel paint of approved make made from synthetic resins and drying oil with rutile titanium dioxide and other selected pigments to give smooth, hard, durable & glossy finish to all interior and exterior surfaces complete.	SQM	100	0.00000550
1313	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 sulfide sealant of matching color and shade as per specification/drawing/approval of engineer in charge.	SQM	500	0.00046223
A1317	Providing and applying 3 mm thick white cement putty 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	12,062	0.00143302
B1317	Providing and applying fire proof putty on walls/holes 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	3,050	0.00022451
A1319	Providing and applying two or more coats of Acrylic emulsion paint weather coat similar to Weathergurd, Weathershield, Apex Ultima, or equivalent paint of approved brand and manufacturer and required shade over one coat of primer after necessary cleaning/ washing, preparing the surface using coir brush/ wire brush, sand paper, including filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent and extremely durable with color fastness as per specification.	SQM	12,500	0.00105169
1321	Providing and applying french polish (minimum 2 coats) on wood surface made from best quality shelac, 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	250	0.00004711
1400	<b>FLOORING AND SKIRTING:</b> 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: <i>(Supply of cement is in scope of contractor)</i>			
A1401	Providing and laying 50 mm thick heavy duty cement concrete (IPS) 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 as per specification. (Quoted item rate shall be inclusive of providing glass joint strips).	SQM	17,000	0.00741581
A1402	Providing and laying 50 mm thick heavy duty cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates ) IPS flooring with including cement slurry, rounding off edges, aluminium strips etc. all complete as per specification. (Quoted item rate shall be inclusive of providing glass joint strips)	SQM	310	0.00011150
B1402	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	213	0.00002365
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	700	0.00081473
A1406	Providing and Laying polished Kota stone 25 mm thk in flooring. Under bed shall average 25mm 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	200	0.00024167
1408	Providing and Laying 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	75	0.00008904
A1408	Providing and Laying polished Kota stone 25mm 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	25	0.00003110

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
A1410	Providing and laying Marble stone Flooring laid in 50mm overall thickness with 25 mm thick marble slabs (grade -1) with minimum 25mm thick underbed of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The marble 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	200	0.00077095
B1410	Providing and laying Marble stone Flooring laid in 50mm overall thickness with 20 mm thick marble slabs (grade -1) with minimum 30 mm thick underbed of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The marble 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	0.00018323
C1410	Providing and laying polished Marble stone 25 mm 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	50	0.00019274
D1410	Providing and laying polished Marble stone 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	50	0.00018323
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	4,000	0.00888843
A1412	Providing and laying 25 mm thick polished Granite stone of approved color and texture in flooring with brass/ stainless steel strips. Under bed shall average 25mm 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	500	0.00116529
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	550	0.00122661
A1414	Providing and Laying polished Granite stone 25mm 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	100	0.00023391
A1418	Providing and Laying non-skid full body vitrified tiles non-porous,homogenous, abrasion resistant, floor tiles of 1st quality dual charged of size 600x 600mm of approved make from 'MARBONITE' or 'FERRASTONE of BOSS Profile limited', 'ENDURA' Jonson,Varmora,Qutone or equivalent in flooring and skirting over average 40 mm thick underbed for flooring and 6mm for skirting 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 of following sizes:			
a	10 to11 mm thick tiles In flooring	SQM	6,000	0.00572296
b	10 to11 thick tiles In skirting and dado upto specific height	SQM	1,500	0.00167983
B1418	Providing and Laying 10 mm thk non-skid vitrified tiles of make 'MARBONITE' or 'FERRASTONE of BOSS Profile limited', 'RESTILE', "ENDURA" of H & R Jonson(India) Pvt. Ltd. or equivalent in flooring and skirting over average 40 mm thick underbed for flooring and 6mm for skirting 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 of following sizes:			
a	400X400 mm	SQM	350	0.00028128
b	600X600 mm	SQM	500	0.00047102
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	70	0.00019589
A1422	Providing and Fixing Acid / Alkali resistant (Chemical resistant) vitrified tiles confirming 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 epoxy based as per IS:4441, 4443 & 4832 and including preparation of surface, application of bitumen primer, curing etc. all complete for following thicknesses. The tiles should be abrasion resistant & durable.			
a	20mm thick	SQM	625	0.00105123

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
b	38mm thick	SQM	2,500	0.00482138
1424	Providing and 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	320	0.00075823
A1424	Providing and 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	2,125	0.00654566
A1427	Providing and Fixing 6mm thick glazed ceramic tiles of approved color and design of size 400x400mm in dado of approved size, projecting 6mm uniformly from adjacent plaster or wall finish with 50 mm wide matching moulded ceramic trims. 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.	SQM	1,225	0.00084202
A1428	Providing and Laying flexible electric insulated 3 mm thick PVC synthetic sheet as per IS 15652-2006 of Suntex Insulatic Pvt. Ltd. Or similar all complete as per specification.	SQM	3,000	0.00217735
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, de-greasing, 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 cementitious 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.2.0mm thick & top plate must be 75x75x3.0 mm. All pedestal shall be tightening to Stringer of 20x30x575x1.0 mm Rectangular tube. The system shall be design for Uniformly distributed load (UDL) of 13 KN (1300 kg/ sqm), for the same all complete as per specification.	SQM	500	0.00227083
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	400	0.00001884
b	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	700	0.00006750
1500	<b>ROOFING / SIDE CLADDING:</b> 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:			
1502	Erection and fixing permanently color coated galvanised MS troughed metal sheet decking plate of approved colour and conforming to class3 of IS 14246 over roof purlins for cast-in-situ roof slab as per relevant IS code and specification. Bare metal thickness of deck plate shall be minimum 0.8mm with minimum trough depth of 44 mm having minimum yield strength of 250 MPa and shall serve as permanent shuttering to the roof slab 100mm thick measured over crest of metal decking & shall have adequate strength to support weight of green concrete and imposed loads of min 150 kg/sqm during construction between purlins as per manufacturer's recommendations/ calculations/ test certificates for approval including fixing of plates to purlins, side lapping, end lapping etc. all complete for below mentioned spans. The sheet shall be permanently coated with silicon modified polyester paint of minimum 20 micron DFT on exposed surface (facing operating floor) and minimum 7 micron on other face over epoxy primer applied over hot dipped galvanising @ 275 gm/sqm including fixing of sheet to purlin with self drilling white zinc plated heat treated carbon steel screws of minimum 5.6 mm dia @ 260mm c/c in the trough and stich screws between two adjacent sheets and sealing with epoxy sealant. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking. (Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking and cost against supply of MS troughed metal sheet decking plate is payable separately under ST S1502 of SCH-4 of Vol-III:Supply).			
a	Span Upto 1800mm	SQM	8,000	0.00304211

