

TENDER NO: PSER:SCT:NBN-C2059:20.

VOLUME -III

PRICE SCHEDULE-REV-00

FOR

CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT, FGD PACKAGE.

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVT. OF INDIA UNDERTAKING)

POWER SECTOR – EASTERN REGION

PLOT NO. – 9 / 1, DJ – BLOCK,

SECTOR – II, KARUNAMOYEE,

SALT LAKE CITY,

KOLKATA – 700091.

VOLUME-III PRICE SCHEDULE, REV-00	
JOB: CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT,FGD PACKAGE.	
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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 any where in this document. The tenderer shall sign & stamp all the pages of the tender document as a token of their acceptance. Submission of unfilled formats with sign & stamp shall be construed as acceptance of the contents of the same.
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 guidance/tender purposes giving some idea of the work involved. The work is to be executed as per terms & conditions of the tender and actual drawings/documents, which shall be furnished during execution.
3	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 and 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 service contract, possibility of variation of quantity/ addition/deletion of items can not be ruled out. Under such circumstances, after execution of work, if it is observed that standing as L-1 is changed based on actual quantity executed, the bidder shall give suitable rebate to maintain your standing as L-1. Since this aspect can be assessed at the end of execution, necessary adjustment will be effected at the end of execution in final bill. This condition shall not be applicable where the tender is finalised through Reverse Auction.
8	BHEL reserve the right to rationalize the rates, quoted by L-1 bidder against unit rate items and/ or other optional items with respect to item-wise lowest rates (amongst the participating bidders), before placement of order. The rates of unit rate/optional items shall remain valid till execution of the order, if the job/work is awarded to the bidder.
9	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 tender 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 service contracts where item with same description 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 charges against indicated rate schedule, the same shall be considered as 2% of basic price and adjusted with the total quoted price against each item keeping the total quoted price unaltered.

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SCHEDULE - 1 : TOTAL PRICE

SL NO	DESCRIPTION	PRICE SCHEDULE REF	TOTAL PRICE (IN INR)
1.0	TOTAL PRICE FOR CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT,FGD PACKAGE.	SCH 2 - PRICE BREAK UP	<u>IN FIGURES:-</u> <u>IN WORDS:-</u>
2.0	NON-SCHEDULE ITEM For items not covered in Schedule 2, quote % above or % below or at par of the CPWD Schedule of rates 2018		
a)	Rate of complete item	_____ % above / _____ % below/ at par of CPWD Rate Schedule 2018	
b)	Rate of supply of material at site only	_____ % above / _____ % below/ at par of CPWD Rate Schedule 2018	
c)	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 SCH-2- Part only at SI No. 1 above. All other amounts / rates of each item of works in respective schedules / parts will be derived based on allocated percentages. As such, any uncalled figure/ amount noted at any other place / schedule of Volume-III will not be reckoned & will stand null & void.
2.0	Bidder to note that total price at SI No. 1 above shall be considered for evaluation & awarding. As such grand total price should be complete in all respect for the full scope defined and considering all terms and conditions.
3.0	Bidder's quoted total price of SCH-2 at SI. No 1 above, 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.
4.0	Based on the itemwise percentage allocations, the amount for the individual items of the Bill of Quantity shall be arrived at. The rates of individual items shall be derived from the amount against each items and its quantity after rounding off to upto 2 decimal places. However, RA bill payment shall be done after rounding off the gross amount to two decimal points. Any adjustment, if required, due to such methodology, will be effected / adjusted in final bill.
5.0	Bidders to note that this is an item rate contract. Payment shall be made for the actual quantities of work executed at the unit rate arrived at as per SI No.4 above.
6.0	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.
7.0	Price format shall not be changed by bidder in any case and it may lead to cancellation of their offer.
8.0	The quoted price shall be excluding GST including freight on FOR site basis.
9.0	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.
10.0	For payment of non schedule items, the rate shall be derived from CPWD Schedule - 2018.

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SCHEDULE - 2 : BREAK UP OF TOTAL PRICE

SL NO	DESCRIPTION	<u>PRICE SCHEDULE REF</u>	WEIGHTAGE
1.0	CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT,FGD PACKAGE.		
a	SERVICE	SCH 3	0.80552808
b	SUPPLY	SCH 4	0.19447192
2.0	TOTAL		1.00000000

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
	100 EARTH WORK			
	Earth work: Earth work In excavation, backfilling and disposal including necessary men/women, materials, equipment, loading, transportation, unloading, dewatering etc as per specification, drawing and as directed by engineer- in-charge for the following:			
101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, dewatering (but excluding special type of dewatering viz. well point method), shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 500m, spreading/levelling of disposed materials etc all complete for following depths below ground level. [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)			
a	Depth from ground level but not exceeding 2 m	CUM	62621	0.01669848
b	Depth exceeding 2 m but not exceeding 4 m	CUM	30567	0.01020708
c	Depth exceeding 4 m but not exceeding 6 m	CUM	4270	0.00178489
A101	Extra over item no 101 for providing and installing special kind of shoring and strutting with temporary removable earth retaining structure using steel I/H sections with waler beam arrangement, including, design, necessary MS clamp, anchors (if required) etc for earth protection during excavation/concreting around foundation and demobilizing the same after completion of work for excavation up to following depth below ground level at specified locations and side as per drawing. (The design and scheme of earth retaining structure shall be submitted to BHEL for approval prior to construction. The design should take care of earth pressure due to overburden, surcharge due to adjacent structure/ facilities, earth moving machinery etc.). Mode of measurement: Area shall be the exposed structural shoring arrangement between ground level and bottom of excavation.			
a	Depth from ground level but not exceeding 4 m	SQM	550	0.00708011
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 300 mm compacted thickness using/with selected materials from compulsorily excavated earth available within a lead upto 500 m and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete,for the following. [Measurement of Backfilling shall be paid as per excavation quantity after deduction for concrete etc.)			
a	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	31835	0.00642419
A108	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected materials directly from excavation within a lead upto 1Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following. [Measurement of Backfilling shall be paid as per excavation quantity after deduction for concrete etc.)			
a	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	850	0.00005105
A109	Extra over ST No. 101 and A107 for carriage of material/earth for every 500m or part thereof beyond an initial lead of 500 m.	CUM	72997	0.00122754
A110	Earth work in backfilling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 300 mm compacted thickness so as to achieve required compaction with approved borrowed soil (borrowed soil to be arranged by the bidder) and compacted as specified including supplying borrowed soil, royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing, all lead and lifts etc all complete as per specification, drawing and as directed by the engineer for the following: [Measurement of Backfilling shall be paid as per excavation quantity after deduction for concrete etc.)			
a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	5050	0.00295531
b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	31355	0.01747547
A111	Supplying and filling sand upto any depth under floors, around foundations, plinths, paving, passages, etc. in layers not exceeding 300 mm compacted thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	267	0.00163884
A112	Supplying and filling clean and well graded sand (conforming to IS 383 with grading zone I to III) upto any depth under floors, around foundations, plinths, paving, tank foundations, etc. in layers not exceeding 300 mm compacted thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	2145	0.01316595

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
A113	Earth work in stripping of top soil upto a minimum depth of 0.30 m below ground level so as to exclude all debris, grass, vegetation, bushes, trees having girth upto 300mm including roots and organic materials etc for leveling and grading including dressing to specified levels & grades and compacting the graded/stripped surface by manual/mechanical means, disposal of stripped materials within a lead upto 500 m etc all complete as per specification, drawing and as directed by the engineer-in-charge.	SQM	24500	0.00111829
A114	Supplying and filling moorum upto any depth under floors, around foundations, plinths, paving, passages, shoulder of road etc. in layers not exceeding 300 mm compacted thickness and compacted so as to achieve 95% maximum dry density as per IS-2720 (Part-VII) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	3050	0.01645673
	200 CONCRETE WORKS			
	200A: CONCRETE WORK: Providing 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: (RMC WITH REQUIRED ADDITIVES/PLASTICIZER/SUPERPLASTICIZER 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)			
201A	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	3516	0.00690089
202A	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	144	0.00028263
203A	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	25	0.00004907
A204A	Concrete of grade M20 (1 part cement, 1.5 part sand, 3 parts of 12 mm graded aggregate by volume) under floors, paving, plinth protection, pipe encasing etc complete.	CUM	155	0.00030422
205A	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	19869	0.03899709
b	M 30 Grade	CUM	149	0.00029244
206A	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	3644	0.00857904
b	M30 Grade	CUM	25	0.00005886
c	M35 Grade	CUM	11	0.0000259
A207A	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, Booster fans, Ball mills, etc. at all elevations below/above finished floor level except TG deck and top decks supported over vibration isolation system but including TG foundation columns with addition of suitable plasticizer conforming to IS 9103(latest) to achieve a slump more than 125mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate in concrete all complete as per specification & drawing			
a	M 30 Grade	CUM	8039	0.01892615
A210A	Extra over ST Nos. 205 to A207 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	8039	0.01892615
211A	Encasing of structural steel member with concrete using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades. (Payment of welded wire mesh, chicken wire mesh shall be made separately)			
a	M20 grade	CUM	25	0.00004907
b	M25 grade	CUM	226	0.00044357

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
212A	Screed concrete conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness, drains etc complete as per following.			
a	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	172	0.00046568
b	1:1:2 (1 part cement, 1 part sand, 2 parts of aggregate by volume)	CUM	3	0.00000812
213A	Laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like roof slabs/trench covers, fins, lintels, 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. (Supply of cement for cement mortar in contractor's scope)			
a	M 25 grade	CUM	69	0.00049347
b	M 30 grade	CUM	25	0.00017879
214A	Laying Design Mix cement concrete as per IS:456, IS 3370 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in water retaining/conveying structures including addition of suitable plastisizer cum waterproofing cement additives conforming to IS 9103 latest to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per IS 2545 and specification with 20 mm nominal size graded aggregate for following grades. Watertightness is to be ensured including structural grouting if required.			
b	M 30 grade	CUM	613	0.00144318
215A	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	80	0.00014645
b	Reinforced cement concrete of all grades	CUM	85	0.00023544
216A	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	110	0.00001797
217A	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	35	0.00000042
218A	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	30	0.00001831
219A	Providing and applying curing compound (water based) of approved make where ever required as per manufacturer's specification.	SQM	60	0.00001557
	200B: CONCRETE WORK: Providing and placing concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, batching, mixing, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following: (CONCRETE WITH CEMENT, AGGREGATES, REQUIRED ADDITIVES/PLASTICIZER/SUPERPLASTICIZER ETC. INCLUDING TRANSPORTATION, POURING/LAYING, COMPACTION AND CURING ETC. ALL COMPLETE IS IN THE SCOPE OF CONTRACTOR)			
201B	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	391	0.00556825
202B	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	16	0.00023766
205B	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	1046	0.01755298
b	M 30 Grade	CUM	26	0.00044463

