



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

( भारत सरकार का उपक्रम )

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Govt. of India Undertaking)

**TCN - 03**

Ref: PSER:SCT: BNP-C1675:TCN-03

Date: 02-06-2015

Sub	Tender Change Notice (TCN)- 03.	
Job	Structural, architectural, etc work of Power House, Bunker, etc of 1x660 MW units # 4 for 2x660 MW units at IBV TPS, Banharpalli, Odisha.	
Ref	1.0	Tender no PSER:SCT:BNP-C1675:15.
	2.0	BHEL's NIT, vide reference no PSER:SCT: BNP-C1675:4471 Date: 21-05-2015
	3.0	BHEL's TCN-01, vide reference no PSER:SCT: BNP-C1675:TCN-01 Date: 29-05-2015
	4.0	BHEL's TCN-02, vide reference no PSER:SCT: BNP-C1675:TCN-02 Date: 01-06-2015
	5.0	Other References, if any.

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

1. Revised BOQ cum price schedule format VOL-III- PRICE SCHEDULE, REV-02 superseding VOL-III PRICE SCHEDULE, REV-01 issued earlier.

Bidders are requested to submit their offer as per revised BOQ (Rev-02) only. Offer from bidders in superseded price schedule (Vol-III, REV-01) shall not be considered. Bidders are also requested to submit a declaration in techno-commercial offer that they have submitted their price bid in sealed envelope as per **REVISED price schedule format (VOL-III- PRICE SCHEDULE, REV-02)**.

2. Revised 'No deviation certificate' is attached. Bidder to submit 'No deviation certificate' as per attached format only.
3. All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,  
for BHARAT HEAVY ELECTRICALS LTD

Sr.Engineer (SCT)

Encl: As Above.

पावर सेक्टर पूर्वी क्षेत्र ( मुख्यालय )

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

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**VOLUME-III  
PRICE SCHEDULE, REV-02**

**JOB: STRUCTURAL, ARCHITECTURAL, ETC WORK OF POWER HOUSE, BUNKER, ETC OF 1X660 MW UNIT # 4 FOR 2X660 MW UNITS AT IBV TPS, BANHARPALLI, ODISHA.**

**TENDER NO - PSER:SCT:BNP-C1675:15**

SL NO	PREAMBLE
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 Volume-IB, ID, IE , Volume – IF and other tender sections as applicable and shall have precedence over any contrary statement mentioned any where in this document.
2	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions. Drawings enclosed with the tender are only preliminary and for tender purposes and giving some idea of the work involved. The work is to be executed as per drawings & documents, which shall be furnished during execution.
3	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
4	Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc. equipment, strengthening of roads/culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies, taxes(except service tax), 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 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
8	BHEL reserve the right to rationalize the rates, quoted by L-1 bidder against unit rate items and/ or other optional items with respect to item-wise lowest rates (amongst the participating bidders), before placement of order.
9	The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing , clearing of old structures and leveling etc. including fixing of grid pillars, benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same. However, if separate rate for such item is available in the rate schedule, the same shall be considered.
10	Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language.
11	All works item wise shall be measured upon completion and paid for at the rates quoted and accepted as per BHEL approved payment schedule/billing break-up.
12	The 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.
13	No splitting of the job is envisaged. 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.
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."
16	In case of Lumpsum contracts, addition or deletion of the scope beyond the variation limit specified shall be derived from the quoted Lumpsum price and the tendered scope of work considering the allowable 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 , 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.
19	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.
20	Bidder's Grand Total price shall be considered for evaluation unless stated otherwise.
21	In case of BOP packages, if Bidder does not quote/indicate the price for freight charges against indicated rate schedule, the same shall be considered as 2% of basic price and adjusted with the total quoted price against each item keeping the total quoted price unaltered.

**VOLUME-III  
PRICE SCHEDULE, REV-02**

**JOB:STRUCTURAL, ARCHITECTURAL, ETC WORK OF POWER HOUSE, BUNKER, ETC OF 1X660 MW UNIT # 4 FOR 2X660 MW UNITS AT IBV TPS,  
BANHARPALLI, ODISHA.**

**TENDER NO - PSER:SCT:BNP-C1675:15**

**SCH-1 - TOTAL PRICE**

SL NO	DESCRIPTION	AMOUNT (Rs)
1.0	TOTAL PRICE AS PER SCH-2 (SERVICE PART).	
2.0	TOTAL PRICE AS PER SCH-3 (SUPPLY PART).	
<b>3.0</b>	<b>GRAND TOTAL PRICE (SCH-2 &amp; SCH-3 TOGETHER)</b>	
<b>NOTE</b>		
1.0	Bidder to note that total price at sl no 3.0 above shall be considered for evaluation & awarding. As such total price at sl no 3.0 should be complete in all respect for the full scope defined and considering all terms and conditions.	
2.0	Bidder to note that quoted rates for SCH-2 shall be for service (fixing/ installation/ erection/ fabrication/ alignment, etc) of respective items and rates for SCH-3 shall be for supply (Design/ manufacturing/ procurement/fabrication, etc).	
3.0	Bidder to furnish break-up of total price (3.0 above) in the following schedules.	
3.1	SCH-2 - Service price break-up.	
3.2	SCH-3 - Supply price break-up.	
4.0	Successful bidder shall obtain prior approval of BHEL for 'equivalent' make of any item and obtain BHEL's clearance in writing before procurement & supply of items to site.	
5.0	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.	
6.0	Price format shall not be changed by bidder in any case and it may lead to cancellation of their offer.	

**VOLUME-III  
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**TENDER NO - PSER:SCT:BNP-C1675:15**

**SCH-2 - SERVICE PART**

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
1.0	700	MS EMBEDMENT (Embedments including all labour, material, equipment, transportation, handling, etc, at any level as per specification, drawings and as directed by engineer)			
1.1	705	Erection, installing of 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.			
1.1.1	d	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide.			
1.1.1.1	i	Upto 250 kg.	100	NO	
1.1.1.2	ii	Beyond 250 kg and upto 500 kg.	50	NO	
1.1.1.3	iii	Beyond 500 kg and upto 750 kg.	50	NO	
1.1.2	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.			
1.1.2.1	i	Upto 250 kg.	100	NO	
1.1.2.2	ii	Beyond 250 kg and upto 500 kg.	50	NO	
1.1.2.3	iii	Beyond 500 kg and upto 750 kg.	50	NO	
2.0	800	GROUTING (Grouting including all labour, equipment, roughening surface, cleaning, ramming, curing, etc, at any level unless otherwise specified, as per specification, drawing & as directed by engineer.			
2.1	802	Providing & grouting of pocket hole, pipe sleeve under base plate, machinery, pipe supporting structure, etc, with mix 1:1 (1 cement : 1 sand) using non-shrink admixture, etc, all complete.	10	CUM	
2.2	804	Providing & grouting of pocket hole, pipe sleeve, under base plate of structural steel work/ machinery/ pipe supporting structure, including roughening of surface, cleaning, ramming, curing, etc, all complete with Conbextra GP-1 or equivalent. Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the successful bidder.	40	CUM	