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
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	38	0.00075072
A1504	Fixing of wall cladding system comprising of colour coated profiled external sheet manufactured out of similar or equal to 0.45 mm BMT COLORBOND® XRW or equivalent steel- High tensile with min 550 MPa yield strength, metallic hot-dipped coated with Al-Zn alloy (55% Aluminium, 43.5% Zinc, 1.5% Si ) as per AS1397 / IS15961 - ZINCALUME® AZ150 (min. 150 g/m <sup>2</sup> total on both sides) with Super Durable Polyester COLORBOND® steel XRW quality paint system of approved color, suitable for exterior application conforming to AS/NZS 2728 type-4 / IS15965 class 3.. Profile sheet of nominal 1015 mm effective cover width and nominal 28 mm deep ribs with subtle square fluting in the five pans at nominal 203 mm centre-to-centre. The end rib shall be designed for anti-capillary action, to avoid any seepage of water through the lateral overlap. The sheet shall have a total coating thickness of 35 microns, super durable polyester COLORBOND® XRW or equivalent with Thermatch™ solar reflectance technology quality paint system of 20 microns on exposed surface and 5 micron reverse polyester coat on back surface over 5 micron primer coat on both surfaces. The paint system would have stable resin & inorganic pigments for paint durability and is lead free for water harvesting. The steel sheet shall be fastened with nominal 40 µm zinc coated or nominal 25 µm Zinc-Tin alloy coated, Hex head, self-drilling screw as per AS 3566-2002 Class 3 fasteners with EPDM washer and also as per the requirement considering the profile shape and design load. <b>(Cost on account of supply is payable separately under ST SA1504 of SCH-4 of Vol-III: Supply)</b>	SQM	14,000	0.00359859
A1512	Providing and fixing insulation of resin bonded mineral wool of 25 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for 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	Mineral wool (spintex 300 or equivalent) insulation(density 48kg/cum) bound in polythene bags on top of false ceiling panels.	SQM	1,600	0.00072313
1514	Providing and installing <b>under deck insulation</b> with resin bonded rock wool 50 mm nominal thickness conforming to IS 8183 having a density of 48kg/cum using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed at various elevations with rawl plugs including clips but excluding cost of insulation.	SQM	4,000	0.00232899
A1519	Fixing of <b>double skin insulated wall</b> cladding system comprising of colour coated profiled external sheet manufactured out of similar or equal to 0.45 mm BMT COLORBOND® XRW or equivalent steel- High tensile with min 550 MPa yield strength, metallic hot-dipped coated with Al-Zn alloy (55% Aluminium, 43.5% Zinc, 1.5% Si ) as per AS1397 / IS15961 - ZINCALUME® AZ150 (min. 150 g/m <sup>2</sup> total on both sides) with Super Durable Polyester COLORBOND® steel XRW quality paint system of approved color, suitable for exterior application conforming to AS/NZS 2728 type-4 / IS15965 class 3.. Profile sheet of nominal 1015 mm effective cover width and nominal 28 mm deep ribs with subtle square fluting in the five pans at nominal 203 mm centre-to-centre. The end rib shall be designed for anti-capillary action, to avoid any seepage of water through the lateral overlap. The sheet shall have a total coating thickness of 35 microns, super durable polyester COLORBOND® XRW or equivalent with Thermatch™ solar reflectance technology quality paint system of 20 microns on exposed surface and 5 micron reverse polyester coat on back surface over 5 micron primer coat on both surfaces. The paint system would have stable resin & inorganic pigments for paint durability and is lead free for water harvesting. The steel sheet shall be fastened with nominal 40 µm zinc coated or nominal 25 µm Zinc-Tin alloy coated, Hex head, self-drilling screw as per AS 3566-2002 Class 3 fasteners with EPDM washer and also as per the requirement considering the profile shape and design load. The inner sheeting shall be 0.50mm/0.6mm TCT of SMP coated zincalume steel 150 gsm. (Zinc – aluminium alloy coating mass total of both sides as per AS 1397:1993) having 550 Mpa yield strength. The colour coating shall comprise of 25 microns finish coat over a 10-micron primer coat on the exposed side and a back coat of 10 microns over a primer coat of 5 micron on the reverse side.  The inner sheet shall have 980mm cover width 28mm high crests at 195mm centres with special male / female side laps and anti-siphoning features to prevent leakages. The inner sheet shall be fixed to the structure by means of self drilling fasteners no. 12-24 x 25 mm conforms to AS: 3566 Class-3 long at valley. Sub- girts of size 50mm x 50mm x 50mm manufactured out of 16G GI (1.6mm GI) 'Z' shape would be fixed the inner sheeting on face side at runner locations and outer sheeting shall be fixed with the help of concealed compatible interlocking clips and wafer head zinc coated self drilling fasteners / screws 4.2 x 25mm long on to the sub-girts. The clips shall be concealed and no fasteners are to penetrate the external sheeting. An insulation of 50mm thick Rockwool Insulation of density 48KG/M3 conforming to IS: 8183 shall be provided and fixed to the inner sheet and between the two sheets as per specification. <b>(Cost against supply of sheet of double skin insulated wall cladding system is payable separately under ST SA1519 of SCH-4 of Vol-III:Supply)</b>	SQM	7,000	0.00113152