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
206B	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	405	0.00678854
b	M30 Grade	CUM	11	0.0001879
c	M35 Grade	CUM	5	0.00008718
211B	Encasing of structural steel member with concrete using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades. (Payment of welded wire mesh, chicken wire mesh shall be made separately)			
a	M20 grade	CUM	5	0.00008303
b	M25 grade	CUM	25	0.00042188
212B	Screed concrete conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness, drains etc complete as per following.			
a	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	19	0.0003055
b	1:1:2 (1 part cement, 1 part sand, 2 parts of aggregate by volume)	CUM	2	0.00003321
	300 FORM WORKS			
	FORMWORK: Providing, fixing and removing formwork at all elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering etc. complete as per drawing, specifications and as per direction of engineer in charge for the following:			
301	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.including chamfering of edges as per drawing, specification and instruction of engineer in charge..	SQM	35998	0.04669885
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	9462	0.01479783
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	20	0.00001283
b	Pockets of depths more than 150mm and upto 300 mm depth	EACH	20	0.00002268
c	Pockets of depths more than 300mm and upto 600 mm depth	EACH	20	0.00004199
d	Pockets of depths more than 600mm and upto 1000 mm depth	EACH	20	0.00006717
e	Pockets of depths more than 1000mm and upto 1500 mm depth	EACH	20	0.00009821
f	Pockets of depths more than 1500mm and upto 2000 mm depth	EACH	20	0.00013011
	400 REINFORCEMENT			
	REINFORCEMENT WORK: Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge for the following:.			
401	Transportation from store, straightening, cutting, bending, placing in position at all level, binding of mild steel reinforcements (material as per ST 401 S of SCH-4 of Vol-III) conforming to grade 1 of IS:432 part 1 in concrete including binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings. (Cost on account of supply of reinforcement steel is payable seperately under ST 401S of SCH-4 of Vol-III).	MT	7	0.0002079

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ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
A402	Providing, straightening, cutting, bending, placing in position at all level, binding in position of steel reinforcements of high yield strength deformed TMT steel bars of grade Fe-500 having minimum elongation of 14.5 % or Fe-500D conforming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (Reinforcement steel will be supplied by BHEL free of cost).	MT	3033	0.07742424
	500 WATER PROOFING WORKS			
	Roof Treatment works: Roof treatment works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, curing, sampling, testing etc at all level as per specification, drawings and as directed by engineer - in - charge for the following: (Supply of cement is in scope of contractor)			
A502	Providing and laying topping plaster with cement mortar 1:4 (1 cement : 4 sand) and thickness of 25 mm including preparation of surface, batching, mixing, leveling etc. all complete.	SQM	6056	0.00288061
A506	Providing and applying PU based water proofing treatment with one coat of polymerised mastic over the RCC roof to achieve smooth surface as 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(ASTM C 836 and ASTM C 898), to form an elastomeric membrane with overall dry film thickness minimum 1.5 mm subject to minimum 500 gm/sqm/coat application rate. Item includes surface preparation, polyscrim cloth /fabric, polymerised mortar base preparation, etc all complete as per specifications and directions of engineer in charge.	SQM	7596	0.01540528
507	Providing and laying wearing course consisting of 25mm thick plain cement concrete of grade M15 (1:2:4) with graded aggregate of 12.5mm size cast in panels of maximum size 1.2mx1.2m and reinforced with 0.56 mm dia. galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	6385	0.01494011
510	Providing and laying cement concrete chequered flooring tiles of 22 mm thickness and size 300x300 mm conforming to IS 13801 with 8 mm thick 1:4 cement mortar over the top most layer of roofing treatment in pathway or entire area with fine joints including sealing of joints (silicon/elastomeric sealant) and providing expansion gap in both directions filled up with (silicon/elastomeric) joint sealant, underbed(as per drawings) etc all complete. (Water proofing paid elsewhere)	SQM	1401	0.00244415
A511	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 (material as per ST A511 S of SCH-4 of Vol-III) in foundation, wall, column etc on concrete surfaces including transportation from store, surface preparation etc. all complete. (Cost on account of supply of bitumen grade 85/25 and antistripping compound is payable seperately under ST A 511S of SCH-4 of Vol-III).	SQM	31400	0.00735476
513	Providing and mixing water proofing compound conforming to IS:2645 in concrete or cement mortar all complete.	KG	530	0.00012732
A518	Providing and applying waterproofing treatment(two component transparent polyamide cured epoxy sealer coating, having solid by volume minimum 40%+ 2%, of minimum 50 micron DFT & sealer coat shall be followed with the application of epoxy phenolic coating, solid by volume minimum 63%, of minimum 400 micron DFT) for the concrete surfaces of underground water retaining structure including surface preparation etc. all complete as per specification.	SQM	405	0.00016816
A519	Providing and applying waterproofing treatment with minimum 400 micron food grade epoxy coating complying to FDA title 21, Part 175.300 for the internal concrete surfaces of water retaining structure including surface preparation etc. all complete as per specification.	SQM	55	0.00005811
A520	Providing and fixing two coats of acrylic based polymer modified cementitious composite coating system etc. all complete as per specification.	SQM	55	0.00003101
A521	Providing and fixing two coats of acrylic based polymer modified cementitious composite coating system including fine silica/quartz sand of 0.6mm nominal size etc. all complete with total nominal thickness of coating minimum 1.5mm as per specification.	SQM	330	0.00021395
A522	Providing and fixing waterproofing treatment to be provided on sunken portion of all vertical and horizontal surfaces of depressed portions of false floor, toilets, W.C., kitchen, Pantry and the like consisting of : (i) 1st course of applying cement slurry @ 4.4 kg/sq.m mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface. (ii) 11nd course of 20 mm cement plaster 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface. (iii) 111rd course of applying blown or residual bitumen applied hot at 1.7 kg. per sq.m of area. (iv) 1Vth course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sq.m) etc. all complete.	SQM	75	0.00008976
	600 JOINTS AND FILLERS			

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
	JOINTS AND FILLERS: Joints & fillers including all labour, material, equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge for the following:			
601	Supplying & installation of bitumen impregnated fibre board conforming 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	55	0.00007399
b	20 mm wide joints.	SQM	40	0.00006736
c	25 mm wide joints	SQM	297	0.00075416
d	50 mm wide joints	SQM	272	0.00138136
A603	Providing and applying two-part polysulphide based sealant conforming to IS:12118 in joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for following size grooves:			
a	25mmX25mm	RM	225	0.00032215
b	50mmX25mm	RM	1031	0.00283842
604	Supplying and filling in position hot applied bitumin sealing compound (Grade A) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.			
a	10mm X 40mm	RM	722	0.00010407
b	12mm X 25mm	RM	55	0.00000687
c	20mmX25mm	RM	794	0.00013161
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.			
Ae	100 mm wide joints with polystyrene board of type-1 conforming to IS: 4671 with density 20 Kg/cum	SQM	1852	0.00167287
606	Providing and installing PVC joint sealing strips of minimum 3mm thickness and minimum width 100 mm at the construction, expansion and isolation joints from reputed manufacturers as a continuous diaphragm to contain the filler material and/ or to exclude passage of water or any other material into or out of the structure, without any longitudinal joint; and shall be procured and installed in largest practicable lengths having a minimum number of transverse joints with jointing procedure as per the manufacturer's recommendations including the material and tools required for jointing, testing, protection, etc all complete. The joints in rubber seals shall be vulcanised as needed.	RM	17	0.00000947
ISG 607	Providing and installing strong and tough alkathene sheet or equivalent of about 1 mm in thickness in isolation joints and shall be fixed by an approved adhesive compound on the cleaned surface of the already set concrete as per the manufacturer's recommendations, to cover it fully including the material and tools required for jointing, testing, protection, etc all complete.	SQM	2	0.00000125
608	Supplying and filling in position hot applied bitumin sealing compound (Grade B) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.			
a	10mm X 40mm	RM	15	0.00000216
b	12mm X 25mm	RM	15	0.00000187
c	20mmX25mm	RM	15	0.00000249
609	Providing and sealing of joints with premium grade silicon sealant (Silpruf of GE silicon or approved equivalent) including cleaning of joints, raking out groove, joint filler tapes, application of primer, curing, scaffolding etc. all complete as per manufacturer's recommendation for following size groove:			
a	25mmX25mm	RM	5	0.00000411
b	50mmX25mm	RM	5	0.00000766
610	Providing and fixing PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following: (Bulb or Kicker type)			
d	230 mm wide and 6 mm thick	RM	325	0.00019207
612	Providing and applying approved fire retardant sealant in joints/openings including cleaning of joints/openings, raking out groove, application of primer, scaffolding etc. all complete.			
a	25mmX25mm	RM	20	0.00007918
b	50mmX25mm	RM	20	0.0001561