SL NO	ST NO	DESCRIPTION	QUANTITY		RATE (Rs)	AMOUNT (Rs)
2.3	805	Providing & grouting of pocket hole, pipe sleeve, under base plate of structural steel work/ machinery/ pipe supporting structure, including roughening of surface, cleaning, ramming, curing, etc, all complete with Conbextra GP-2 or equivalent. Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the successful bidder.	10	CUM		
3.0	900	DOOR, WINDOW, VENTILATOR, LOUVER (Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material, equipments, transportation, handling, preparation of working drawings, etc, at any level as per specification, drawings and as directed by engineer)				
3.1	904	Fixing of single or double steel door shutters with 45 mm thick 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 150 mm 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.	50	SQM		
3.2	906	Fixing of anodized extruded Aluminium door (single or double shutter) conforming to IS:1948, IS:1949, fabricated from extruded section of HINDALCO/ JINDAL or equivalent make having minimum 3 mm 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 plug, expansion fastener, SS screw / 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 6 mm thickness including snap fit type beading, concealed screw, fixture, 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).	20	SQM		
3.3	907	Fixing of fire proof steel doors (single or double shutter) with panic devices shall be 45 mm thick 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 150 mm 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.	82	SQM		
3.4	908	Fixing of 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).				
3.4.1	a	Openable type.	185	SQM		
3.4.2	b	Fixed type.	50	SQM		

SL NO	ST NO	DESCRIPTION	QUANTITY		RATE (Rs)	AMOUNT (Rs)
3.5	909	Fixing of anodised Aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing, etc, with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/ neoprene felt for bi-metallc protection, etc, including preparation of working drawings, Aluminium cleat angle, Aluminium snap-on-beading for glazing/ panelling, stair case tread nosing, with all fittings & 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. Glazing and panelling shall be paid seperately. Weight of Aluminium section only shall be measured.	5000	KG		
3.6	911	Fixing of door closers as per IS:3564, of approved make & quality all complete of following type.				
3.6.1	a	Over head hydraulic door closures.	13	NO		
3.6.2	b	Floor mounted Hydraulic door closers.	13	NO		
3.7	912	Fixing pressed steel frames fabricated from 16 gauge MS 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 specification.	2500	KG		
3.8	913	Fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75 mm 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 3 mm thick galvanised steel plate and securely rivetted with stiffening angles.(partly coiled and lath/ full lath).				
3.8.1	a	Hand operated.	25	SQM		
3.8.2	b	Mechanically operated.	50	SQM		
3.8.3	c	Electrically operated.	100	SQM		
3.9	A915	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.				
3.9.1	a	3 mm thick translucent glass.	15	SQM		
3.9.2	b	4 mm thick clear float glass.	15	SQM		

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
3.9.3	c	6 mm thick clear float glass.	75	SQM	
3.9.4	d	6 mm thick toughened float glass.	125	SQM	
3.9.5	e	6 mm thick wired glass.	800	SQM	
3.9.6	f	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).	25	SQM	
3.9.7	g	One outer 6 mm thick tinted heat-reflecting type float glass and one inner 6 mm thick plain float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	93	SQM	
3.9.8	h	6 mm thick laminated glass.	15	SQM	
3.9.9	i	6 mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	35	SQM	
3.10	916	Fixing weather stripping of approved make and quality to doors as per instructions of engineer and specification, complete.	50	MTR	
3.11	918	Fixing of steel louvered window with ISMC 100 frame all round including verticals with 18G pressed steel louvers, painting, etc, all complete.	25	SQM	
3.12	921	Fixing Excelsior Acoustical Panels - Elegia finish - 2400/ 1200 x 600 x 19 mm thick FABRICO SoundSoak - Plane Texture of approved colour. The rear side of partition shall have Excelsior Acoustical Panels - Elegia finish - specially Sound Smart - Burl of size 2400/ 1200x600x19 mm thick, smooth finished with gypsum plaster and finished with acrylic emulsion paint. The entire wall shall have Class-I fire rating as per BS code. The partition shall not transmit any load to false ceiling.	160	SQM	
3.13	A921	Fixing of special purpose partition manufactured by Anutone Acoustic Ltd or equivalent having rigid framework consisting of GI studs of adequate size @600 mm c/c and floor ceiling and intermediate channels to provide a wall system capable of supporting wall hung CCTV at different locations. The framing system shall be integrated with independent floor supported structural framework of digital display board. The front side of the frame shall have Excelsior Accoustcal Panels-Elegia finish - 2400/ 1200x600x19 mm thick FABRICO Sound Soak - Plane texture of approved colour. The rear side of the partition shall have Excelsior Acoustical Panels - Elegia finish - specially Sound Smart-Burl of size 2400/1200x600x19 mm thick smooth finished with gypsum plaster and finished with acrylic paint. The entire wall to have Class-I fire rating as per BS code. The entire partition wall to have concealed framing system and to have monolithic fabric finish of approved colour or composition of two different colour as per approved design to entire exposed surface including door panels on control room side. The work to be complete as per the specifications.	300	SQM	

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
4.0	1500	ROOFING/ SIDE CLADDING (Roofing/ side cladding work 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)			
4.1	B1501	Fixing of deck sheeting to floor beam/ purlin including side lapping, end lapping with self drilling white Zinc plated heat treated carbon steel screw of minimum 5.6 mm dia @ 260 mm c/c in the trough and stich screw between two adjacent sheets and sealing with epoxy sealant. All material is deemed to be supplied under item A1501 (under supply schedule) and only execution charge to be quoted under this item. However, this item, together with item A1501 shall be complete without any extra cost for completion of deck sheet work. Measurement for payment of deck sheeting work shall be plan area of roof covered by MS trough metal decking without including lap length, etc, for finsihed work plan.	17650	SQM	
4.2	B1502	Fixing of shear connectors of mild steel studs having 16mm dia and minimum 75 mm projected length above purlin passing through metal decking as per relevant IS codes and specification.	7	MT	
4.3	A1503	Fixing of external sheet of permanent colour coated metal cladding with troughed MS sheets of 0.6 mm bare metal thickness having minimum yield strength 250 MPa with minimum rate of galvanisation of 275 gm/ sqm total on both sides or high tensile steel sheet having minimum yield strength of 350 MPa of 0.5 mm minimum bare metal thickness and coated with Zinc Aluminium alloy (Zincalume) at the rate of 150 gm/ sqm total on both sides including fixing to supports/ rails by concealed fixing system, corrosion resistant self tapping/ self drilling type fasteners with suitable cap, flashing, etc, all complete. The exposed face of the sheet shall be permanently colour coated with silicon modified polyester coating of minimum dry film thickness (DFT) 20 microns over suitable primer of approved colour shade. Inner face of the sheet shall be provided with suitable pre-coating of minimum DFT 7 microns of off-white colour 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 Z spacer if required shall be made out of at least 2 mm thick galvanized steel of grade 275 as per IS:277.	13960	SQM	