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
1600	<b>FALSE CEILING:</b> 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:			
A1602	Providing and Fixing and laying light weight mineral fiber tile false ceiling of minimum thickness 15 mm and exposed surface semi-perforated with depth of perforation as 4 mm and humid resistance of 95% RH and fire performance of class 0/1 as per BS 476 with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners of approved colour and make as per specification, including 25mm thick mineral wool insulation (density48kg/cum) as per IS:8183 bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc. The size of tiles shall be 600 X 600 mm or 600 X 1200 mm. Required MS channel work shall be separately paid under relevant items of BOQ series 2300 .(Payment for Mineral wool insulation shall be made separately). Payments terms - a)on receipt of materials at site - 60%; b) Erection & fixing - 40% Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity	SQM	1,000	0.00099078
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 including 25mm thick mineral wool insulation(density 48 kg/cum) conforming to IS:8183 bound in polythene bags on top of panels. 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. (Payment for structural platform grid made up of MS Channels/ Beams / Angles shall be separately paid under relevant items of BOQ series 2300 )(Payment for Mineral wool insulation shall be made separately) Payments terms - a)on receipt of materials at site - 60%; b) Erection & fixing - 40% Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity	SQM	1,600	0.00413388
B1603	Providing and Fixing permanently colour coated aluminium false ceiling of approved colour and Luxalon 150 C or approved equivalent with corrosion resistant aluminium alloy panels of minimum thickness 0.5mm ,including 25mm thick mineral wool insulation(density 48 kg/cum) conforming to IS:8183 bound in polythene bags on top of panels. 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. ( Payment for structural platform grid made up of MS Channels/ Beams / Angles shall be paid under relevant items of BOQ series 2300 )(Payment for Mineral wool insulation shall be made separately). Payments terms - a)on receipt of materials at site - 60%; b) Erection & fixing - 40% Payment for Supply Quantity shall be restricted to the executed/erected quantity.	SQM	500	0.00129184
A1604	Providing and Fixing and laying permanently colour coated aluminium SQUARE type false ceiling of Luxalon or equivalent of approved colour with stove enamel finish of approved make with corrosion resistance aluminium alloys panels in 600mm X 600mm of minimum thickness 0.7mm with perforation in combination with built in non-woven tissue for providing good acoustic properties having coil coating of thickness 25 micron and install withT-grid (of profile 24 mm) in the same or contrasting colours or with 6mm recess joints.The Tile shall be clipped into clip in profile of min.0.5mm thick G.I. The clip in profile shall be supported from slab by means of rigid suspension of 4mm G.I. rod, hold on clamp with clip. 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 incharge. (Payment for structural steel works for platform for movement is separately payable under relevant items of BOQ series 2300 ). Payments terms - a)on receipt of materials at site - 60%; b) Erection & fixing - 40% Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity	SQM	300	0.00082501
1700	<b>RAIN WATER DOWN TAKE PIPES:</b> 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:			
1707	Fixing GI down take pipes conforming to IS:1239 /IS:3589 of medium duty all complete for following diameters. <b>(Cost on account of supply is payable separately under ST S1707 of SCH-4 of Vol-III: Supply</b>			
b	150 mm Dia	RM	3,200	0.00121896
c	200 mm Dia	RM	300	0.00018344
1800	<b>MISCELLANEOUS:</b> 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: <b>(Supply of cement is in scope of contractor)</b>			

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
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	14,200	0.01873082
1803	Supply and laying approved quality rounded pebbles / gravels of 40mm size in transformer yards.	CUM	672	0.00239115
1807	Anti termite chemical treatment of soil with Chlorpyriphos/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	16,600	0.00263932
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	394	0.00273430
1809	Construction of below ground earthing system test pits as per drawing / sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing and specification (excavation & backfilling only will be paid under applicable BOQ items)	EACH	20	0.00013825
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	75	0.00039727
1811	Construction of below ground earthing system earth electrodes as per drawing and specification. ( Excavation and backfilling only will be paid under applicable BOQ items)	EACH	20	0.00000841
1812	Construction of below ground earthing system - Earth connection and riser pig tails as per drawing and specification. ( Excavation and backfilling only will be paid under applicable BOQ items& steel shall be supplied by BHEL free of cost.)	EACH	20	0.00000526
1813	Providing Earthing 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	85	0.00161318
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	20	0.00028641
1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	88	0.00000745
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	53	0.00044810
1818	Fire proofing of steel structures with VERMICULITE cementitious coating including supply of all materials for vermiculite materials, reinforcement mesh (3mm thick wire, 50x50 size mesh) , nuts, tie wires, weldings, suface preparation, curing, staging, compatible paintings etc. all complete.	CUM	100	0.00672152
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	1,000	0.00043650
1823	Providing and laying cinder filling in the toilets,roads,etc complete as directed by engineer in charge.	CUM	65	0.00008320
1824	Transportation of scrap steel, scrap wood, broken packing crates, cable scrap, debris and other civil waste, electrical waste materials etc. from project site to a designated place within plant premises, with all manpower T & P etc. including loading and unloading as and when directed by BHEL			
a	Steel scrap / metal scrap	MT	5	0.00000221
b	Debris & Other waste materials.	CUM	10	0.00000083
1827	Anti weed chemical treatment of soil with suitable chemical pertaining to the types of weeds found in the vicinity including providing anti-weed/ soil sterilization test certificate, performance guarantee of three years etc. all complete.	SQM	13,750	0.00004048
1835	Providing & laying Firecrete 20 to 25 mm thick layer including curing etc. all complete over the top of fuel oil tank pad as per manufacturer's specification.	CUM	10	0.00033868
1836	Providing & fixing flame arrestor of approved specification at the end of vent pipes upto 160 mm dia in Oily water manholes in hazardous zone of refinery area.	EACH	32	0.00066022
1837	Providing 25 mm thick premix carpet surfacing laid to slope with 12 mm and down broken stone chips mixed with 80/100 grade bitumen @ 52 Kg/Cu.M including compaction etc. all complete as per specification.	SQM	372	0.00005477