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
613	Providing and fixing G.I strips minimum 1.5mm thk and 150mm wide including fixing accessories etc. all complete.	Kg	30	0.00002782
614	Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including brass / aluminium screws, rawl plugs etc. all complete.	Kg	10	0.00001852
615	Providing and fixing 300 mm wide Stainless steel strips over expansion joints with minimum lap of 50mm length including stainless steel screws, rawl plugs etc. all complete.	Kg	20	0.00004646
	700 MS EMBEDMENTS			
	MS EMBEDMENTS: Embedments including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following:			
701	Transportation of material of ST 701 S of SCH-4 of Vol-III from store, fabricating and 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, touch-up painting etc. all complete. (Cost on account of supply of embedments, inserts, pipe sleeves, angle pieces, rungs etc. is payable separately under ST 701S of SCH-4 of Vol-III)..	MT	16	0.00104447
A701	Transportation of material of ST A701S of SCH-4 of Vol-III from store, fabricating & 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, manual cleaning, touch-up primer Coat of Chlorinated Rubber based Zinc Phosphate Primer of Minimum 50 Micron Dry Film Thickness (DFT) etc. all complete. (Cost on account of supply of embedments, inserts, pipe sleeves, angle pieces, rungs etc. is payable separately under ST A701S of SCH-4 of Vol-III)	MT	24	0.00164505
702	Transportation from store, erection, installation and alignment of mild steel foundation bolt assembly (material as per ST 702 S of SCH-4 of Vol-III) 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. (Cost on account of mild steel foundation bolt assembly with nuts, lock nuts, washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. is payable separately under ST 702S of SCH-4 of Vol-III).	MT	29	0.00186501
A703	Same as above items 701, A701 & 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	6	0.00027838
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	6	0.00028273
704	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.			
a	MS pipes of all diameters	Kg	20	0.00000461
b	PVC pipes / conduits of all diameters	Kg	110	0.00007214
c	UPVC pipes / conduits of all diameters	Kg	110	0.00011918
d	Expansion anchor fasteners (galvanised) of HILTI make(HUD-1 Universal Fastners) or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide:			
i	8mm Dia	EACH	4	0.00000033
ii	10mm Dia	EACH	4	0.00000039
iii	12mm Dia	EACH	4	0.00000047
iv	14mm Dia	EACH	4	0.00000069
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	4	0.00000014
ii	HST M10	EACH	4	0.00000206
iii	HST M12	EACH	4	0.00000312
iv	HST M16	EACH	4	0.00000577
v	HST M20	EACH	4	0.00001161
vi	HST M24	EACH	4	0.00002142

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ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
f	Chemical Expansion fasteners (galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with anchoring rod, nuts, washers, chemicals all complete, etc:			
i	HAS-E5.8 M8	EACH	4	0.00000237
ii	HAS-E5.8 M10	EACH	4	0.00000279
iii	HAS-E5.8 M12	EACH	4	0.00000332
iv	HAS-E5.8 M16	EACH	4	0.00000554
v	HAS-E5.8 M20	EACH	4	0.00000993
vi	HAS-E5.8 M24	EACH	4	0.00001384
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	30	0.00014991
707	Providing, laying and fixing rails (52kg/m) and guide rails in concrete for transformer, rail track including cutting of rails, joining of rails, anchoring lugs etc all complete.	MT	10	0.00287875
	800 GROUTING			
	GROUTING: Grouting including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, roughening surface, cleaning, ramming, curing etc. at all level, drawings and as directed by engineer - in - charge for the following: (Supply of cement is in scope of contractor)			
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	10	0.00001482
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	2	0.00010631
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	22	0.00114059
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 Conbextra GP-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	17	0.00171547
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	25	0.00284287
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	10	0.00002695
807	Providing on the outer surface of walls, frames, rafts and roof slabs coming in contact with earth, Polymer modified cementitious coating in two layers as specified and as per manufacturer's specifications shall be provided directly on the concrete surface : 50 mm thick P. C. C. (1 : 2 : 4 with 10 mm nominal size stone aggregates) shall be provided under the raft i.e. over the lean concrete, followed by polymer modified cementitious coating in two layers (slurry mix application) as per manufacturer's specification. 50 mm thick P. C. C. (1 : 2 : 4) with 10 mm nominal size stone aggregates shall then be laid over the polymer modified cementitious coating before laying the raft.	SQM	320	0.00059782

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ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
808	Providing Chemical Injection Grouting with Minimum, 12 mm dia (NB) threaded nozzle of suitable length over the surface and along the construction joint line in a grid pattern at a spacing not exceeding 1.5m c/c before concreting operation After the nozzles are fully set, neat cement slurry admixed with water soluble non-shrink polymer / monomer based chemical shall be injected through the net - work of nozzles with low pressure grout pumps at a pressure of about 2.0 Kg/Sqcm. Cement slurry shall be prepared by mixing cement with non-shrink polymer/monomer @ 500 gm/50 kg bag of cement and water, ensuring that Water: Cement ratio does not exceed 2 (by weight). Wetter the structure, lesser should be the water cement ratio. The property of the polymer/monomer should be such that when it is mixed with water @ 0.5% by weight of water, the viscosity of the resultant solution (water and polymer/monomer) should not be more than 1.2 centipoises. Plasticizing agent shall be added wherever required. The grouting shall be started at very low pressure and increased gradually to a required pressure. The grouting shall continue, till the hole refuses to take any further grout, even at an increased pressure. Applied pressure shall not be more than the designed strength of the concrete. After completion of grouting operation, the nozzles shall be sealed properly to the satisfaction of the Engineer	SQM	285	0.00053746
	900 DOORS, WINDOWS, VENTILATORS, LOUVERS			
	DOORS & WINDOWS: Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, preparation of working drawings etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following:			
A903	Providing, fitting and fixing factory made pre-laminated solid core flush door shutter as per IS 2202 part II, 35mm thick homogenous particle board bonded with BWP type phenolformaldehyde synthetic resin, partial board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including preparation of working drawings. godrej or equivalent make mortice lock with 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. (Finish painting paid separately)	SQM	15	0.0002712
A904	Providing and fixing single or double steel door shutters with 45mm thk flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete. Side , top and bottom edges of shutters shall be reinforced by continuous pressed steel channel with minimum 18G.	SQM	114	0.00312536
906	Transportation from store, assembling and fixing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 (material as per ST 906 S of SCH-4 of Vol-III) fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 (minimum anodized coating of grade AC15). fixed with rawl plugs, expansion fasteners, SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately). (Cost on account of supply of aluminium extruded sections etc is payable seperately under ST 906S of SCH-4 of Vol-III)	KG	50	0.00002195
907	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.	SQM	49	0.00117173
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	395	0.00289706
b	fixed type	SQM	240	0.00117849

**VOLUME-III
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JOB: CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT,FGD PACKAGE.

TENDER NO. PSER:SCT:NBNC-2059:20

SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
A909	Transportation from store, assembling and fixing anodised aluminium work of INDAL, Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections(of minimum 2mm wall thickness) 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-metalic 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 seperately).Weight of aluminium section only shall be measured.(Cost on account of supply of aluminium extruded sections is payable seperately under ST A909 S of SCH-4 of Vol-III)	Kg	9240	0.00506105
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	25	0.0001024
b	Floor mounted Hydraulic door closers as per IS 6315	EACH	10	0.00010145
912	Providing and fixing pressed steel frames fabricated from 16 gauge M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications.	Kg	655	0.00026435
913	Providing and fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75mm rolling centres interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs, top cover, primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and specification of approved make of following types: The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.(partly coiled and lath/full lath).			
b	Mechanically Operated	SQM	55	0.00135537
c	Electrically operated	SQM	150	0.00409503
914	Providing and fixing PVC doors (25 thk double skin) of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	5	0.00003064
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.			
Aa	6 mm thick ground glass	SQM	13	0.00007336
Ad	6 mm thick laminated glass	SQM	15	0.00020154
Ae	3mm thick Polycarbonate sheet fire retardant and ultra violet resistant	SQM	15	0.00004793
Ah	6 mm thick clear toughened glass	SQM	1153	0.00770031
i	Two nos. 6 mm thick clear toughened float glass hermetically sealed and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured)	SQM	31	0.00030184
916	Supplying and fixing weather stripping of approved make and quality to doors as per instructions of engineer in charge and specification complete.	RM	25	0.00001417
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	10	0.00008134
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	10	0.00011334
A923	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200 mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).	KG	665	0.00109273
	1000 BRICKWORK			
	BRICKWORK: Brickwork masonry including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding etc. at all levels as per specification, drawings and as directed by engineer - in - charge for the following: (Supply of cement is in scope of contractor)			

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

JOB: CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT,FGD PACKAGE.

TENDER NO. PSER:SCT:NBN-C2059:20

SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
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.			
Aa	Using table moulded/machine made fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ² and minimum percentage of fly ash 25% (including cost of cement for brick making)	CUM	586	0.01049352
c	Using burnt clay bricks of class designation 7.5 of nominal dimension	CUM	50	0.00107324
1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.			
Aa	Using table moulded/machine made burnt clay fly ash bricks confirming to IS 13757 with crushing strength of 75 kg/cm ² and minimum percentage of fly ash 25% (including cost of cement for brick making)	CUM	1335	0.02736957
c	Using burnt clay bricks of class designation 7.5 of nominal dimension	CUM	100	0.00239513
A1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 345mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.			
Aa	Using table moulded/machine made fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ² and minimum percentage of fly ash 25% (including cost of cement for brick making)	CUM	463	0.00964516
1003	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls, chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every third layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification.			
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ² (including cost of cement for brick making)	SQM	85	0.00021567
c	Using burnt clay bricks of class designation 7.5 of nominal dimension	SQM	60	0.00017631
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	10	0.00003373
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	10	0.00022674
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	10	0.00000637
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	0.00004055
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	10	0.0000048
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	0.00002939
1011	Providing and filling brick bats in soak pits all complete.	CUM	10	0.00003764
	1100 DAMP PROOF COURSE			
	DAMP PROOF COURSE: Damp proof course including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, shuttering, centering, curing etc at all level as per specification, drawings and as directed by engineer - in - charge for the following: (Supply of cement is in scope of contractor)			
A1101	Providing Damp Proof Course of following thickness with M20 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound followed by two layers of bitumen coating 85/ 25 grade as per IS: 702 @ 1.7 kg/ sq .m. etc. all complete.			
b	50mm thick	SQM	407	0.00051485
	1200 CEMENT MORTAR PLASTER			
	PLASTERING: Cement mortar plaster including making grooves wherever required including all labour, material (unless otherwise specified in BOQ/contract specification), scaffolding, curing etc at all level as per specification, drawings and as directed by engineer - in - charge for the following: (Supply of cement is in scope of contractor)			

**VOLUME-III
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JOB: CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT, FGD PACKAGE.