SL NO	ST NO	DESCRIPTION	QUANTITY		RATE (Rs)	AMOUNT (Rs)
4.4	A1505	Fixing of inner sheet of permanent colour coated metal cladding with troughed MS sheets of 0.6 mm bare metal thickness having minimum yield strength 250 MPa with minimum rate of galvanization of 275 gm/ sqm total or high tensile steel, having minimum yield strength of 350 MPa of 0.5 mm minimum bare metal thickness and coated with Zinc Aluminium alloy (Zincalume) at the rate of 150 gm/ sqm total on both sides sheets including fixing to supports/ rails by concealed fixing system, corrosion resistant self tapping/ self drilling type fasteners with suitable cap, flashing, etc, all complete. The exposed 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.	12700	SQM		
4.5	1506	Fixing of 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.	3000	SQM		
4.6	1507	Fixing of insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS:8183 having a density of 32 kg/ cum glass wool or 48 kg/ cum for rock wool, for cladding/ under deck insulation including wrapping in black polythene black supported over weld mesh 75 x 75 x 1.6 mm dia to hold in position and application of glue & tying with lacing wire, for glass/ rock wool as per manufacturer's recommendation.	7520	SQM		
4.7	A1507	Fixing for insulation of resin bonded fibre glass roll of 50 mm nominal thickness conforming to IS:8183 having a density of 16 kg/ cum glass wool for cladding including wrapping in black polythene black supported over weld mesh 75 x 75 x 1.6 mm dia to hold in position and application of glue & tying with lacing wire, for glass/ rock wool as per manufacturer's recommendation.	2900	SQM		
4.8	1508	Installation of under deck insulation 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.	250	SQM		
5.0	1800	MISCELLANEOUS WORK-1 (Miscellaneous works including all labour, material, equipment, etc, at any level unless otherwise specified as per specification, drawings and as directed by engineer)				
5.1	1812	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 is excluded from scope of this tender. Earthing mat/ rod shall be supplied by BHEL free of cost)	70	MT		

SL NO	ST NO	DESCRIPTION	QUANTITY		RATE (Rs)	AMOUNT (Rs)
5.2	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.	10	NO		
6.0	2000	FENCING AND GATE Fencing and gates including all labour, material, equipment, etc, at any level as per specification, drawings and as directed by engineer)				
6.1	2001	Erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75 x 75 mm. 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 100 mm. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25 x 6 mm GI flat stretcher bar at end posts, accessories, etc, all complete. Structural post shall be separately under relevant item.	230	MTR		
6.2	2009	Installation of 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.	1	MT		
7.0	2200	SANITARY WORK (Sanitary work including all labour, material, equipment etc at any level as per specification, drawings and as directed by engineer)				
7.1	2217	Installing approved brand single tap water cooler of 80 ltr cooling capacity all complete.	2	NO		
7.2	2218	Installing approved brand single tap water cooler of 150 ltr cooling capacity all complete.	2	NO		
8.0	2300	STRUCTURAL STEEL (Structural steel works including all labour, material, equipments, transportation, handling etc at any level as per specification, drawings and as directed by engineer. While BHEL will supply various steel sections free of cost as per relevant provision of tender, balance items to be supplied by successful bidder from approved make of technical specification or shall obtain approval of BHEL before procurement, for completion of job as per specification, drawing and direction of BHEL. Bidder's quoted rate against respective items shall be in consideration to this)				

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)	
8.1	A2301	Receipt, unloading, transportation, stacking, storing, fabrication, erection of structural steel with mild steel rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including 2 coats of redoxide zinc-chromate primer (one coat at shop and one coat after erection), connection design & preparation of fabrication drgs, collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20o C for welding over 20 mm and upto 40 mm & 66o C for welding over 40 mm and upto 63 mm & 110o C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete. Including appointment of a separate agency, approved by BHEL, for review and approval of fabrication drgs, in consultation with BHEL.	11500	MT		
8.2	B2301	Transport from store, erection of fabricated items of columns, beams, laced purlins, space frames, hangers, struts, wall beams, bracings, cleats, base plates, splice plates, collection of fabricated items from stores, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, protection against damage in transit, stability of structure, installation of temporary structure, setting column base, surface preparation by means of manual or mechanical power tools as per IS:1477, Part-1, touch-up painting, rectification, dismantling & removal of all temporary structures (weight of temporary structures not payable), return of surplus to store, etc, all complete, of boiler structures. Fabricated material will be supplied by BHEL free of cost.	300	MT		
8.2	A2302	Extra over ST NO A2301 for blast cleaning of steel structures to near white metal surface (Sa 2 1/2 ) and applying epoxy resin based zinc rich primer such as Blast Steel EZ1 of Shalimar Paint Ltd or equivalent in coats of minimum 25 micron (DFT) at shop instead of primer coat of red oxide zinc-chromate, including touch-up painting, etc, all complete.	96	MT		

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
8.3	A2303	Extra over ST NO A2301 for providing and application of one or more coats (minimum 25 micron DFT) of primer consisting of chemical resistant epoxy resin and hardener (Minimum 1 kg of primer mix shall be consumed for priming of 4 to 5 sqm area of surface) instead of primer coat of red oxide zinc-chromate, including touch up painting, etc, all complete.	96 MT		
8.4	A2304	Extra over ST NO A2301 for providing two or more coats of synthetic enamel paint conforming to IS : 2932 with minimum 40 micron total dry film thickness (DFT) of each coat of approved make paint and shade to achieve an even shade over steel sections already having primer coats and keeping overall DFT with primer not less than 110 micron including protection and cleaning, scaffolding, etc, all complete.	11500 MT		
8.5	A2305	Extra over ST NO A2301 for providing and applying two or more coats of epoxy based colour finish paint with minimum 40 micron total dry film thickness (DFT) of each coat of approved make and shade to achieve an even shade over steel sections already having primer coats and keeping overall DFT with primer not less than 110 micron including protection and cleaning, scaffolding, etc all complete.	96 MT		
8.6	2307	Erection, alignment of factory made electroforged galvanised grating units with mild steel (having minimum galvanisation of 610 g/sqm) 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, packing, grinding, drilling, welding, edge preparation, etc, all complete.	145 MT		
8.7	A2308	Erection, alignment of factory made galvanised welded grating unit with mild steel (having minimum galvanisation of 610 g/sqm) conforming to IS:2062 in flooring, platforms, drain & trench covers, walkway, passage, staircase with edge binding strip and anti-skid nosing in treads, etc, including fixing clamp, fitting, fixture, packing, grinding, drilling, welding, edge preparation, etc, all complete.	10 MT		
8.8.1	B2309	Extra over above ST NO A2301 for finishing the grating units with hot dipped galvanisation @ 610 gm/sqm over blast cleaned steel surfaces, instead of painting with two coats of red oxide zinc-chromate primer, all complete.	2 MT of Steel		
8.8.2	C2309	Extra over above ST NO 2307 for finishing the grating units with hot dipped galvanisation @ 610 gm/sqm over blast cleaned steel surfaces, all complete.	2 MT of Steel		
8.9	2310	Fixing in position of permanent mild steel bolts (class 4.6 as per IS : 1367 and grade 'C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete.	3 MT		