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
1838	Providing 75 mm thick anti corrosive layer laid to required slope consisting of clean & well graded coarse sand mixed with A90 grade bitumen for softening point upto 45 degree Celcius or A65 grade bitumen for softening point above 45 degree celcius as per IS: 73 or its equivalent quality 8 to 10% by volume and rolled or compacted all complete as per specification.	SQM	372	0.00013691
1841	Providing and fixing Semi Unitised STRUCTURAL GLAZING to fixed panels with no aluminium section exposed to outside and only glass panels with silicon joint visible from outside. The system specially designed with aluminium sections of grade 63400 WP IS: 733 and IS: 1285 pure polyester powder coated 50- 60 microns make; Akzo Nobel applicator only in approved colour with mullion fixed to beams / columns through adequately designed MS powder coated. The member and bracket shall be fixed with appropriate bolts and expansion fasteners, so as to withstand the dead load of the structural glazing as well as stresses due to wind pressure. The Structural glazing system shall be designed as per BIS code for required wind pressure IS: 875 part III with as per the prevailing site conditions and building profiles and use of aluminium section alloy as per IS : 8147. System design to strictly consider for thermal movements, air infiltration, water penetration, seismic movement and structural movement, submit the calculation for review and approval of shop / fabrication drgs from BHEL.Silicon sealant structural grade and weather grade shall be GE/Dow corning/Sikka or Equivalent.The contractor shall submit structural stability report of the structural glazing system from a consultant to be get approved by the engineer incharge.Providing and fixing G.I. flashing at soffit level /sill level made out of 1.5mm thick G.I. Sheet with powder coated bent to required profile and shape to seal the soffit area.Openable glazing panel where ever required shall be with two point locking with friction stays, as per detail design requirement,provided with approved hardware of DORMA/Geeze or equivalent make,all complete as per specification.(Payment for Glass shall be made separately).	KG	600	0.00006625
2000	<b>FENCING AND GATES:</b> 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: <b>(Supply of cement is in scope of contractor)</b>			
2001	Supplying and erecting in position 2.4 m high PVC coated gavanised 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 confirming 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	150	0.00028796
2003	Supplying and erecting in position 2.4 m high PVC coated gavanised 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. Concertina of height of 600 mm at top of chain link fencing shall be provided with all accessories. Concertinal shall be from tensile serrated galvanised wire (HTSW) made with wire diameter of 2.5 mm which will be stretched to 6m and attached on two strands of galvanised HTSSW (high tensile spring steel wire) of 2.5mm dia by means of clips at 1m interval. These two HTSSW strands will be attached to the fence posts/ angles with 12 mm security fasteners. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts etc. all complete. (Structural post shall be paid separately under ST No. 2007)	RM	350	0.00071390
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	18	0.00131606
2009	Supply, fabrication,Installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffners, 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	10	0.00084811
2100	<b>WATER SUPPLY:</b> 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: <b>(Supply of cement is in scope of contractor)</b>			
2101	Providing and Fixing in position tested heavy duty type chromium plated (CP) brass long neck bib cocks including sockets, union, nuts etc all complete - 15mm nominal bore.	EACH	104	0.00009049
2102	Providing and Fixing in position heavy duty brass stop cock of approved quality including all specials etc all complete - 15mm nominal bore.	EACH	104	0.00006430
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	104	0.00009998
b	50mm nominal bore.	EACH	104	0.00024038
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	980	0.00033832
b	20 mm nominal bore.	RM	490	0.00018683
c	25 mm nominal bore.	RM	490	0.00021569
d	50 mm nominal bore.	RM	212	0.00013483

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
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. b 20 mm nominal bore. c 25 mm nominal bore. d 50 mm nominal bore. e 65mm nominal bore. f 32mm nominal bore.			
a	15 mm nominal bore.	RM	100	0.00002885
b	20 mm nominal bore.	RM	50	0.00001623
c	25 mm nominal bore.	RM	218	0.00008376
d	50 mm nominal bore.	RM	302	0.00017495
e	65mm nominal bore.	RM	50	0.00002944
f	32mm nominal bore.	RM	50	0.00002208
2106	Providing and Fixing 750mmx450mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete.	EACH	37	0.00003601
2107	Providing and Fixing 610mmx127mmx6mm thk clear glass with C.P. Guard rails and mounted on C.P. brackets etc all complete.	EACH	36	0.00002247
2108	Providing and Fixing 25 mm diameter stainless steel towel rails (600mm X 25mm) with C.P. mounting brackets all complete.	EACH	36	0.00002059
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	36	0.00001699
A2112	Providing and Fixing SS (stainless steel) wall mounted paper holder with suitable cover cum cutter fitted with SS screws etc all complete.	EACH	36	0.00001813
2113	Providing and Fixing chromium plated brass shower rose 100mm dia with 15 or 20 mm inlet dia all complete.	EACH	36	0.00002801
2114	Providing and 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.  a 500 litres capacity b 1000 litres capacity c 2000 litres capacity d 5000 litres capacity			
a	500 litres capacity	EACH	2	0.00000994
b	1000 litres capacity	EACH	8	0.00007952
c	2000 litres capacity	EACH	2	0.00003976
d	5000 litres capacity	EACH	2	0.00009940
A2115	Providing and Fixing SS (stainless steel) Grab bar as per specification for disabled person as per specification and instruction by engineer incharge.	RM.	25	0.00001380
2200	<b>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: (Supply of cement is in scope of contractor)</b>			
2201	Providing 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	50	0.00054445
b	Colored	EACH	50	0.00054445
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 necessary union complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	5	0.00002963
2203	Providing and Fixing stainless steel kitchen sink of size 610x510x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	20	0.00013783
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	46	0.00021064
b	Wall mounted	EACH	46	0.00021786
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	0.00023208
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	46	0.00086855
2207	Providing and 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	50	0.00001612
b	110mm dia pipes	RM	100	0.00004387
c	160mm dia pipes	RM	460	0.00034944
d	200mm dia pipes	RM	230	0.00020130