TENDER NO. PSER:SCT:NBNC-2059:20

SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
1201	Providing 18mm thick plaster in two layers outside the building/boundary wall in cement mortar 1:6 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete	SQM	1330	0.00160874
A1201	Providing 18mm thick plaster in two layers outside the building/boundary wall consisting first (base) layer of 12 mm thick plaster in cement sand mortar (1:6) and second (finishing) layer of 6 mm thick plaster in cement sand mortar (1:4) on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete	SQM	4456	0.00641968
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	6573	0.00661625
A1202	Providing 12mm thick plaster on exposed RCC walls of structures in cement mortar 1:4 on walls finished to a smooth finish as per specification all complete.	SQM	995	0.00102019
1203	Providing 12mm thick plaster in cement mortar 1:6 on walls with rough finish all complete.	SQM	1645	0.00162026
1204	Providing 6mm thick plaster on ceiling in cement mortar 1:4 finished to a smooth all complete.	SQM	890	0.00086036
1205	Providing 12mm thick plaster in walls, drains/culverts with a paste of neat cement @ 1kg/sqm and rubbed smooth with trowel etc. all complete.	SQM	120	0.00005154
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	20	0.00000149
1208	Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over chicken wire mesh including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of engineer in charge (chicken wire mesh to be paid separately)	SQM	20	0.00003677
A1210	Providing drip course in cement mortar (1:3) in parapet, chajjas, window/door heads, architectural facias, fins etc. all complete.	SQM	20	0.00000755
	1300 FINISHES TO CONCRETE / PLASTERED SURFACES			
	FINISHES TO CONCRETE / PLASTERED SURFACES: Finishes, painting to concrete, plastered surfaces including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, surface preparation, scaffolding etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following:			
1301	Two or more coats of white wash/ colour wash as per IS 627 of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	1330	0.00010065
1304	Two or more coats of acrylic distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete.	SQM	6918	0.00151402
1305	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	455	0.00014396
1306	Providing and applying 2 or more coats of acid/alkali resistant paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer conforming 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	45	0.00003767
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	30	0.00002255
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 conforming 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	55	0.00002776
1309	Two or more coats of fire resistant transparent paint (@3.5 litre per sqm per coat) as per IS 162 on all woodwork over french polish as per IS 348 or flat oil paint as per IS 137 of approved grade and manufacture to give an even shade as per specifications. French polish payment will be made separately.	SQM	10	0.000011
A1312	Providing and applying 2 or more coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc including primer coat complete as per specification.	SQM	95	0.00001443

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TENDER NO. PSER:SCT:NBNC-2059:20

SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
1314	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 nominal thickness of 2.5 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	5451	0.01839344
1316	Providing and applying 2 mm thick plaster of paris punning on walls including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	575	0.00015388
A1317	Providing and applying 2 mm thick polymer based water resistant putty 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	1150	0.00038609
A1319	Providing and applying two or more coats of Premium Acrylic Smooth Exterior paint with silicone additives of approved brand and manufacture and required shade over one coat of primer of waterproof cement paint 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	1330	0.00041613
1320	Providing and applying acid alkali and oil resistant high build, solvent free, self smoothing, seamless epoxy based amine cured floor finish 150 microns over primer on C.C. flooring.	SQM	30	0.0000227
	1400 FLOORING AND SKIRTING			
	FLOORING AND SKIRTING: Flooring and skirting at all level including base layer, labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, curing, polishing etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following: (Supply of cement is in scope of contractor)			
A1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick M20 grade cement concrete mix (with stone chips of size 12.5mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	19007	0.03271628
1402	Providing and laying 25 mm thick heavy duty cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates) flooring with metallic hardener pigmented topping of 10 mm thick uniform graded treated iron particles in skirting and dado. Under layer of 15mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5 mm well graded) and top layer of 10mm 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	340	0.0004133
A1404	Providing and laying interlocking M35 Grade concrete blocks in paving with approved colour and pattern including bedding of sand minimum 50mm thick laid on the subbase as per specifications and recommendations of manufacturer.(inclusive of cost of cement for paver manufacturing).			
b	75mm	SQM	390	0.00095378
A1406	Providing and laying polished Kota stone 18mm to 20mm thk in flooring. Under bed shall average 30mm thk of M20 concrete 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	622	0.00255734
1408	Providing polished Kota stone 18mm to 20mm thk in skirting projecting 6mm from adjacent plaster minimum 12 mm thick cement mortar bedding of 1:3 (1 cement : 3 sand) with thick cement slurry @4.4kg/sqm spread over the surface with fine joint finished including cutting brickwall upto the required depth, edging, finishing etc. all complete.	SQM	502	0.00203354
A1416	Providing and laying vitrified ceramic tiles of mirror polished variety of size 600x600 from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 minimum 18mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm , 3 mm groove joint pointed neatly with 3x4mm stainless epoxy grout SP-100 of laticecrete or approved equivalent etc. all complete for following			
Aa	10mm thick tiles In flooring, skirting and dado	SQM	312	0.00118713
d	minimum 9.5mm thick tiles In skirting and dado upto specific height	SQM	45	0.00017433
1417	Providing and laying vitrified ceramic tiles of matt finish of size 600x600mm from reputed / approved manufacturer complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following			
b	10mm thick tiles In flooring	SQM	90	0.00031452

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JOB: CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT,FGD PACKAGE.

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
d	10mm thick tiles in skirting and dado upto specific height	SQM	45	0.00015905
A1419	Providing and laying granite stone slab of 18mm thickness single piece for wash basin / sink slab /facia of black or approved colour with cutting,making corners,moulding and opening etc. all complete.	SQM	22	0.00021398
A1421	Providing and laying Heavy Duty dust pressed (grade-5) Ceramic Tiles (Matt Finish) of size 300x300mm(approved size) and 7mm thick of reputed / approved manufacturer (Kajaria,jhonson,Spartek or equivalent) of approved finish, shade and colour. The tiles shall be scratch resistance of minimum 5 on Mohr's scale and shall have a bending strength of 350 Kg./sqm,with Under bed shall average 43mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level including cement mortar with neat cement slurry @3.3kg/sqm all complete.	SQM	125	0.00047875
A1422	Providing & fixing Acid / Alkali resistant (Chemical resistant) tiles conforming to IS:4457 in flooring/Dado with one coat of bitumen primer followed by bitumastic lining of min 12mm thick (to be laid in layers of 6mm each). The tiles shall be applied with 6mm thick Potassium Silicate bedding mortar as per IS:4441, 4443 & 4832 and including preparation of surface, application of bitumen primer, curing etc. all complete for following thicknesses. The tiles should be abrasion resistant & durable.			
a	20mm thick	SQM	89	0.00049775
b	38mm thick	SQM	5	0.00003185
A1424	Providing & fixing chemical resistant (AR)(Acid / Alkali) bricks (75mm/115mm thick) conforming to IS:4860 in the floor/wall 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	35	0.00034389
1427	Providing and fixing glazed ceramic tiles of approved color and design of size 200x300mm / 300x300mm in dado of approved size, projecting 6mm uniformly from adjacent plaster or wall finish. The mix for 20mm thick underbed plaster shall consist of 1part cement and 3 parts sand by weight. fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry @ 3.3kg/sqm including pigments, curing etc all complete for following thicknesses:			
b	7mm thick	SQM	105	0.00028219
1428	Providing and laying 3mm thick antistatic PVC flooring / skirting of approved shade,as per IS:3462 and laying as per IS:5318 all complete.	SQM	60	0.0001427
1429	Providing and fixing removable type flooring system consisting of fire resistant particle board of size 600X600X35 mm with 0.05 mm thick aluminium foil lining at bottom and with 2 mm thick anti static PVC topping including proprietary floor supporting system complete as per specification.	SQM	65	0.00096549
	1500 ROOFING / SIDE CLADDING			
	ROOFING / SIDE CLADDING: Roofing / side cladding work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following:			
A1501	Transportation from store & fixing permanently color coated galvanised MS troughed metal sheet decking plate (material as per ST No. A 1501 S of SCH-4 of Vol-III) over floor beams for cast-in-situ roof slab as per relevant IS code including fixing of plates to beams, side lapping, end lapping etc. all complete for below mentioned spans including fixing of sheet (face of sheet exposed to operating floor shall be as per ST A 1501 S of SCH-4) to top flange of beam with drawn arc welding of headed shear anchor studs @ 260mm c/c in the trough and stich screws between two adjacent sheets and sealing with epoxy sealant.The shear anchor studs shall confirm to type B studs specified in AWS D1.1/D1.1M or equivalent as shear connector of 19 mm dia & 100 mm length manufactured from cold drawn round steel bars conforming to ASTM A 29 of grade designation 1010 through 1020 of standard quality with either semi killed or killed welded by drawn arc stud welding through metal deck sheet. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking. (Cost on account of supply of permanently color coated galvanised MS troughed metal sheet decking plate is payable seperately under A1501S of SCH 4 of Vol-III).			
a	Span Upto 1800mm	SQM	10692	0.01240982
b	Span Exceeding 1800mm and upto 2500 mm	SQM	100	0.00012131