SL NO	ST NO	DESCRIPTION	QUANTITY		RATE (Rs)	AMOUNT (Rs)
8.10	2311	Fixing in positing of high strength structural bolt (of property class 8.8 and product grade `C' as per IS:1367) and conforming to IS: 3757 and high strength structural hardened and tempered nut (of property class `8' as per IS:1367) conforming to IS:6623 with hardened & tempered washers as per IS:6649, etc, up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work, etc, all complete.	27	MT		
8.11	2312	Dismantling of steel structure, lowering of material and carriage of the dismantled material up to field fabrication shop/ projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions (weight of such adjacent members and temporarily dismantled members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc, all complete.	50	MT		
8.12	2313	Addition to, alterations in and/ or modifiction of `Erection Marks', including cutting of parts, gauging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members (weight of such temporarily dismantled and adjacent members not payable), etc all complete, for the following. The weight of modification will be calculated on the basis of arthimatic sum of weight of steel removed & steel re-issued out of removed steel, if any (this will not be considered in material reconcialisation as it is already taken care earlier) & new steel added, if any.				
8.12.1	a	In erected position.	25	MT		
8.12.2	b	In fabrication yard.	25	MT		
8.13	2314	Re-erection of dismantled fabricated structural steel members including carriage of modified `Erection Marks' from the field fabrication shop to erection site, lifting to required posiion, aligning in position, tack welding, final welding and touch up painting including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismnatled members, re-alignment of adjacent connected members (weight of such temporarily dismantled members and adjacent members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	25	MT		
8.14	A2315	Fabrication, erection of minimum 5.0 mm thick stainless steel liner of grade SS:409M (mechanical and chemical properties as per specification) on MS plate for inside surfaces of cylindrical and conical portion of bunkers including fixing with stainless steel studs, bolting (including countersunk), welding with electrode classification E308L for welding of stainless steel to stainless steel and E309 for stainless steel to mild steel, etc, all complete.	255	MT		

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
8.15	2317	Fixing in position PTFE type sliding bearings of reputed manufacturer, individual bearing suitable for required vertical loads as per the construction drawings and for maximum displacement of $\pm 50$ mm including transportation, installation, drilling, bolting, erecting, aligning, etc, all complete for following vertical loads.			
8.15.1	a	20 Tons.	10	NO	
8.15.2	b	25 Tons.	10	NO	
8.15.3	c	40 Tons.	5	NO	
8.15.4	d	50 Tons.	5	NO	
8.15.5	e	60 Tons.	10	NO	
8.16	2318	Fixing flexible open ended bellow strap of neoprene of minimum thickness 2 mm and minimum width 200 mm with aluminium stripped edges as sealing below top of bunker and bottom of tripper floor to avoid the coal dust nuisance, all complete.	175	MTR	
8.17	A2319	Fixing of stainless steel (SS 304) pipe hand railing of 40 mm dia including transportation, loading/unloading, etc, all complete.	1	MT	
8.18	A2320	Fixing of GI pipe hand railing (900 mm high) of 32 mm dia GI pipes as per IS-1239 including transportation, loading/ unloading, painting, etc, all complete.	18	MT	
8.19	2321	Conducting radiography test on welds wherever specified including equipments, measuring devices, gauges, test report, etc, all complete.	87	MTR	
8.20	2322	Conducting ultasonic test on welds wherever specified including equipments, measuring devices, gauges, test report, etc, all complete.	62	MTR	
8.21	2323	Conducting ultasonic test on steel plates as per ASTM-A435 or equivalent wherever specified including equipments, measuring devices, gauges, test report, etc, all complete.	62	SQM	
8.22	2324	Conducting magnetic particle test on welds wherever specified including equipments, measuring devices, gauges, test report, etc, all complete.	62	MTR	
8.23	2325	Conducting dye penetration test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, etc, all complete (over and above the work already specified in the specifications).	192	MTR	
9.0	M	MISCELLANEOUS WORK-2 (Miscellaneous works including all labour, material, equipment etc at any level unless otherwise specified as per specification, drawings and as directed by engineer)			
9.1	M1	Pumping out water by de-watering pump from water logged areas, etc, as & when required to facilitate execution of work, including provision of delevary pipe upto 150 m, etc, all complete as per site condition and instruction of engineer.	50	HP-HR	

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
9.2	M2	Engagement of manpower for cleaning and house keeping with all equipments, T&P, etc, from various floor of power house and other buildings, boiler, ESP, mill area and stacking at designated place at 0.0 M with a lead of 100 m. This scope of work is applicable only for areas beyond the scope of this tender, which is already included in the scope of the successful bidder.	200	MAN-DAY	
9.3	M3	Removal & disposal of scrap steel, scrap wood, broken packing crates, cable scrap, debris, other waste materials, etc, from project site to a designated place within 5 km range, with all manpower T&P, etc, including loading & unloading as directed by BHEL engineer. This scope of work is applicable only for areas beyond the scope of this tender, which is already included in the scope of the successful bidder.			
9.3.1	i	Steel.	10	MT	
9.3.2	ii	Wood/ cable scrap.	25	CUM	
9.3.3	iii	Debris & other waste materials.	50	CUM	
9.4	M4	Fabrication, installation of GSS Zinc coating 180 gms/ sqm ducting for AC/ Ventilation system.			
9.4.1	i	18G.	100	SQM	
9.4.2	ii	20G.	100	SQM	
9.4.3	iii	22G.	100	SQM	
9.4.4	iv	24G.	200	SQM	
9.5	M5	Installation of 50 mm thick glass wool with Al faced foil thermal insulation of supply air duct & return air duct.	200	SQM	
9.6	M6	Installation of 25 mm thick resin bonded fibre glass for accoustic insulation.	25	SQM	
9.7	M7	Installation of MS angle, rods, etc, as specified for duct support.	1	MT	
<b>TOTAL</b>					
10.0	3300	NON-SCHEDULE ITEM(APPLICABLE FOR SCH-2 & SCH-3) (For items not covered above schedule, quote % below/ at par/ above of DSR-2013)			
10.1	i	Rate of complete item.			___ %
10.2	ii	Rate of supply of materials at site only.			___ %
10.3	iii	Rate for execution complete excluding supply of materials.			___ %

**VOLUME-III  
PRICE SCHEDULE, REV-02**

**JOB:STRUCTURAL, ARCHITECTURAL, ETC WORK OF POWER HOUSE, BUNKER, ETC OF 1X660 MW UNIT # 4 FOR 2X660 MW UNITS AT IBV TPS,  
BANHARPALLI, ODISHA.**

**TENDER NO - PSER:SCT:BNP-C1675:15**

**SCH-3 - SUPPLY PART**

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
1.0	700	MS EMBEDMENT (For approved make, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)			
1.1	A701	Supply, fabrication, transportation, delivery at site, painting (synthetic enamel paint over redoxide Zinc chromate primer) of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	195	MT	
1.2	A704	Supply, fabrication, transportation, delivery at site of mild steel foundation bolt assembly, conforming to IS:2062 and Grade-1 of IS:432 along with nut, lock nut (as per IS:1363, 1364 & IS:3138), washer, anchor plate, stiffner plate, protective tape, pipe sleeve, template, etc, including welding, cutting, grinding, threading, drilling, etc, all complete.	25	MT	
1.3	705	Supplying & fabricating 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.			
1.3.1	d	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide.			
1.3.1.1	i	Upto 250 kg.	100	NO	
1.3.1.2	ii	Beyond 250 kg and upto 500 kg.	50	NO	
1.3.1.3	iii	Beyond 500 kg and upto 750 kg.	50	NO	
1.3.2	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.			
1.3.2.1	i	Upto 250 kg	100	NO	
1.3.2.2	ii	Beyond 250 kg and upto 500 kg.	50	NO	
1.3.2.3	iii	Beyond 500 kg and upto 750 kg.	50	NO	
1.4	800	GROUTING (Cement & special cement for grouting shall be supplied from BHEL's approved manufacturers)			