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
2208	Providing and 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.			
a	200mm dia	RM	760	0.00035915
b	300mm dia	RM	50	0.00004733
c	450mm dia	RM	50	0.00008314
d	600mm dia	RM	50	0.00010552
e	900mm dia	RM	50	0.00016003
2209	Providing and 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	0.00004549
b	250mm dia	RM	50	0.00003114
c	300mm dia	RM	50	0.00003519
d	450mm dia	RM	100	0.00010232
e	500mm dia	RM	100	0.00010651
2211	Providing and Fixing C.I Manhole heavy duty cover of size 600mmx450mm including frame from reputed manufacture etc. all complete.	EACH	23	0.00026611
2212	Providing and Fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame etc. all complete.	EACH	23	0.00026711
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:			
a	100x100mm P or S Type.	EACH	71	0.00018203
b	150x100mm P or S Type.	EACH	71	0.00018668
c	150x150mm P or S Type.	EACH	71	0.00019118
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	117	0.00016260
2215	Providing and Fixing 100mm heavy duty UPVC floor traps with 100 mm inlet and 100 mm outlet & C.P jalli all complete.	EACH	117	0.00013848
2216	Providing and Installing approved brand single tap water cooler of 80 L cooling capacity all complete.	EACH	15	0.00071117
2217	Providing and Installing approved brand single tap water cooler of 150 L cooling capacity all complete.	EACH	5	0.00042597
2218	Providing and Fixing white viterous urinal partitions of size 675x325x85mm all complete.	EACH	23	0.00005225
2219	Providing and Fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	23	0.00014297
2220	Providing and Fixing heavy duty cast iron pipes for above and below ground sanitary works with water tight lead joint, fixing clamps, excavation, filling, disposal etc. all complete for the following			
a	75mm dia pipes	RM	50	0.00004888
b	100mm dia pipes	RM	200	0.00025174
c	150mm dia pipes	RM	100	0.00019735
d	200mm dia pipes	RM	50	0.00015513
e	250mm dia pipes	RM	20	0.00011090

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
2300	<b>STRUCTURAL WORKS:</b> 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:			
A2301	Fabrication,erection and alignment of structural steel with mild steel rolled section / built up section / combination of both conforming to grade <b>E300/ E250</b> as per 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 yard and one coat after erection) of DFT 25 micron each coat, 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. Payments terms - a) Fabrication - 65%; b) Erection - 25%; c) Alignment - 10%. <b>(BHEL WILL SUPPLY STRUCTURAL STEEL AS FREE OF COST AS PER TCC)</b>	MT	12,500	0.24212715
A2302	Extra over ST NO. A2301 for blast cleaning of steel structures to near white metal surface(Sa 2 1/2 ) as per SIS 05-5900 and applying <b>zinc-silicate primer</b> in coats of minimum <b>50 micron</b> (DFT) at shop and <b>50 micron</b> (DFT) after erection, instead of primer coat of red oxide zinc-chromate, including touch-up painting etc all complete.	MT	1,100	0.00419990
B2302	Extra over ST NO. A2301 for blast cleaning of steel structures to near white metal surface(Sa 2 1/2 ) as per SIS 05-5900 and applying <b>epoxy resin based zinc rich primer</b> 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	500	0.00190905
2304	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 and keeping overall DFT with primer not less than 110 microns including protection and cleaning, scaffolding etc. all complete.	MT	10,400	0.02107511
A2304	Extra over ST No. A2301 for providing and applying two or more coats of anti-corrosive paint with minimum 110 micron dry film thickness (DFT) over steel sections already having primer coats. Anti corrosive paint shall be : Self Priming, Single Pack, Elastomeric ( 450% elongation ), thermoplastic, fire retardant, Coating skin tensile strength 18 to 21 kg. Per sq. Cm antifungal, antibacterial, anticorrosive, nontoxic graft Copolymer coating of Meta Chem Paints & Adhesive Pvt. Ltd or similar approved to achieve an even shade over steel sections including protection and cleaning, scaffolding etc. all complete.	MT	500	0.00101323
A2305	Providing and applying two coats of <b>High built epoxy finish</b> paint with <b>minimum 90 micron</b> Dry film thickness in each finish coat of approved make and shade to achieve an even shade over steel surfaces already having primer coats including protection and cleaning, scaffolding etc. all complete	MT	1,100	0.00404606
B2305	Providing and applying two coats of epoxy paint with minimum 25 micron dry film thickness (DFT) of approved make and shade to achieve an even shade over steel sections already having primer coats and keeping overall DFT with primer not less than 110 microns including protection and cleaning, scaffolding etc. all complete.	MT	500	0.00110413
2307	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. <b>(Cost against supply of factory made electroforged galvanised grating units payable separately under ST No. S2307 of SCH-4 of Vol-III: Supply)</b>			
a	Minimum galvanisation of 610 g/sqm	MT	259	0.00838208
A2308	Erection and alignment of factory made hot deep galvanised (Minimum galvanisation of 610 g/sqm) welded grating units with mild steel 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 2 coats of redoxide zinc-chromate primer (one coat at shop and one coat after erection), fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. <b>(Cost against supply of Mild Steel (Heavy Duty) welded grating units is payable separately under ST No. SA2308 of SCH-4 of Vol-III: Supply)</b>	MT	58	0.00145975
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	1,509	0.00012885