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
ISG 1502	Transportation from store and fixing permanently color coated galvanised MS troughed metal sheet decking plate (material as per ST ISG 1502 S of SCH-4 of Vol-III) over roof purlins for cast-in-situ roof slab as per relevant IS code and specification including fixing of plates (face of sheet exposed to operating floor and the other face of sheet shall be as per ST A 1502 S of SCH-4) to purlins, side lapping, end lapping etc. all complete for below mentioned spans 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 etc. all complete. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking.. (Cost on account of supply of permanently color coated galvanised MS troughed metal sheet decking plate is payable seperately under ST ISG 1502 S of SCH 4 of Vol-III)			
a	Span Upto 1800mm	SQM	1545	0.00195639
b	Span Exceeding 1800mm and upto 2500 mm	SQM	2715	0.00343793
A1503	Providing and fixing shear connectors of mild steel studs having 16mm/19mm dia and minimum 65mm/100mm projected length above purlin passing through metal decking as per relevant IS \ AWS D1.1 \ D1.1M \ ASTM A29 codes and specification.	QUINTAL	63	0.00429675
A1504	Transportation from store and fixing of External sheet of Permanent colour coated metal cladding with troughed M.S. sheets (material as per ST A 1504 S of SCH-4 of Vol-III) including fixing (exposed face & inner face of sheet shall be as per ST A 1504 S of SCH-4 of Vol-III) to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. (Cost on account of supply of external sheet of permanent color coated metal cladding troughed sheet is payable seperately under A1504S of SCH 4 of Vol-III)	SQM	5506	0.00469039
1508	Transportation to site and fixing Inner sheet of Permanent colour coated metal cladding with troughed ms sheet (material as per ST 1508 S of SCH-4 of Vol-III) including fixing (exposed face & other face of sheet shall be as per ST 1508 S of SCH-4 of Vol-III) to supports / rails by concealed fixing system (Z Purlin) , corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The sheet shall be fixed directly to side runners and Z spacers as per IS : 277. The sheet shall be fixed at the rate not more than 1500mm center to center to hold the insulation and external sheeting. (Cost on account of supply of inner sheet of permanent color coated metal cladding troughed sheet is payable seperately under ST 1508 S of SCH 4 of Vol-III)	SQM	17810	0.0248884
1511	Providing and fixing insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including application of glue and tying with lacing wire, for glass/rock wool as per manufacturer's recommendations.			
a)	For insulation in Sandwich Cladding	SQM	125	0.00016456
1514	Providing and installing under deck insulation 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	120	0.00029578
1519	Transportation from store and fixing of permanent colour coated Pre-Fabricated sandwiched insulated metal cladding of approved shade and color comprising of top sheet as troughed permanently colour coated sheet & bottom sheet as plain permanently colour coated with 50mm thick insulation sandwiched between the two sheets (material as per ST 1519 S of SCH-4 of Vol-III) including fixing of Pre-fabricated Insulated Metal Sandwich panes with the structural members below with special coated fastener conforming to corrosion resistant Class 3 of AS3566 and tested for 1000 hours salt spray test etc all complete as per specification. (Cost on account of supply of Pre-Fabricated sandwiched insulated metal cladding sheet is payable seperately under ST1519S of SCH 4 of Vol-III).	SQM	1710	0.00410101
1520	Transportation from store & fixing permanently at all heights and elevations, fire resistant and UV resistant polycarbonate translucent troughed sheets(material as per ST 1520 S of SCH-4 of Vol-III) of minimum 3MM thickness over roof purlins/beams/side runners etc for roofing and side cladding (internal & external) including all labour, material, equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at any level as per specification, drawings and as directed by engineer - in - charge. Item rate is inclusive of cost of all labour, material, tools and plants, consumables, lead, lift etc complete. (Cost on account of supply of UV resistant polycarbonate translucent troughed sheet is payable seperately under ST 1520 S of SCH 4 of Vol-III).	SQM	620	0.00071437
	1600 FALSE CEILING			
	FALSE CEILING: False ceiling including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, suspension system etc at all level as per specification, drawings and as directed by engineer - in - charge for the following:			

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
A1602	Providing, 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 50mm thick mineral wool insulation (density 48kg/cum) as per IS:8183 backed with 0.05 mm thick aluminium foil & 24 G x 25 mm mesh wire netting and shall be fixed to ceiling with 24 G wire ties and suitable fixing arrangements. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. complete with cut-outs etc. The size of tiles shall be 600 X 600 mm or 600 X 1200 mm.	SQM	145	0.00054306
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 50mm thick mineral wool insulation(density 48 kg/cum) conforming to IS:8183 backed with 0.05 mm thick aluminium foil & 24 G x 25 mm mesh wire netting and shall be fixed to ceiling with 24 G wire ties and suitable fixing arrangements. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, A.C. ducts etc all complete.	SQM	30	0.00026853
A1604	Providing, fixing and laying permanently colour coated aluminium false ceiling of approved colour with stove enamel finish of approved make in LINEAR and SQUARE type with corrosion resistance aluminium alloys panels of minimum thickness 0.5mm including 50mm thick mineral wool insulation (as per IS:8183)backed with 0.05 mm thick aluminium foil & 24 G x 25 mm mesh wire netting and shall be fixed to ceiling with 24 G wire ties and suitable fixing arrangements.. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures etc. The work to be complete as per specifications, drawings and direction of engineer.	SQM	233	0.00221211
	1700 RAIN WATER DOWN TAKE PIPES			
	RAIN WATER DOWN TAKE PIPES: Rain water down take pipes at all level including all labour, material (unless otherwise specified in BOQ/contract specification), transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc as per specification, drawings and as directed by engineer - in - charge for the following: (Supply of cement in Contractor's scope)			
A1704	Transportation from store and fixing galvanised MS down take pipes conforming to IS: 1239/IS: 3589 of 150 mm dia- Medium quality as per IS:1239(part-I) all complete as per specification. All rain water down comers shall be provided with roof drain heads and complete with shoes bends, junctions, sockets, adapters, brackets and finished with anticorrosive painting over a coat or primer. Downcomers shall be provided with 45 x 45 cm size Khurras having minimum thickness of 30 mm with M-15 concrete over PVC sheet of 1mmx400micron and finished with 12 mm thick cement sand plaster 1:3.The rainwater down comers shall be provided with suitable C.I. grating at inlet point. (Cost on account of supply of galvanised MS down take pipes is payable seperately under ST A 1704 S of SCH 4 of Vol-III)	RM	2249	0.00345437
A1711	Providing and fixing CI grills in catch pits including frame etc. all complete as per specification.+B296	Each	100	0.00001009
	1800 MISCELLANEOUS WORKS			
	MISCELLANEOUS: Miscellaneous works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge for the following: (Supply of cement in Contractor's scope)			
A1801	Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm (complying IRC specification) in layers not exceeding 200 mm compacted thickness including breaking of stone boulders to required sizes, filling the interstices with selected moorum/non-expansive soil 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	6565	0.05087837
B1801	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 200 mm compacted thickness including breaking of stone boulders to required sizes, filling the interstices with selected moorum and compacting to 90 % 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	320	0.00260398
1802	Supply and laying approved quality Stone aggregate 40mm size in transformer yards.	CUM	348	0.00360238
1804	Providing and fixing weep holes in Retaining wall, drains, etc consisting of 100 mm dia HDPE pipe sleeves with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening all complete.	EACH	100	0.00004084
1807	Anti termite chemical treatment of soil with Chlorpyrifos/Lindane E.C. 20% with 1% concentration conforming to IS:8944 and as per IS 6313 all complete. (Plinth area of building at ground floor only shall be measured for payment).	SQM	1590	0.00083652
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	10	0.00025561
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	5	0.00013286

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
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	5	0.00009615
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	5	0.00000703
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	5	0.00000483
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	5	0.00030844
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	5	0.00023244
1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	140	0.00003868
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, surface preparation, curing, staging, compatible paintings etc. all complete.	CUM	10	0.00229181
1819	Supply & fixing expanded metal steel sheet conforming to IS:412. Size of mesh shall be 10mmX40mm with strands of 2.5mm width and 1mm thickness to the structural steel for facilitating fireproofing works.	SQM	15	0.00001708
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	10	0.00001742
1822	Providing & filling Bentonite Powder (Sodium base) mixed with water in electronic earthing pit as per drawing & direction below ground level including all materials, transportation, labour, incidental etc all complete as per specification.	CUM	4	0.00015733
1823	Providing and laying cinder filling in the toilets, roads, etc complete as directed by engineer in charge.	CUM	4	0.00001699
1824	Disposal 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 5 KM range, with all manpower T & P etc. including loading and unloading as and when directed by BHEL.			
a	Steel scrap / metal scrap	MT	10	0.00001059
b	Debris & Other waste materials.	CUM	10	0.00000199
1832	Providing and fixing sliding layer of bitumen paper or craft paper over the screed layer for water retaining structures to destroy the bond between the screed and the base slab concrete of the water retaining structure etc all complete.	SQM	110	0.00000581
A1839	Providing bore wells in ground with perforated/non-perforated PVC pipe of standard approved make for rain water harvesting by means of mechanical equipment including pipe, drilling inside earth, weathered rock, sandstone, shale etc. upto required depth at locations shown in drawing etc all complete. Depth of borewell shall vary from 6m to 15m. Payment shall be made cumulative diameterwise as per actual length of bore well and diameter as mentioned below.			
(a)	200 mm diameter	RM	10	0.00003371
(b)	300 mm diameter	RM	10	0.00005031
A1840	Supply & packing uniformly 6mm to 3mm size gravel in the bore hole surrounding the perforated PVC pipe.	Cum	10	0.00002678
A1841	Supply & packing uniformly downgraded 40mm size gravel at all depth in the pit/well dug for rain water harvesting.	Cum	10	0.00009376
A1842	Supply & packing uniformly downgraded 40mm size pebbles at all depth in the pit/well dug for rain water harvesting.	Cum	10	0.00009376
A1843	Supply & laying coarse sand layer at all depth in the pit/well dug for rain water harvesting.	Cum	10	0.00005798
A1844	Supply and fixing of bar screen of 5 mm square M. S. bar at inlet point of Rain water collecting tanks with 50 mm X 50 mm opening etc all complete	SQM	6	0.00000134
A1845	Supply & fixing 150mm dia perforated PVC pipe ISI mark 6 Kg/ cm2 with air vent at top as per the drawing & specification complete.	RM	20	0.00005873
A1846	Providing & fixing 150 dia PVC pipe ISI mark 6 Kg/cm2 as per specification.	RM	20	0.00005048
A1847	Supply & fixing Netlon jali/ PVT net in the well dug for rain water	SQM	20	0.00001255
A1848	Providing 75mm thk. bitumen-aggregate mix laid to slope consisting of compact crushed stone (12mm downgraded stone chips), screenings, fine gravel, clean coarse sand mixed in 80/10 hot bitumen (8 to 10% by volume) and rolled or compacted all complete as per specification.	SQM	593	0.00086017