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
1.4.1	802A	Supply of cement for grouting of pocket hole, pipe sleeve under base plate, machinery, pipe supporting structure, etc, from BHEL's approved manufacture/ supplier.	4 MT		
1.4.2	802B	Supply of sand for grouting of pocket hole, pipe sleeve under base plate, machinery, pipe supporting structure, etc, from BHEL's approved supplier.	5 CUM		
1.4.3	804	Supply of Conbextra GP-1 or equivalent, for grouting of pocket hole, pipe sleeve, under base plate of structural steel work/ machinery/ pipe supporting structure, from BHEL's approved manufacture/ supplier.	80 MT		
1.4.4	805	Supply of Conbextra GP-2 or equivalent, for grouting of pocket hole, pipe sleeve, under base plate of structural steel work/ machinery/ pipe supporting structure, from BHEL's approved manufacture/ supplier.	20 MT		
2.0	900	DOOR, WINDOW, VENTILATOR, LOUVER (For approved make, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)			
2.1	A901	Supply of wooden frame at site conforming to IS 4021 made of best quality seasoned CP teakwood free from large or loose knot, crack or other defect, including sand paper smoothening, hold fast, beading, primer and finish painting/ polishing, etc, all complete with proper wood joinery, accurately set to required line or level & rigidly secured in place including primer & finish painting/ polishing, etc as per specification, all complete.	1 CUM		
2.2	A902	Supply of teakwood frame panel door shutter at site as per IS:1003 with 35 x 150 mm vertical rail & 35 x 125 mm horizontal rail and 12 mm thick interlocked panel of teakwood with proper wood joinery including beading, preparation of working drawing, Godrej or equivalent make mortice lock with handel on both sides, approved ISI mark anodised fitting, like door stopper, 300 mm long tower bolt, 16 x 300 mm long aldrops, 125 mm long handle on both sides, etc, butt hinge, sliding bolt, knob (all fittings shall be anodised Aluminium color dyed), screw, primer & finish painting/ polishing, etc, as per specification, all complete.	25 SQM		
2.3	A903	Supply of solid core flush door shutter at site as per IS 2202, Part II, 35 mm thick homogenous particle board bonded with BWP type phenolformaldehyde synthetic resin, partical board core conforming to IS:3087, type I, 35 x 12 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, 300 mm long tower bolt, 16 x 300 mm long aldrops, 125 mm 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, with commercial faces and teak wood edges.	58 SQM		
2.4	904	Supply of single or double steel door shutters at site with 45 mm 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 150 mm 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.	71 SQM		

SL NO	ST NO	DESCRIPTION	QUANTITY		RATE (Rs)	AMOUNT (Rs)
2.5	906	Supply of anodized extruded Aluminium doors (single or double shutter) at site conforming to IS:1948, IS:1949, fabricated from extruded sections of HINDALCO/ JINDAL or equivalent make having minimum 3 mm 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 screw / 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 6 mm 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).	65	SQM		
2.6	907	Supply of fire proof steel doors (single or double shutter) at site with panic devices shall be 45 mm thick 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 150 mm 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.	132	SQM		
2.7	908	Supply of 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).				
2.7.1	a	Openable type.	185	SQM		
2.7.2	b	Fixed type.	50	SQM		
2.8	909	Supply of anodised Aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing, etc at site with extruded standard tubular and other sections including all fittings & fixtures & accessories of approved make conforming to IS733 & 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-mettalic protection, etc, including preperation of working drawings, Aluminium cleat angle, Aluminium snap-on-beading for glazing/ panelling, stair case tread nosing, with all fittings & 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. Glazing and panelling shall be paid seperately. Weight of Aluminium section only shall be measured.	9710	KG		
2.9	911	Supply of door closers at site as per IS:3564, of approved make & quality all complete of following type.				
2.9.1	a	Over head hydraulic door closures.	26	NO		

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
2.9.2	b	Floor mounted Hydraulic door closers.	26	NO	
2.10	912	Supply of pressed steel frames at site fabricated from 16 gauge MS sheet mortised, reinforced drilled and tapped at site for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/ weather bars, paintings, etc, all complete as per specification.	3500	KG	
2.11	913	Supply of rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75 mm 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 & 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 3 mm thick galvanised steel plate and securely rivetted with stiffening angles.(partly coiled and lath/ full lath).			
2.11.1	a	Hand operated.	25	SQM	
2.11.2	b	Mechanically operated.	50	SQM	
2.11.3	c	Electrically operated.	100	SQM	
2.12	A914	Supply of PVC doors (25 thick double skin) of Sintex or equivalent make at site including all fitting & fixtures as per specification, drawing and instructions of engineer.	17	SQM	
2.13	A915	Supply 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.			
2.13.1	a	3 mm thick translucent glass.	15	SQM	
2.13.2	b	4 mm thick clear float glass.	15	SQM	
2.13.3	c	6 mm thick clear float glass.	75	SQM	
2.13.4	d	6 mm thick toughened float glass.	125	SQM	
2.13.5	e	6 mm thick wired glass.	800	SQM	
2.13.6	f	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).	25	SQM	
2.13.7	g	One outer 6 mm thick tinted heat-reflecting type float glass and one inner 6 mm thick plain float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	93	SQM	
2.13.8	h	6 mm thick laminated glass.	15	SQM	
2.13.9	i	6 mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	35	SQM	
2.14	B915	Supply of glazing of first grade class in steel/ Aluminium/ wooden frames, wherever required, cleaning after fixing including hardware, gaskets, clips, beadings, etc, all complete.			
2.14.1	a	3 mm thick translucent glass.	10	SQM	