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
2312	Providing and Fixing in positng 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	13,942	0.00196015
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	10	0.00006132
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	10	0.00013583
b	In fabrication yard	MT	10	0.00011373
A2317	Fabrication and erection of minimum 6 mm thick stainless steel liner of grade AISI-316L; Finish Grade 2B (Cold rolled, Annealed & Pickled and Skin passed) on M.S. plate for inside surfaces of hopper & mouth of hopper 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) <b>(Cost on account of supply is payable separately under ST SA2317 of SCH-4 of Vol-III: Supply)</b>	MT	90	0.00698067
2318	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 $\pm 50$ mm including all taxes, duties, transportation, installation, drilling, bolting, erecting, aligning etc all complete for following vertical loads. <b>(Cost against supply of PTFE type sliding bearings payable separately under ST No. S2318 of SCH-4 of Vol-III: Supply)</b>			
c	40 Tons	EACH	8	0.00004181
d	50 Tons	EACH	4	0.00002338
e	60 Tons	EACH	6	0.00004207
f	100 Tons	EACH	2	0.00001595
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	246	0.00054812
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. Payments terms - a)on receipt of materials at site - 65%; b) Erection & fixing - 35% <b>Finally the payment for Supply Quantity shall be restricted to the executed/erected quantit</b>	MT	2	0.00057166
A2321	Supply, fabrication and fixing of hot dip galvanised (Minimum galvanisation of 610 g/sqm) 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% <b>Finally the payment for Supply Quantity shall be restricted to the executed/erected quantit</b>	MT	37	0.00303823
2323	Conducting radiography test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	500	0.00256711
2324	Conducting ultrasonic test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	500	0.00037393
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	200	0.00007479
2326	Conducting magnetic particle test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	500	0.00021935
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	500	0.00024070
2328	Supply and Fixing lightning arrester and air terminal over roof of power house building, pump house and other structures incluing all materials, labour, electrodes etc complete (all materials to be supplied by the contractor).	EACH	5	0.00001830

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
2329	Design, supply, fabrication, erection of stoplog gates, Sluice gates etc. in CW Pumps 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 fasteners etc., cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc 750 gms/sqm., following by an application of etching primer and dipping in black bitumen as per B.S. 3416, erection along with a second stage concreting to true plumb and levels, submission of drawings / fabrication drawings for engineers approval 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) Payments terms - a)on receipt of materials at site - 65%; b) Erection & fixing - 35% Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity	MT	69	0.00683498
2331	SS component mentioned under ST No. 2329. Payments terms - a)on receipt of materials at site - 65%; b) Erection & fixing - 35% Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity	MT	12	0.00298189
A2332	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) (only weight of structural steel including embedments shall be considered for payment purpose, SS component shall be paid separately under relevant BOQ item) Payments terms - a)on receipt of materials at site - 65%; b) Erection & fixing - 35% Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity	MT	10	0.00093817
A2334	SS component mentioned under ST No. A2332. Payments terms - a)on receipt of materials at site - 65%; b) Erection & fixing - 35% Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity	MT	2	0.00049698
2400	<b>ROAD WORKS:</b> 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: <b>(Supply of cement is in scope of contractor)</b>			
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	11,554	0.00047627
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/seignorage 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	1,125	0.00019378
2403	Providing, stacking & laying granular morrum for shoulder including watering, compaction with road roller to required camber etc all complete.	CUM	1,688	0.00386175
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	4,240	0.00819267
2405	Providing & laying water bound macadam sub base course in layers of required thickness with stone aggregate 63mm to 40mm size (IRC 19 - grading -1), stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of blinding material moorum etc all complete.	CUM	2,120	0.00422118
A2405	Providing & laying Granular sub-base (GSB) with crushed stone ( Grading-I as per IRC15), morrum and sand including screening, spreading to template and compacting etc all complete as per specification and as per direction of Engineer in charge.	CUM	2,120	0.00422118
A2405	Construction of granular sub-base by providing close graded Material conforming to Grading-I as per IRC15, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of 300 mm consolidated thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, etc all complete as per specifications and directions of Engineer-in-Charge	CUM	2,120	0.00422118
2406	Laying water bound macadam base course with stone aggregate 50mm to 20mm size stone (IRC 19 - grading -1) screening & binding material including screening, sorting, spreading to template & consolidation with road roller including carriage spreading & consolidation of blinding material moorum etc all complete.	CUM	5,300	0.01105621
2407	Providing & applying tack coat of low viscosity liquid bitumen of grade 80/100 confirming to IS 73, 217 or 454 as applicable @10 kg/ 10 sqm for untreated WBM surface including scraping, cleaning with compressed air etc all complete.	SQM	42,400	0.00265287
2409	Providing, mixing & laying of dense bituminous macadam course of specified thickness using bitumen of grade 60/70 conforming to IS 73, aggregates and binder material including hot mixing, hot laying, rolling etc all complete for the following.			
2409.a	75mm compacted thickness	SQM	21,200	0.01031496

**VOLUME-III**  
**PRICE SCHEDULE, REV-01**

**CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR MAIN PLANT & BOP (EXCLUDING PILING AND LEVELLING & GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.**

**TENDER NO - PSER:SCT:SDG-C2062:20**

**SCH-3 : SERVICE**

<b>ST. NO</b>	<b>DESCRIPTION OF ITEM</b>	<b>UNIT</b>	<b>Quantity</b>	<b>WEIGHTAGE</b>
2410	Providing, mixing & laying 20 mm compacted thick premix carpet in a single course composed of suitable small size aggregate premixed with bituminous binder using medium setting grade bitumen on a prepared base including mixing, applying, rolling etc all complete.	SQM	21,200	0.00413535
2412	Providing and applying liquid seal coat comprising of an application of a layer of bituminous binder using medium setting grade bitumen at the rate of 9.8kg/10sqm followed by a cover of stone chips at the rate of 0.09 cum/10sqm including rolling etc all complete.	SQM	21,200	0.00159172
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.	RM	7,500	0.00179432
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.	RM	375	0.00017804
<b>2500</b>	<b>PILING</b>			
B2504	Breaking of pile head to cut off level and exposing pile reinforcement for embedment in pile cap including cutting, bending, placing, welding, disposal of debris within the plant premises etc. all complete as per specification, drawing and as directed by the engineer-in-charge for the following.			
a	Pile with 600 mm diameter	EACH	1,666	0.00058430
b	Pile with 760 mm diameter	EACH	1,840	0.00103539
<b>TOTAL</b>				<b>0.91666644</b>