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
A1849	Providing 50mm thick premix carpet surfacing laid to slope in two layers 30mm and 20mm respectively with 12mm downgraded stone chips mixed with 80/100 grade bitumen @ 52 Kg/Cu.M including compaction etc. all complete as per specification.	SQM	20	0.00001541
A1850	Providing 50mm 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	20	0.00003378
A1851	Conducting underground survey by Ground Penetration Radar (GPR) to locate and map the underground utilities, metallic or non-metallic objects such as gas lines, communication lines, sewer lines, service lines, foundation, tunnels, storage tanks, pipes etc. in various soils/ash for depth up to 6m below ground level in a corridor of 5m width covering the whole surveyed area including locating the position and size/extent of existing underground structures/facilities, preparation and submission of report, drawings including mobilization and demobilization of necessary testing equipments to the project site etc. all complete as per specification, drawings and as per direction of engineer-in-charge.	SQM	3200	0.00117303
2000 FENCING AND GATES				
FENCING AND GATES: Fencing and gates including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc at all level as per specification, drawings and as directed by engineer - in - charge for the following: (Supply of cement is in Contractor's scope)				
2001	Supplying and erecting in position 2.4 m high PVC coated galvanised chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75mm x 75mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing of height of 600 mm conforming to IS 298 at top of chain link fencing shall be provided with 4 strands of barbed wire hot dip galvanised wire of 12G comprising of 2 ply of wires with barbs of 16G spaced at 100mm. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts, accessories etc. all complete. (Structural post shall be paid separately under item 2007)	RM	344	0.00224699
2007	Supply and fixing of hot dip galvanised mild steel posts for fencing. Rate of zinc coating shall not be less than 710 g/m ² on steel posts.	MT	10	0.00238449
2008	Supply, fabrication and fixing of mild steel posts for fencing including painting etc all complete.	MT	10	0.00225397
A2008	Supply, fabrication and fixing of pre-cast RCC posts for fencing including fixtures etc all complete.	CUM	5	0.00003933
2009	Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, paintings etc. all complete.	MT	11	0.00304284
2100 WATER SUPPLY				
WATER SUPPLY: Water supply work including men, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following:				
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	33	0.00009371
2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc all complete - 15mm nominal bore.	EACH	25	0.00005045
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	13	0.00004079
b	50mm nominal bore.	EACH	12	0.00009052
A2104	Providing and fixing Galvanized MS 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	130	0.00015553
b	20 mm nominal bore.	RM	80	0.00010513
c	25 mm nominal bore.	RM	75	0.00011333
d	50 mm nominal bore.	RM	20	0.000043
A2105	Providing and fixing Galvanized MS pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:			
a	15 mm nominal bore.	RM	40	0.00003997
b	20 mm nominal bore.	RM	60	0.00006703

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
c	25 mm nominal bore.	RM	80	0.00010493
d	50 mm nominal bore.	RM	60	0.00011719
A2106	Providing and fixing wall to wall mirror of height 450mm & 6 mm thk float glass from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete.	EACH	8	0.00002643
A2108	Providing and fixing 20 mm diameter stainless steel towel rails (600mm X 20mm) all complete.	EACH	8	0.00001406
2110	Providing and fixing C.P. Soap holder mounted with C.P. screws etc all complete.	EACH	8	0.00001391
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	2	0.00000315
A2111	Providing and fixing stainless steel liquid soap holder cum dispenser with requisite fittings. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	EACH	6	0.00001039
2112	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. sll complete.	EACH	8	0.00001365
2113	Providing and fixing chromium plated brass shower rose 100mm dia with 15 or 20 mm inlet dia all complete.	EACH	4	0.00001016
A2114	Providing & fixing in position High density polyethylene (cylindrical/vertical) molded seamless type 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. A 2105.			
a	500 litres capacity	EACH	15	0.00024331
b	1000 litres capacity	EACH	7	0.00022707
2115	Providing and fixing approved stainless steel sink with integrated drainboard as per IS:13983 of size 915x460x178mm with CI brackets, stainless steel chain with rubber plug 40mm, cp brass waste trap with necessary union complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	4	0.00003834
2116	Providing and fixing glass shelves 600mmx127mmx4 mm with chromium plated brackets all complete.	EACH	4	0.00000104
2117	Providing and fixing metal storing cabinets all complete.	EACH	4	0.00001548
2118	Providing Minimum 600 mm long porcelain tray etc all complete..	EACH	4	0.00000826
2119	Providing and fixing Recessed porcelain soap tray in shower area etc all complete.	EACH	4	0.00000258
2120	Providing and fixing grab bars, barrier-free access and appropriate fittings and fixtures for toilets for handicapped etc. all complete.	EACH	4	0.00001032
A2121	Providing and fixing Electric operated hand dryer with photo voltaic control including fittings, cutting and making good the wall where required etc. all complete.	EACH	4	0.00002643
2122	Supply and Installation of Borewell with Boring / drilling of required dia for PVC casing pipe and strainer pipe 100 mm dia upto 25M and 50 mm dia. from 25M to upto bottom, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart / bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete including above ground Casing Pipe (2M 100mm GI pipes) , all other above ground required GI Pipes, valves, filter, tees, couplings commplete with submersible pumps & motor, elctrical controls, cables, etc complete items for water upto 6M high tank) including all Labour for boring through any type of soil, rock & boulders for sinking tubewell. Hire charges of Boring Machine, other tools and plants, staging force pumping set, and making arrangement for water required for boring etc. complete and lowering of casing pipes, strainers blind pipes, gravel packing the gap between bore dia and PVC pipe. etc. all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level.	Set	1	0.0002841
2123	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by any approved method, measuring static level & draw down etc., collecting water samples & getting tested in approved laboratory all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	Set	1	0.0000467
	2200 SANITARY WORKS			
	SANITARY: Sanitary work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following: (Supply of cement is in Contractor's scope)			

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JOB: CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT, FGD PACKAGE.

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
A2201	Supply and fixing glazed vitreous china Wash Basin of approved make (with photovoltaic control) 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	6	0.00021524
b	Colored	EACH	6	0.00021524
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	2	0.00003924
A2203	Providing and fixing stainless steel kitchen sink of size 600x400x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	2	0.00004554
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	1	0.00001569
b	Wall mounted	EACH	7	0.00011509
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	2	0.00003466
A2206	Providing and fixing white flat back glazed vitreous china lipped 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, with provision of squatting urinal for ladies toilet etc. all complete.	EACH	8	0.00050099
2207	Supply, laying and jointing UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.			
a	75mm dia pipes	RM	30	0.00003229
b	110mm dia pipes	RM	30	0.00004367
c	160mm dia pipes	RM	30	0.00007531
d	200mm dia pipes	RM	30	0.00008677
2208	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete for following.			
a	200mm dia	RM	550	0.00085355
b	300mm dia	RM	20	0.00006256
c	450mm dia	RM	20	0.00010955
d	600mm dia	RM	40	0.000278
2209	Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following.			
a	150mm dia	RM	40	0.00006112
b	250mm dia	RM	12	0.00002505
c	300mm dia	RM	2	0.00000473
d	450mm dia	RM	2	0.00000685
2210	Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following:			
a	450mm dia	RM	10	0.00005292
2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx450mm including frame from reputed manufacture etc. all complete.	EACH	40	0.00151645
2212	Providing and fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame etc. all complete.	EACH	20	0.00076111

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JOB: CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT,FGD PACKAGE.

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
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	10	0.00008699
b	150x100mm P or S Type.	EACH	10	0.0000892
c	150x150mm P or S Type.	EACH	10	0.00009126
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	20	0.00009581
2215	Providing and fixing 100mm heavy duty UPVC floor traps with 100 mm inlet and 100 mm outlet & C.P jalli all complete.	EACH	40	0.0001647
2216	Providing and installing approved brand single tap water cooler of 80 L cooling capacity all complete.	EACH	20	0.00309743
2217	Providing and installing approved brand single tap water cooler of 150 L cooling capacity all complete.	EACH	10	0.00278181
2218	Providing and fixing white vitreous urinal partitions of size 675x325x85mm all complete.	EACH	20	0.00015164
2219	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	4	0.00008523
A2220	Providing and fixing sand cast iron pipes conforming to IS:1729 for above and below ground sanitary works with water tight lead joint, fixing clamps, excavation, filling, disposal etc. all complete for the following.			
a	80mm dia pipes	RM	130	0.00041911
b	100mm dia pipes	RM	90	0.00037318
c	150mm dia pipes	RM	40	0.00025936
2221	Providing, laying spun CI pipes with conforming to IS 1536 complete for following.(Excavation,backfilling,concrete to be paid seperately)			
c	150mm dia	RM	20	0.00015144
d	200mm dia	RM	20	0.00021751
f	300mm dia	RM	20	0.00035929
	2300 STRUCTURAL STEEL			
	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge for the following:			
2307	Erection and alignment of factory made electroforged galvanised grating units (material as per ST No. 2307 S of SCH-4 of Vol-III) 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, grinding, drilling, welding, edge preparation, etc. all complete. (Cost against supply of factory made electroforged galvanised grating units with fixing clamps, fittings, fixtures etc. payable seperately under ST No. 2307 S of SCH-4 of Vol-III)			
a	Minimum galvanisation of 610 g/sqm	MT	66	0.00700119
2308	Erection and alignment of factory made galvanised welded grating units (material as per ST No. 2308 S of SCH-4 of Vol-III) in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including 1 coat of redoxide zinc-chromate primer (after erection), fixing clamps, fittings, fixtures, grinding, drilling, welding, edge preparation, etc. all complete. (Cost against supply of factory made galvanised grating units with fixing clamps, fittings, fixtures etc. payable seperately under ST No. 2308 S of SCH-4 of Vol-III)	MT	15	0.00123894
2320	Supply, fabrication and fixing of stainless steel pipe hand railing conforming to SS 409 of 32 mm/40 mm dia including transportation, loading/unloading etc. all complete.	MT	2	0.0018654
2321	Fabrication and fixing of MS pipe hand railing of 32 mm/40 mm dia (material as per ST No. 2321 S of SCH-4 of Vol-III) including transportation from store, loading/unloading etc. all complete. (Cost against supply of 32 mm/40 mm MS pipe payable seperately under ST No. 2321 S of SCH-4 of Vol-III)	MT	25	0.00200877
A2322	Fabrication and fixing of galvanised MS pipe hand railing (1000 mm high) of 32mm/40mm/50mm dia (Medium Class) (material as per ST No. A 2322 S of SCH-4 of Vol-III) including transportation from store, loading/unloading, painting etc. all complete. (Cost against supply of 32 mm/40 mm/59 mm dia MS pipe of medium class and galvanised payable seperately under ST No. A 2322 S of SCH-4 of Vol-III).	MT	33	0.00281733
2328	Supply, fixing lightning arrester and air terminal over roof of power house building, pump house and other structures including all materials, labour, electrodes etc complete (all materials to be supplied by the contractor).	EACH	2	0.0000245