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
2.14.2	b	4 mm thick clear float glass.	10	SQM	
2.14.3	c	6 mm thick clear float glass.	25	SQM	
2.14.4	d	6 mm thick toughened float glass.	50	SQM	
2.14.5	e	6 mm thick wired glass.	515	SQM	
2.14.6	h	6 mm thick laminated glass.	10	SQM	
2.14.7	i	6 mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	15	SQM	
2.15	916	Supply of weather stripping of approved make and quality to doors as per instructions of engineer and specification, complete.	50	MTR	
2.16	A917	Supply of 12 mm thick BWP particle board, decorative veneer (prelaminated) on both sides at site, as panels in Aluminium framed door shutter, fixed with necessary snap-on-beading, etc, all complete (excluding Aluminium works).	10	SQM	
2.17	918	Supply of steel louvered window with ISMC 100 frame all round including verticals with 18G pressed steel louvers, painting, etc, all complete.	25	SQM	
3.0	1500	ROOFING/ SIDE CLADDING (For approved make, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)			
3.1	A1501	Designing and supply of permanently color coated galvanised MS troughed metal sheet decking plate at site of approved colour and conforming to class-3 of IS:14246 over floor beams/ roof purlin for cast-in-situ floor/ roof slab as per relevant IS code and specification. Bare metal thickness of deck plate shall be minimum 0.8 mm with minimum trough depth of 51 mm having minimum yield strength of 250 MPa and shall serve as permanent shuttering to the floor/ roof slab 100 mm 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/ floor beams as per manufacturer's recommendations/ calculations/ test certificates for approval including supply of self drilling white zinc plated heat treated carbon steel screws of minimum 5.6 mm dia @ 260 mm c/c in the trough for fixing of plates to floors beams/ purlins and stich screws between two adjacent sheets, etc, for below mentioned spans. The sheet shall be permanently coated with silicon modified polyester paint of minimum 20 micron DFT on exposed surface (facing floor beams/ purlins) and minimum 7 micron on other face over epoxy primer applied over hot dipped galvanising @ 275 gm/ sqm. For payment, measurement of sheet plan area shall be considered. No deduction for lap shall be considered and total plan area of sheets shall be paid under this item. Cost of other accesories to be supplied along with sheets shall be deemed to be included in quoted rate.			
3.1.1	a	Span upto 1800 mm.	4230	SQM	

SL NO	ST NO	DESCRIPTION	QUANTITY		RATE (Rs)	AMOUNT (Rs)
3.1.2	b	Span exceeding 1800 mm and upto 2500 mm.	13400	SQM		
3.2	A1502	Supply of shear connectors of mild steel studs at site having 16 mm dia and minimum 75 mm projected length above purlin passing through metal decking as per relevant IS codes and specification.	7	MT		
3.3	A1503	Design & supply of external sheet of permanent colour coated metal cladding with troughed MS sheets of 0.6 mm bare metal thickness having minimum yield strength 250 MPa with minimum rate of galvanisation of 275 gm/ sqm total on both sides or high tensile steel sheet having minimum yield strength of 350 MPa of 0.5 mm minimum bare metal thickness and coated with Zinc Aluminium alloy (Zincalume) at the rate of 150 gm/ sqm total on both sides including fixing to supports/ rails by concealed fixing system, corrosion resistant self tapping/ self drilling type fasteners with suitable cap, flashing, etc, all complete. The exposed face of the sheet shall be permanently colour coated with silicon modified polyester coating of minimum dry film thickness (DFT) 20 microns over suitable primer of approved colour shade. Inner face of the sheet shall be provided with suitable pre-coating of minimum DFT 7 microns of off-white colour 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 Z spacer if required shall be made out of at least 2 mm thick galvanized steel of grade 275 as per IS:277.	13960	SQM		
3.4	A1505	Designing, supply of inner sheet of permanent colour coated metal cladding with troughed MS sheets of 0.6 mm bare metal thickness having minimum yield strength 250 MPa with minimum rate of galvanization of 275 gm/ sqm total or high tensile steel, having minimum yield strength of 350 MPa of 0.5 mm minimum bare metal thickness and coated with Zinc Aluminium alloy (Zincalume) at the rate of 150 gm/ sqm total on both sides sheets including fixing to supports/ rails by concealed fixing system, corrosion resistant self tapping/ self drilling type fasteners with suitable cap, flashing, etc, all complete. The exposed 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.	12700	SQM		
3.5	1506	Supply of 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.	3000	SQM		

SL NO	ST NO	DESCRIPTION	QUANTITY		RATE (Rs)	AMOUNT (Rs)
3.6	1507	Supply of insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS:8183 having a density of 32 kg/ cum glass wool or 48 kg/ cum for rock wool, for cladding/ under deck insulation including wrapping in black polythene black supported over weld mesh 75 x 75 x 1.6 mm dia to hold in position and application of glue & tying with lacing wire, for glass/ rock wool as per manufacturer's recommendation.	7520	SQM		
3.7	A1507	Supply of insulation of resin bonded fibre glass roll of 50 mm nominal thickness conforming to IS:8183 having a density of 16 kg/ cum glass wool for cladding including wrapping in black polythene black supported over weld mesh 75 x 75 x 1.6 mm dia to hold in position and application of glue & tying with lacing wire, for glass/rock wool as per manufacturer's recommendation.	2900	SQM		
3.8	1508	Supply of under deck insulation 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.	250	SQM		
4.0	1600	FALSE CEILING (For approved make & vendor, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)				
4.1	A1601	Supply of glass fibre reinforced gypsum plaster board (GRG) ceiling (having gypsum core mixed with glass fibre) system at site consisting of metal supporting grid system forming panels of specified size, suspended from RCC slab/ structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preparation of working drawing, providing openings for AC ducts, return air grills, light fixtures, etc (but excluding the cost of catwalkway grid), all complete, as per drawings, specification and instructions of the engineer.				
4.1.1	a	12 mm thick GRG board with galvanised light gauge steel load bearing supporting GI frame and finished flat (seamless).	100	SQM		
4.2	A1602	Supply of material at site for light weight mineral fiber tile false ceiling of minimum thickness 15 mm and exposed surface semi-perforated (ine fissured) with nominal 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 including 50 mm thick mineral wool insulation (density 48kg/ cum) as per IS:8183 bound in polythene bags on top of panels. Metal suspension grid system shall conform to ASTM C-635 and shall be hot dipped MS galvanized (grade 180 as per IS: 277). Nominal size of T-section shall be 24 x 38 mm for main runners and 24 x 30 mm or 24 x 25 mm cross runners. 24 mm wide exposed flange surfaces shall be permanently colour coated of approved colour and make as per specification. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, AC ducts, etc suitable MS channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts, etc, complete with cut-outs, etc. The size of tiles shall be 600 x 600 mm or 600 x 1200 mm. Required MS channel shall be measured & paid extra under respective item unit rate.	750	SQM		