<b>VOLUME-III</b> <b>PRICE SCHEDULE, REV-01</b>				
<b>CIVIL, STRUCTURAL &amp; ARCHITECTURAL WORKS FOR MAIN PLANT &amp; BOP (EXCLUDING PILING AND LEVELLING &amp; GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.</b>				
TENDER NO - PSER:SCT:SDG-C2062:20				
<b>SCH-4 : SUPPLY</b>				
ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
400	<b>REINFORCEMENT WORK</b> : 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:  (Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity)			
S401	Providing 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	50	0.00209689
700	<b>MS EMBEDMENTS</b> : 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:  (Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity)			
S701	Supply of mild steel embedments, 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	225	0.01050849
S702	Supply, Fabrication, transportation, delivery at site of 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	40	0.00219623
S707	Providing 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	86	0.00529291
900	<b>DOORS &amp; WINDOWS</b> : 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:  (Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity)			
SA913	Providing metal rolling shutter and rolling grill type shutter as per specification made from 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 shall be designed to withstand a wind load of minimum 200 Kg/m <sup>2</sup> without excessive deflection as per specification and 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 riveted with stiffening angles.(partly coiled and lath/full lath).The guides shall be either rolled or pressed deep channel sections of minimum 75 mm and 25 mm wide fitted with necessary fitting and fixtures.			
b	Mechanically Operated	SQM	91	0.00047842
c	Electrically and Mechanically operated	SQM	312	0.00181320
1500	<b>ROOFING / SIDE CLADDING</b> : 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:  (Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity)			
S1502	Designing, providing permanently color coated galvanised MS troughed metal sheet decking plate of approved colour and conforming to class 3 of IS 14246 over roof purlins for cast-in-situ roof slab as per relevant IS code and specification. Bare metal thickness of deck plate shall be minimum 0.8mm with minimum trough depth of 44 mm having minimum yield strength of 250 MPa and shall serve as permanent shuttering to the roof slab 100mm thick measured over crest of metal decking & shall have adequate strength to support weight of green concrete and imposed loads of min 150 kg/sqm during construction between purlins as per manufacturer's recommendations/ calculations/ test certificates for approval including fixing of plates to purlins, side lapping, end lapping etc. all complete for below mentioned spans. The sheet shall be permanently coated with silicon modified polyester paint of minimum 20 micron DFT on exposed surface (facing operating floor) and minimum 7 micron on other face over epoxy primer applied over hot dipped galvanising @ 275 gm/sqm including fixing of sheet to purlin with self drilling white zinc plated heat treated carbon steel screws of minimum 5.6 mm dia @ 260mm c/c in the trough and stich screws between two adjacent sheets and sealing with epoxy sealant. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking.			
a	Span Upto 1800mm	SQM	8,000	0.00709825

<b>VOLUME-III</b> <b>PRICE SCHEDULE, REV-01</b>				
<b>CIVIL, STRUCTURAL &amp; ARCHITECTURAL WORKS FOR MAIN PLANT &amp; BOP (EXCLUDING PILING AND LEVELLING &amp; GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.</b>				
TENDER NO - PSER:SCT:SDG-C2062:20				
<b>SCH-4 : SUPPLY</b>				
ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
SA1504	Designing, Providing of <b>wall cladding system</b> comprising of colour coated profiled external sheet manufactured out of similar or equal to 0.45 mm BMT COLORBOND® XRW or equivalent steel- High tensile with min 550 MPa yield strength, metallic hot-dipped coated with Al-Zn alloy (55% Aluminium, 43.5% Zinc, 1.5% Si ) as per AS1397 / IS15961 - ZINCALUME® AZ150 (min. 150 g/m <sup>2</sup> total on both sides) with Super Durable Polyester COLORBOND® steel XRW quality paint system of approved color, suitable for exterior application conforming to AS/NZS 2728 type-4 / IS15965 class 3.. Profile sheet of nominal 1015 mm effective cover width and nominal 28 mm deep ribs with subtle square fluting in the five pans at nominal 203 mm centre-to-centre. The end rib shall be designed for anti-capillary action, to avoid any seepage of water through the lateral overlap. The sheet shall have a total coating thickness of 35 microns, super durable polyester COLORBOND® XRW or equivalent with Thermatch™ solar reflectance technology quality paint system of 20 microns on exposed surface and 5 micron reverse polyester coat on back surface over 5 micron primer coat on both surfaces. The paint system would have stable resin & inorganic pigments for paint durability and is lead free for water harvesting. The steel sheet shall be fastened with nominal 40 µm zinc coated or nominal 25 µm Zinc-Tin alloy coated, Hex head, self-drilling screw as per AS 3566-2002 Class 3 fasteners with EPDM washer and also as per the requirement considering the profile shape and design load.	SQM	14,000	0.00839672
SA1519	Designing, Providing of <b>double skin insulated wall</b> cladding system comprising of colour coated profiled external sheet manufactured out of similar or equal to 0.45 mm BMT COLORBOND® XRW or equivalent steel- High tensile with min 550 MPa yield strength, metallic hot-dipped coated with Al-Zn alloy (55% Aluminium, 43.5% Zinc, 1.5% Si ) as per AS1397 / IS15961 - ZINCALUME® AZ150 (min. 150 g/m <sup>2</sup> total on both sides) with Super Durable Polyester COLORBOND® steel XRW quality paint system of approved color, suitable for exterior application conforming to AS/NZS 2728 type-4 / IS15965 class 3.. Profile sheet of nominal 1015 mm effective cover width and nominal 28 mm deep ribs with subtle square fluting in the five pans at nominal 203 mm centre-to-centre. The end rib shall be designed for anti-capillary action, to avoid any seepage of water through the lateral overlap. The sheet shall have a total coating thickness of 35 microns, super durable polyester COLORBOND® XRW or equivalent with Thermatch™ solar reflectance technology quality paint system of 20 microns on exposed surface and 5 micron reverse polyester coat on back surface over 5 micron primer coat on both surfaces. The paint system would have stable resin & inorganic pigments for paint durability and is lead free for water harvesting. The steel sheet shall be fastened with nominal 40 µm zinc coated or nominal 25 µm Zinc-Tin alloy coated, Hex head, self-drilling screw as per AS 3566-2002 Class 3 fasteners with EPDM washer and also as per the requirement considering the profile shape and design load. The inner sheeting shall be 0.50mm/0.6mm TCT of SMP coated zincalume steel 150 gsm. (Zinc – aluminium alloy coating mass total of both sides as per AS 1397:1993) having 550 Mpa yield strength. The colour coating shall comprise of 25 microns finish coat over a 10-micron primer coat on the exposed side and a back coat of 10 microns over a primer coat of 5 micron on the reverse side. The inner sheet shall have 980mm cover width 28mm high crests at 195mm centres with special male / female side laps and anti-siphoning features to prevent leakages. The inner sheet shall be fixed to the structure by means of self drilling fasteners no. 12-24 x 25 mm conforms to AS: 3566 Class-3 long at valley. Sub-girts of size 50mm x 50mm x 50mm manufactured out of 16G GI (1.6mm GI) 'Z' shape would be fixed the inner sheeting on face side at runner locations and outer sheeting shall be fixed with the help of concealed compatible interlocking clips and wafer head zinc coated self drilling fasteners / screws 4.2 x 25mm long on to the sub-girts. The clips shall be concealed and no fasteners are to penetrate the external sheeting. An insulation of 50mm thick Rockwool Insulation of density 48KG/M3 conforming to IS: 8183 shall be provided and fixed to the inner sheet and between the two sheets as per specification.	SQM	7,000	0.00264020
1700	<b>RAIN WATER DOWN TAKE PIPES:</b> 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: (Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity)			
S1707	Providing of GI down take pipes conforming to IS:1239 /IS:3589 of medium duty all complete for following diameters.			
b	150 mm Dia	RM	3,200	0.00284425
c	200 mm Dia	RM	300	0.00042803
2300	<b>STRUCTURAL WORKS:</b> 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: (Finally the payment for Supply Quantity shall be restricted to the executed/erected quantity)			
S2307	Supplying 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	259	0.01955820