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
2334	Providing and fixing 20mm square MS bar balustrade with suitable MS flat and teakwood handrails etc all complete.	RM	20	0.00013165
	2400 ROAD WORKS			
	ROAD WORKS: Road works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation etc. as per specification drawing, relevant IRC & IS codes and as directed by the Engineer-in-charge for the following: (Supply of cement is in Contractor's scope unless otherwise specified in BOQ).			
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	5115	0.00050381
2402	Providing, stacking & laying granular morrum for shoulder including watering, compaction with road roller to required camber etc all complete.	CUM	985	0.00044486
2403	Providing, stacking & laying granular morrum for shoulder including watering, compaction with road roller to required camber etc all complete.	CUM	70	0.0003777
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	250	0.00238192
2405	Providing & laying water bound macadam 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	580	0.00595938
A2405	Construction of granular sub-base by providing close graded Material conforming to specification, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	CUM	675	0.00655095
2406	Providing & 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	65	0.00070643
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	600	0.00056884
A2414	Supply and laying 200 mm 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 (1:2) in 13mm thick joints, finishing of joints with neat cement paste etc all complete.	RM	85	0.00013191
B2414	Supply and laying 600 mm 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 (1:2) in 13mm thick joints, finishing of joints with neat cement paste etc all complete.	RM	10	0.0000695
A2415	Supply and laying 150mm dia R.C.C NP-3 type Hume pipe in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:3) in 13mm thick joints, finishing of joints with neat cement paste etc all complete. Payment terms - a) On receipt of materials at site - 50%; b) On completion of erection & fixing - 50%.	RM	235	0.00027352
2418	Transportation from batching plant and laying Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) for road work as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc. including labour, materials (unless otherwise specified in BOQ/contract specification) and mechanised equipments like transit mixer, concrete pump etc for handling, transportation, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) etc. all complete as per drawing, specifications and as per direction of engineer in charge. (RMC WITH REQUIRED ADDITIVES/PLASTICIZER/SUPERPLASTICIZER SHALL BE PROVIDED BY BHEL AT BATCHING PLANT IN PROJECT PREMISES)	CUM	290	0.00056919
A2419	Transportation from batching plant and laying cement concrete of grade M35 for road work using 20 mm nominal size stone aggregate with approved admixture (if required), provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. and including labour, materials (unless otherwise specified in BOQ/contract specification) and mechanised equipment like transit mixer, concrete pump etc.for handling, transportation, placing, vibrating and curing etc. all complete as per drawing, specifications and as per direction of engineer in charge (Excluding the cost of centering, shuttering and reinforcement and dowel bar). (RMC WITH REQUIRED ADDITIVES/PLASTICIZER/SUPERPLASTICIZER SHALL BE PROVIDED BY BHEL AT BATCHING PLANT IN PROJECT PREMISES)	CUM	1015	0.00238961
2420	Supplying and filling sand for preparation of read sub-base/ sub-grade in layers not exceeding 250 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/ compaction by manual/ mechanical means, dressing, royalty (if any) etc all complete.	CUM	14	0.00008358

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SCHEDULE - 3 : SERVICE PART

ST No	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
2421	Transportation of dry lean cement concrete for road work from batching plant and laying over a prepared sub-grade including compaction, finishing, curing, etc. all complete (RMC SHALL BE PROVIDED BY BHEL AT BATCHING PLANT IN PROJECT PREMISES)			
a	Concrete of grade M10 with 20 mm nominal size graded stone aggregates	CUM	370	0.0007262
b	Concrete of grade M15(1 part cement:2 part Sand:4 part Aggregates) with 20 mm nominal size graded stone aggregate	CUM	260	0.0005103
2422	Transportation from store, straightening cutting, bending, placing in position at any level, binding in position of steel reinforcement (material as per ST 401 S of SCH-4 of Vol-III) of mild steel reinforcements for road work including cost of binding wire, labour, scaffolding transportation to & from stores etc all complete as per specifications, drawings and as directed by Engineer. (Cost on account of supply of reinforcement steel is payable seperately under ST 401S of SCH-4 of Vol-III).	MT	2	0.0000594
A2422	Providing, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 confirming to IS:1786 for road work including cost of binding wire, labour, scaffolding, transportation to & from stores etc all complete as per specification, drawing and as directed by Engineer. (Reinforcement steel will be supplied by BHEL free of cost).	MT	1	0.00002553
B2422	Providing and fixing in position MS dowel bar reinforcement including surface painted with bitumen and greasing, dowel end caps with cotton fills etc all complete as per specification, drawing and as directed by Engineer.	MT	4	0.00079199
A2423	Providing and fixing separation Membrane of impermeable plastic sheeting of 125 microns thick laid flat without creases etc. all complete	SQM	3410	0.00169263
2423	Providing & installation of bitumen impregnated fibre board of specified thickness confirming to IS 1838 as joint filler including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete as per specification, drawing and as directed by engineer.	RM	15	0.0000245
2424	Providing and filling in position hot applied bitumen sealing compund (Grade A) of specified thick confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints, sealant primer etc all complete as per specification, drawing and as directed by Engineer.	RM	15	0.00000128
2425	Providing and laying debonding strip/tape of specified thickness before applying sealant including cleaning etc all complete as per specification, drawing and as directed by Engineer.	RM	15	0.00000072
2426	Providing & laying 75 mm thick precast interlocking concrete pavers of approved colour and pattern as per specification and recommendation of manufacturer.	SQM	2250	0.00550255
A2427	Providing and laying 100mm thick sand layer below concrete pavers including compaction etc all complete as per specification, drawing and as directed by Engineer.	SQM	15	0.00000551
2429	Providing and laying Inverted Choke with 25 mm course of screenings (Grading-B) over prepared subgrade including compaction etc all complete as per specification, drawing and as directed by Engineer.	CUM	10	0.00002162
2500	PILING WORK: Piling works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. as per specification, drawings and as directed by engineer - in - charge for the following:			
A2504	Breaking pile head up to cut off level and exposing pile reinforcement for embedment in pile cap etc including all material, labour, incidental etc. and transportation of concrete debries up to disposal yard complete as per specification, drawing and as directed by the engineer-in-charge for the following:			
d	Pile with 600 mm diameter	EACH	1650	0.00647756
Ae	Pile with 760 mm diameter	EACH	460	0.00216704
2601A	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 500 m outside the periphery of the area cleared.	SQM	50000	0.00228222
	Total			0.80552808

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SCHEDULE - 4 : SUPPLY PART

ST NO.	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
400S	REINFORCEMENT STEEL			
401S	Supply at site of mild steel reinforcements conforming to grade 1 of IS:432 part 1 including cost of transportation etc. all complete as per specifications & drawings. (Payment shall be restricted to quantity consumed as per ST 401, ST 2422-1 & 2422-2 of SCH-3 of Vol-III)	MT	9	0.00151469
500 S	WATER PROOFING WORKS			
A511 S	Supply at site bitumen grade 85/25 as per IS 702 including anitstripping compound conforming to IS 6241, cost of transportation etc. all complete required for application work of bitumen as per ST 511 of SCH 3 of Vol-III. (Measurement of this item shall be based on application of two coats of bitumen @ 1.7kg/sqm with 1% antistripping compound and shall be restricted to quantity consumed as per ST A 511 of SCH-3 of Vol-III).	SQM	31400	0.00735476
700 S	MS EMBEDMENTS			
701 S	Supply at site of mild steel for embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required with primer paint etc. all complete. (Payment shall be restricted to quantity consumed as per ST 701 of SCH-3 of Vol-III).	MT	16	0.00243711
A701 S	Supply at site mild steel for embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required with Primer Coat of Chlorinated Rubber based Zinc Phosphate Primer of Minimum 50 Micron Dry Film Thickness (DFT). etc. all complete. (Payment shall be restricted to quantity consumed as per ST A701 of SCH-3 of Vol-III).	MT	24	0.00383845
702 S	Supply, Fabrication, transportation, delivery at site store of mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 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. (Payment shall be restricted to quantity consumed as per ST 702 of SCH-3 of Vol-III)	MT	29	0.00559502
900 S	DOORS, WINDOWS, VENTILATORS, LOUVERS			
906 S	Supply at site of anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 (minimum anodized coating of grade AC15). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately) (Payment shall be restricted to quantity consumed as per ST 906 of SCH-3 of Vol-III)	KG	50	0.00005121
A909 S	Supply at site of anodised aluminium extruded standard tubular & other sections (of minimum 2mm wall thickness) of INDAL, Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc 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), rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling materials 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, 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 seperately).Weight of aluminium section only shall be measured. (Payment shall be restricted to quantity of aluminium section consumed as per ST A909 of SCH-3 of Vol-III)	Kg	9240	0.01180912
1500 S	ROOFING / SIDE CLADDING			