SL NO	ST NO	DESCRIPTION	QUANTITY		RATE (Rs)	AMOUNT (Rs)
4.3	A1603	Supply of material at site for 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 0.5 mm including 50 mm thick resin bonded mineral wool insulation (density 48 kg/ cum) conforming to IS:8183 bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, AC ducts, etc, all complete. Suitable MS channel grid with minimum MC 75 shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts, etc.	100	SQM		
4.4	A1604	Supply of material at site for permanently colour coated Aluminium false ceiling of approved colour with stove enamel finish of approved make in LINEAL and SQUARE type with corrosion resistance Aluminium alloys panels of minimum thickness 0.5 mm including 50 mm thick mineral wool insulation (as per IS:8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, AC ducts, etc, suitable MS channel (minimum MC 75) grid 1200 c/c maximum shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts, etc. The work to be complete as per specifications, drawings and direction of engineer.	1150	SQM		
4.5	A1606	Supply of 12 mm thick Gypsum board plain/ perforated false ceiling tiles (600 x 600 mm) at site of India Gypsum or equivalent make in plan or elevation with Aluminium grid, metal suspension system, anchor fastener adjustable hangers, etc, including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete as per architectural design and detail. metal suspension system as per ASTM C-635 shall be hot dipped MS galvanized (grade 180 as per IS:277) nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24 mm wide exposed flange surface shall be permanently color coated. suspension system shall be as per manufacturer's specification supported over movement platform. The work to be complete as per specification, drawings and direction of engineer.	50	SQM		
5.0	1700	RAIN WATER DOWN TAKE PIPE (For approved make, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)				
5.1	A1702	Supply of galvanised MS down take pipes of 150 mm dia, medium quality as per IS:1239 (part-I)/ IS:3589, all complete, at site.	2150	MTR		
5.2	B1702	Supply of galvanised MS elbow of 150 mm dia, of approved make.	150	MTR		
6.0	1800	MISCELLANEOUS WORK-1 (For approved make, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)				
6.1	A1810	Supply of rails and guide rails in concrete for transformer, rail track including cutting of rails, joining of rails, anchoring lugs, etc, all complete.	85	MT		

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
7.0	2000	FENCING AND GATE (For approved make, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)			
7.1	2001	Supply of 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75 x 75 mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing of height of 600 mm confirming to IS 298 at top of chain link fencing shall be provided with 4 strands of barbed wire hot dip galvanised wire of 12G comprising of 2 ply of wires with barbs of 16G spaced at 100 mm. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25 x 6 mm GI flat stretcher bar at end posts, accessories, etc, all complete. Structural post shall be separately under item 2007.	230	MTR	
7.2	2009	Supply, fabrication of galvanised MS gates out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffners, bracings, fabricated hinges, MS aldrops with locking arrangement, tempered steel pivot, guide track of MS tee, bronze aluminium ball bearing arrangements, castor wheels, paintings, etc, all complete.	1	MT	
8.0	2100	WATER SUPPLY (For approved make, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)			
8.1	A2101	Supply of tested heavy duty type chromium plated (CP) brass long neck bib cocks including sockets, union, nuts, etc, all complete, 15 mm nominal bore.	84	NO	
8.2	A2102	Supply of heavy duty brass stop cock of approved quality including all specials, etc, all complete, 15 mm nominal bore.	42	NO	
8.3	A2103	Supply of heavy duty brass full way valve with wheel of approved quality including all specials, etc, all complete, for following sizes.			
8.3.1	a	25 mm nominal bore.	7	NO	
8.3.2	b	50 mm nominal bore.	7	NO	
8.4	A2104	Supply of GI pipes, class B medium class conforming to IS:1239 pipes shall be concealed and painted with anticorrsvie 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.			
8.4.1	a	15 mm nominal bore.	100	NO	
8.4.2	b	20 mm nominal bore.	50	NO	
8.4.3	c	25 mm nominal bore.	50	NO	
8.5	A2105	Supply of GI pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples, etc, including trenching & refilling, anti-corrosive paint, etc, all complete, for following sizes.			
8.5.1	c	25 mm nominal bore.	100	MTR	

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
8.5.2	d	50 mm nominal bore.	100	MTR	
8.6	A2106	Supply of 610 x 453 x 6 mm thick mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws, etc, all complete.	8	NO	
8.7	A2107	Supply of 610 x 127 x 6 thick clear glass with CP guard rails and mounted on CP brackets, etc, all complete.	8	NO	
8.8	A2108	Supply of 25 mm diameter stainless steel towel raii (600 x 25 mm), all complete.	8	NO	
8.9	A2110	Supply of CP soap holder mounted with CP screws, etc, all complete.	8	NO	
8.10	A2111	Supply of stainless steel/ CP liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on CP brackets, etc, all complete.	8	NO	
8.11	A2112	Supply of stainless steel toilet paper roll holder with suitable cover cum cutter fitted with CP screws, etc, sll complete.	8	NO	
8.12	A2113	Supply of chromium plated brass shower rose with 15 or 20 mm inlet all complete.	1	NO	
8.13	A2114	Supply of PVC water tank of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves, etc all complete for following capacities. GI pipes shall be paid separately under ST no 2105.			
8.13.1	a	1000 litres capacity.	2	NO	
8.13.2	b	2000 litres capacity.	2	NO	
8.13.3	c	5000 litres capacity.	2	NO	
8.14	A2115	Supply of 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.	1	NO	
8.15	A2116	Supply of minimum 600 mm long porcelain tray, etc, all complete.	8	NO	
8.16	A2117	Supply of porcelain soap tray in shower area, etc, all complete.	4	NO	
9.0	2200	SANITARY WORK (For approved make, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)			
9.1	A2201	Supply of glazed vitreous china wash basin conforming to IS:2556 part 4 of oval shape with RS or CI brackets painted white, 15 mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug, 32 mm chromium plated brass bottle trap and waste of standard pattern, 32 mm 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.			
9.1.1	b	Colored.	3	NO	

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
9.2	B2201	Supply of vitreous china coloured wash basin at site, size 600 x 450 with RS or CI brackets painted white, 15 mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug 32 mm chromium plated brass bottle trap and waste of standard pattern, 32 mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, cutting and making good the walls where required, etc, complete as per specification.	1	NO	
9.3	C2201	Supply of vitreous china white wash basin at site, size 600 x 450 with RS or CI brackets painted white, 15 mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug 32 mm chromium plated brass bottle trap and waste of standard pattern, 32 mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, cutting and making good the walls where required, etc, complete as per specification.	6	NO	
9.4	A2202	Supply of approved vitreous china laboratory sink of size 600 x 400 x 200 mm conforming to IS:2556 (part-5) with RS or CI brackets, chromium plated brass chain with rubber plug 40 mm, CP brass waste and 40 mm CP brass trap with necessary union complete including painting the fittings, cutting and making good the wall where required, etc, all complete.	1	NO	
9.5	A2203	Supply of stainless steel kitchen sink of size 610 x 510 x 200 mm conforming to IS:13983 including all fittings, etc, all complete.	1	NO	
9.6	A2204	Supply of 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 CP connections, etc, all complete.			
9.6.1	a	Floor mounted.	3	NO	
9.6.2	b	Wall mounted.	1	NO	
9.7	B2204	Supply of white 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 valve-less fittings, necessary CP connections, etc, all complete.			
9.7.1	a	Floor mounted.	3	NO	
9.7.2	b	Wall mounted.	1	NO	
9.8	A2205	Supply of colour glazed vitreous indian type Orissa pattern (580 x 440 mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valve-less fittings, necessary CP connections, etc, all complete.	3	NO	
9.9	B2205	Supply of white glazed vitreous indian type Orissa pattern (580 x 440 mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valve-less fittings, necessary CP connections, etc, all complete.	3	NO	
9.10	A2206	Supply of white flat back glazed vitreous china urinals of size 440 x 265 x 355 mm with photo voltaic control flushing system as per IS:2556 (part 6, section 1) with flush pipes, lead pipes, gratings, traps and necessary CP fittings, etc, all complete.	6	NO	