<b>VOLUME-III PRICE SCHEDULE, REV-01</b>				
<b>CIVIL, STRUCTURAL &amp; ARCHITECTURAL WORKS FOR MAIN PLANT &amp; BOP (EXCLUDING PILING AND LEVELLING &amp; GRADING WORK) FOR 1X660 MW, UNIT NO. 5, WBPDCL SAGARDIGHI TPP EXTENSION PROJECT.</b>				
<b>TENDER NO - PSER:SCT:SDG-C2062:20</b>				
<b>SCH-4 : SUPPLY</b>				
ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	WEIGHTAGE
SA2308	Supplying of factory made hot deep galvanised (Minimum galvanisation of 610 g/sqm) welded grating units with mild steel 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 2 coats of redoxide zinc-chromate primer (one coat at shop and one coat after erection), fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	MT	58	0.00340608
SA2317	Supply of minimum 6 mm thick stainless steel liner of grade AISI-316L; Finish Grade 2B (Cold rolled, Annealed & Pickled and Skin passed) on M.S. plate for inside surfaces of hopper & mouth of hopper 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	90	0.01628822
S2318	Providing of PTFE type sliding bearings of reputed manufacturer, individual bearing suitable for required vertical loads as per the construction drawings and for maximum displacement of $\pm 50$ mm including all taxes, duties, transportation, installation, drilling, bolting, erecting, aligning etc all complete for following vertical loads.			
c	40 Tons	EACH	8	0.00009755
d	50 Tons	EACH	4	0.00005455
e	60 Tons	EACH	6	0.00009816
f	100 Tons	EACH	2	0.00003721
<b>TOTAL</b>				<b>0.08333356</b>

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

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

Sub	No Deviation Certificate.	
Job	Civil, Structural & Architectural works for Main Plant & BOP (excluding piling and levelling & grading work) for 1x660 MW, Unit no. 5, WBPCL Sagardighi TPP Extension Project.	
Ref	1.0	Tender no PSER:SCT:SDG-C2062:20.
	2.0	BHEL's NIT, vide reference no PSER:SCT:SDG-C2062:8055, Date: 18-07-2020.
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:SDG-C2062:TCN-01, Date: 27-07-2020.
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:SDG-C2062:TCN-02, Date: 03-08-2020.
	5.0	BHEL's TCN-03, vide reference no PSER:SCT:SDG-C2062:TCN-03, Date: 10-08-2020.
	6.0	BHEL's TCN-04, vide reference no PSER:SCT:SDG-C2062:TCN-04, Date: 13-08-2020.
	7.0	BHEL's TCN-05, vide reference no PSER:SCT:SDG-C2062:TCN-05, Date: 14-08-2020.
	8.0	BHEL's TCN-06, vide reference no PSER:SCT:SDG-C2062:TCN-06, Date: 20-08-2020.
	9.0	BHEL's TCN-07, vide reference no PSER:SCT:SDG-C2062:TCN-07, Date: 27-08-2020.
	10.0	All other pertinent issues till date.

Dear Sirs,

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

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

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

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

Thanking you,

Yours faithfully,

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

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION DJ-9/1, SECTOR-II, SALTLAKE CITY, KOLKATA - 700 091  
 फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : (033) 23398000