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SCHEDULE - 4 : SUPPLY PART

ST NO.	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
A1501 S	Designing and supply at site of permanently color coated galvanised MS troughed metal sheet decking plate of approved colour over floor beams for cast-in-situ roof slab as per relevant IS code and Grade as per specification. Bare metal thickness(BMT) of deck plate shall be minimum 0.8mm with minimum trough depth of 51 mm having minimum yield strength of 250 MPa and shall serve as permanent shuttering to the roof slab 150mm thick measured over crest of metal decking & shall have adequate strength to support weight of green concrete and imposed loads of min 550 kg/sqm (for two span condition) during construction between beams as per manufacturer's recommendations, calculations/ test certificates for approval etc. all complete for below mentioned spans. The sheet shall be permanently coated(coating thickness of atleast 40 microns) with silicon modified polyester(SMP with silicon content 30%-50%) paint or super polyester paint of minimum 20 micron(nominal) DFT on exposed surface (facing operating floor) over epoxy primer coat of minimum 5 microns(nominal) and minimum 10 microns SMP or super polyester paint on other face over epoxy primer of 5 micron applied over coating (designated class Z275), Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking. The SMP and polyester paint shall confirm to product type 4 as per AS/NZS 2728. (Payment shall be restricted to quantity consumed as per ST A1501 of SCH-3 of Vol-III).			
a	Span Upto 1800mm	SQM	10692	0.02895624
b	Span Exceeding 1800mm and upto 2500 mm	SQM	100	0.00028305
ISG 1502 S	Designing & supply of 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 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. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking. (Payment shall be restricted to quantity consumed as per ST ISG 1502 of SCH-3 of Vol-III)			
a	Span Upto 1800mm	SQM	1545	0.00456491
b	Span Exceeding 1800mm and upto 2500 mm	SQM	2715	0.00802183
A1504 S	Designing & supply of External sheet of Permanent colour coated metal cladding including flashing with troughed M.S. sheets of 0.6mm bare metal thickness having minimum yield strength 250 MPa complying AS1397 and zinc-aluminium alloy coating not less than 275 gm/sqm total on both sides etc. all complete. The exposed face of the sheet shall be permanently colour coated with silicon modified polyester (SMP with silicon content of 30% to 50%) paint or Super Polyester paint of minimum dry film thickness (DFT) 20 microns(nominal) over suitable primer coat of 5mm DFT(nominal). Inner face of the sheet shall be provided with suitable pre-coating of minimum DFT 10 microns(nominal) over suitable primer of 5mm DFT(nominal). The permanent colour coated sheet shall meet the general requirements of IS : 14246 and shall conform to class 3 for the durability. (Payment shall be restricted to quantity consumed as per ST A 1504 of SCH-3 of Vol-III).	SQM	5506	0.01094424
1508 S	Designing & supply of Inner sheet of Permanent colour coated metal cladding including flashing with troughed M.S. sheets of 0.6mm bare metal thickness having minimum yield strength 250 MPa and zinc-aluminium alloy coating not less than 275 gm/sqm total on both sides of both sheets etc. all complete. The exposed surface of the sheet shall be permanently colour coated with silicon modified polyester paint of minimum dry film thickness (DFT) 20 microns over suitable primer. Other face of the sheet shall be provided with suitable pre-coating of minimum DFT 7 microns over suitable primer. The permanent colour coated sheet shall meet the general requirements of IS : 14246 and shall conform to class 3 for the durability. The sheet shall be fixed directly to side runners and Z spacers as per IS : 277. The sheet shall be fixed at the rate not more than 1500mm center to center to hold the insulation and external sheeting. (Payment shall be restricted to quantity consumed as per ST A 1508 of SCH-3 of Vol-III)	SQM	17810	0.05807294

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

JOB: CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT,FGD PACKAGE.

TENDER NO. PSER:SCT:NBN-C2059:20

SCHEDULE - 4 : SUPPLY PART

ST NO.	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
1519 S	Design & supply of permanent colour coated Pre-Fabricated sandwiched insulated metal cladding of approved shade and color comprising of top sheet as troughed permanently colour coated sheet & bottom sheet as plain permanently colour coated with 50mm thick insulation sandwiched between the two sheets etc all complete as per specification. Each sheet shall be of steel with minimum thickness (i.e. excluding the thickness of coating and painting) 0.6mm of grade G250 as per AS1397/ grade SS255 as per ASTM A653M / grade S250GD as per EN 10326 or of steel with aluminium-zinc alloy coated to class AZ150 with minimum bare metal thickness (i.e. excluding the thickness of coating and painting) of 0.5mm of grade G350 as per AS1397 / grade SS340 class 4 as per ASTM A792M / grade S350GD as per EN 10326 or of steel with aluminium-zinc alloy coated to class AZ150 with minimum bare metal thickness (i.e. excluding the thickness of coating and painting) of 0.4mm of grade G550 as per AS1397 / grade SS550 as per ASTM A792M / grade S550GD as per EN 10326. .Metal sheets shall be colour coated with total coating thickness of at least 40 microns (nominal) dry film thickness (DFT) comprising of Silicon Modified Polyester (SMP with silicon content of 30% to 50%) paint or Polyester paint, of minimum 20 microns (nominal) SMP or polyester paint on one side (exposed face), over minimum 5 micron (nominal) primer coat and minimum 10 micron (nominal) SMP or Polyester paint over minimum 5 micron (nominal) primer coat on other side. SMP and Super Polyester paint shall conform to product type 4 of AS/NZS 2728.The sheets shall be of approved profile and shall have such section modulus and moment of inertia per metre width that deflection of sheets is limited to span/250 under design wind pressure for two span conditions. No increase in allowable stresses under wind load condition is allowed. For insulation of cladding , mineral wool conforming to IS: 8183 shall be used. The density shall be 32 or 48 kg. /cu.m for glass or rock wool respectively. The nominal thickness of insulation shall be 50mm. (Payment shall be restricted to quantity consumed as per ST 1519 of SCH-3 of Vol-III).	SQM	1710	0.00956903
1520 S	Supplying fire resistant and UV resistant polycarbonate translucent troughed sheets at site of minimum 3MM thickness for roofing & side cladding work (internal & external) as per the specification and approved drawings and directions of engineer in charge. (Payment shall be restricted to quantity consumed as per ST 1520 of SCH-3 of Vol-III)	SQM	620	0.00166685
1700 S	RAIN WATER DOWN TAKE PIPES			
A1704 S	Supplying at site galvanised MS down take pipes conforming to IS: 1239/IS: 3589 of 150 mm dia-Medium quality as per IS:1239(part-I) all complete as per specification. (Galvanising shall be as per IS: 4736. The minimum mass of zinc coating shall not be less than 400 gms/sq.m. as per IS:6745. The zinc coating shall be smooth and shall be subjected to testing as per IS: 2633, for uniformity of coating. The zinc coating shall be free from all defects as per IS: 2629. (Payment shall be restricted to quantity consumed as per ST A1704 of SCH-3 of Vol-III)	RM	2249	0.0080602
2300 S	STRUCTURAL STEEL			
2307 S	Supplying, fabricated factory made electroforged galvanised grating units with mild steel having minimum galvanisation as below 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. (Payment shall be restricted to quantity consumed as per ST 2307 of SCH-3 of Vol-III)			
a	Minimum galvanisation of 610 g/sqm	MT	66	0.0163361
2308 S	Supplying, fabricated factory made galvanised 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 1 coat of redoxide zinc-chromate primer (a shop), fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. (Payment shall be restricted to quantity consumed as per ST 2308 of SCH-3 of Vol-III)	MT	15	0.00289086
2321 S	Supply of 32 mm/40 mm dia MS pipe for hand rail including transportation, loading/unloading etc. all complete. (Payment shall be restricted to quantity consumed as per ST 2321 of SCH-3 of Vol-III)	MT	25	0.00468714
A2322 S	Supply of 32 mm/40 mm/50 mm dia (Medium class) galvanised MS pipe for hand railing (1000 mm high) including transportation, loading/unloading, painting etc. all complete. (Payment shall be restricted to quantity consumed as per ST A2322 of SCH-3 of Vol-III)	MT	33	0.00657376

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

JOB: CIVIL & ARCHITECTURAL WORKS INCLUDING BREAKING OF PILE HEAD, PILE CAP, FOUNDATION OF VARIOUS SYSTEMS OF FGD SYSTEM (EXCEPT PILING & TESTING OF PILES) AS PER DRAWING FURNISHED DURING EXECUTION STAGE, RELEVANT PORTION OF TECHNICAL SPECIFICATIONS AND AS PER DIRECTIONS OF ENGINEER IN CHARGE INCLUDING ALL ASSOCIATED WORKS, COMPLETE AS PER SPECIFICATION AT 3 X 660 MW, NPGCL NABINAGAR SUPER THERMAL POWER PROJECT,FGD PACKAGE.

TENDER NO. PSER:SCT:NBN-C2059:20

SCHEDULE - 4 : SUPPLY PART

ST NO.	ITEM DESCRIPTION	UNIT	QTY	WEIGHTAGE
MISC-	MISC. ITEM			
MISC-01	Supplying precast reinforced cement concrete RCC Sleeper with 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size) as per IS 456 with 25 mm clear cover ,including the cost of cement (PPC/OPC/PSC) and high yield strength steel reinforcement, all materials for concrete, form wok, lifting hole with PVC pipe, binding wire, labours, curing and shifting the finished product at designated store area etc., for the following sizes (Cement and Reinforcement Steel to be supplied by contractor). Length= 600 mm, Width at Bottom=250 mm,Width at Top=220 mm & Height=250 mm. with 4 nos. 8 mm dia. Main Bar and 5 mm dia Stirrup @ 150 mm c/c and Lifting hole with 30 mm dia PVC pipe- 02 nos.	NOS	1000	0.00124441
	Total			0.19447192