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
9.11	B2206	Supply of colored flat back glazed vitreous china urinals of size 440 x 265 x 355 mm with photo voltaic control flushing system as per IS:2556 (part 6, section 1) with flush pipes, lead pipes, gratings, traps and necessary CP fittings, et., all complete.	3	NO	
9.12	A2208	Supply of 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.			
9.12.1	a	200 mm dia.	25	MTR	
9.12.2	b	300 mm dia.	50	MTR	
9.12.3	c	450 mm dia.	100	MTR	
9.12.4	d	600 mm dia.	25	MTR	
9.13	A2211	Supply of CI manhole heavy duty cover of size 600 x 450 mm including frame from reputed manufacture, etc, all complete.	25	NO	
9.14	A2212	Supply of circular heavy duty CI manhole cover of 600 mm dia with frame, etc, all complete.	2	NO	
9.15	A2213	Supply of square mouth SW gully trap grade 'A' complete with CI grating, brick masonry chamber and water tight CI cover with 300 x 300 mm (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:			
9.15.1	a	100 x 100 mm P or S type..	5	NO	
9.15.2	b	150 x 100 mm P or S type.	5	NO	
9.15.3	c	150 x 150 mm P or S type.	10	NO	
9.16	A2215	Supply of CI floor traps with CP jalli all complete.	50	NO	
9.17	A2216	Supply of heavy duty UPVC floor traps with CP jalli all complete.	15	NO	
9.18	2217	Supply of approved brand single tap water cooler of 80 ltr cooling capacity all complete.	2	NO	
9.19	2218	Supply of approved brand single tap water cooler of 150 ltr cooling capacity all complete.	2	NO	
9.20	A2219	Supply of porcelain colored urinal partitions at site of size 675 x 325 x 85 mm all complete.	3	NO	
9.21	B2219	Supply of porcelain white urinal partitions at site of size 675 x 325 x 85 mm all complete.	9	NO	
9.22	A2221	Supply of heavy duty cast Iron pipes with lead joints conforming to IS:1729 all complete as per specification for following diameter.			
9.22.1	a	100 mm dia.	50	MTR	
9.22.2	b	150 mm dia.	50	MTR	
9.22.3	c	200 mm dia.	100	MTR	
9.23	B2221	Supply of extra heavy duty cast Iron pipes with lead joints conforming to IS:1729 all complete as per specification for following diameter.			
9.23.1	b	150 mm dia.	10	MTR	

SL NO	ST NO	DESCRIPTION	QUANTITY	RATE (Rs)	AMOUNT (Rs)
9.23.2	c	200 mm dia.	20	MTR	
10.0	2300	STRUCTUTAL STEEL (For approved make, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)			
10.1	2307	Supply & fabrication of factory made electroforged galvanised grating units with mild steel (having minimum galvanisation of 610 g/sqm) conforming to IS:2062, including fixing clamps, fittings, fixtures, packing, grinding, drilling, welding, edge preparation, etc, all complete.	145	MT	
10.2	A2308	Supply & fabrication of factory made galvanised welded grating units with mild steel (having minimum galvanisation of 610 gm/sqm) conforming to IS:2062, including fixing clamps, fittings, fixtures, packing, grinding, drilling, welding, edge preparation, etc, all complete.	10	MT	
10.3	A2309	Supply of factory made electroforged mild steel ( <b>conforming to IS:2062</b> ) grating unit with hot dipped galvanisation (having minimum galvanisation of 610 g/sqm) , over blast cleaned steel surfaces, all complete, including fixing clamps, fittings, fixtures, packing, grinding, drilling, welding, edge preparation, etc, all complete.	2	MT	
10.4	2310	Supply of permanent mild steel bolts (class 4.6 as per IS:1367 and grade `C' as per IS:1363) and nuts, washers, etc, up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work, etc, all complete.	3.1	MT	
10.5	2311	Supply of high strength structural bolts (of property class 8.8 and product grade `C' as per IS:1367) and conforming to IS:3757 and high strength structural hardened and tempered nuts (of property class `8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649, etc, up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work, etc, all complete.	27	MT	
10.6	2317	Supply of PTFE type sliding bearings of reputed manufacturer, individual bearing suitable for required vertical loads as per the construction drawings and for maximum displacement of $\pm 50$ mm, including transportation, installation, drilling, bolting, erecting, aligning, etc, all complete for following vertical loads.			
10.6.1	a	20 Tons.	10	NO	
10.6.2	b	25 Tons.	10	NO	
10.6.3	c	40 Tons.	5	NO	
10.6.4	d	50 Tons.	5	NO	
10.6.5	e	60 Tons.	10	NO	
10.7	2318	Supply of flexible open ended bellow strap of neoprene of minimum thickness 2 mm and minimum width 200 mm with Aluminium stripped edges as sealing below top of bunker and bottom of tripper floor to avoid the coal dust nuisance, all complete.	175	MTR	
10.8	A2319	Supply & fabrication of stainless steel (SS 304) pipe hand railing of 40 mm dia including transportation, loading/unloading, etc, all complete.	1	MT	

SL NO	ST NO	DESCRIPTION	QUANTITY		RATE (Rs)	AMOUNT (Rs)
10.9	A2320	Supply & fabrication of GI pipe hand railing (900 mm high) of 32 mm dia GI pipes as per IS:1239 including transportation, loading/ unloading, painting, etc, all complete.	18	MT		
11.0	M	MISCELLANEOUS WORK-2 (For approved make, refer technical specification or obtain approval of BHEL before procurement. Unless otherwise specified, successful bidder shall supply all materials)				
11.1	M1	Supply of GSS Zinc coating 180 gms/ sqm ducting material for AC/ Ventilation system.				
11.1.1	i	18G.	100	SQM		
11.1.2	ii	20G.	100	SQM		
11.1.3	iii	22G.	100	SQM		
11.1.4	iv	24G.	200	SQM		
11.2	M2	Supply of 50 mm thick glass wool with Al faced foil thermal insulation of supply air duct & return air duct.	100	SQM		
11.3	M3	Supply of 25 mm thick resin bonded fibre glass for accoustic insulation.	25	SQM		
11.4	M4	Supply of MS angle, rods, etc, as specified for duct support.	1	MT		
<b>TOTAL</b>						

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

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

Sub	No Deviation Certificate.	
Job	Structural, architectural, etc work of Power House, Bunker, etc of 1x660 MW unit # 4 for 2x660 MW units at IBV TPS, Banharpalli, Odisha.	
Ref	1.0	Tender no PSER:SCT:BNP-C1675:15.
	2.0	BHEL's NIT, vide reference no PSER:SCT: BNP-C1675:4471 Date: 21-05-2015
	3.0	BHEL's TCN-01, vide reference no PSER:SCT: BNP-C1675:TCN-01 Date: 29-05-2015
	4.0	BHEL's TCN-02, vide reference no PSER:SCT: BNP-C1675:TCN-02 Date: 01-06-2015
	5.0	BHEL's TCN-03, vide reference no PSER:SCT: BNP-C1675:TCN-03 Date: 02-06-2015
	6.0	All other pertinent issues till date.

Dear Sirs,

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

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

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

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

Thanking you,

Yours faithfully,

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