



**BHARAT HEAVY ELECTRICALS LIMITED**  
**RAMACHANDRAPURAM::HYDERABAD::32**  
 CIVIL FACTORY DEPARTMENT

SCHEDULE- A

Tender Notice No:

HY/FCD/OT-37/14-15, Dt: 16.12.2014

**PRICE BID**

Item no.: 1

**Name of work :- Construction of foundations for transformers, HT panels, Control rooms, laying of roads, open drains and misc. civil works at 1.5 MW Solar Power Plant**

S. No	Description	Qty	Unit	Rate in Rs	Amount (Rs)
<b>A:Civil Works Control room</b>					
1	<b>Earth work in excavation</b> in all soils by mechanical means (Hydraulic Excavators) / manual means in foundations trenches or drains (not exceeding 1.5m in width or 10 Sq.m on plan ) including dressing of sides and ramming of bottoms, lift upto 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed within a lead of 50M.	397.50	cum	103.40	41,101.50
2	----do---- up to First additional depth of 1.50 M to 3.00 M.	12.50	Cu.m	122.30	1,528.75
3	<b>Providing and laying in position cement</b> concrete of specified grade excluding the cost of centering and shuttering including consolidation by vibrations for all works up to plinth level with <b>1:4:8</b> (1 cement : 4 coarse sand : 8 graded stone aggregate of 20 mm nominal size ). <b>(Cement only will be issued on free of cost by BHEL)</b>	26.60	cum	1560.00	41,496.00
4	<b>Providing and laying in position specified grade, of cement concrete</b> excluding the cost of centering, shuttering, finishing and reinforcement - all work up to plinth level with <b>1:2:4</b> (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size ) - <b>(Cement only will be issued on free of cost by BHEL)</b>	8.50	cu.m	1587.00	13489.50
5	Centering and shuttering including strutting, propping etc.; and removal of form work, for foundations, footings, bases of columns etc. for mass concrete- up to plinth level.	411.00	sqm	119.25	49,011.75
6	Reinforcement for R.C.C. work including straightening , cutting , bending , placing in position and binding grills with binding wire all complete by cold twisted bars-Upto floor Five level.	8.48	MT	4003.00	33,945.44
7	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering ,shuttering, finishing and reinforcement ,including consolidation by vibrations for all works <b>up to plinth level</b> with <b>1:1½ :3</b> (1 cement : 1½ coarse sand : 3 graded stone aggregate of 20 mm nominal size ). <b>(Cement only will be issued on free of cost by BHEL)</b>	105.70	cum	1641.30	1,73,485.41
8	<b>Fabrication and fixing inserts</b> in concrete wall with lugs of required dia welded to the insert plates.(St. Steel, electrodes and gas required for work will be issued on free of cost by BHEL at their stores)	0.66	MT	2863.00	1,889.58
9	Fabrication and fixing of <b>M.S holding down bolts</b> , threaded both sides including supply of nuts, washers etc., complete as directed. (M.S. rounds as per required size will be issued on free of cost at BHEL stores)	0.05	MT	23405.04	1,170.25

S. No	Description	Qty	Unit	Rate in Rs	Amount (Rs)
10	Brick work <b>with FPS bricks</b> of class designation 75 in superstructure above plinth level up to ground floor in all shapes and sizes in <b>cement mortar 1:6</b> .(Cement only will be issued on free of cost by BHEL)	18.50	cum	2104.00	38,924.00
11	<b>Plastering in CM 1:6 , 20 mm</b> thick to internal and external surfaces of walls including the cost of all materials , labour , curing etc., complete -Upto 10.00 M level.(Cement only will be issued on free of cost by BHEL)	165.50	sqm	65.80	10,889.90
12	<b>Cement Plaster to ceiling /walls with 12mm</b> thick cement plaster finished with a floating coat of neat <b>cement of mix 1:3</b> ( 1 cement : 3 fine sand ) (Cement only will be issued on free of cost by BHEL)	26.04	Sq.m	59.00	1536.36
13	Plastering over <b>roof slab in CM 1:4, 20mm</b> thick mixed with water proofing compound, Make: "Sika" @ 3% by weight of cement as per manufacturer's specification, curing as directed. Rate quoted shall include finishing, cost of all materials and labour etc., complete. (Cement =7.69 kgs/sq.m x3% WP@ Rs 20.00 per kg=Rs 4.61) upto 10 m height	21.84	sqm	115.06	2,512.91
14	Thorough cleaning of existing oil bound distemper paint/white washing with water by scrapers or any other suitable tools and applying one coat of oil based cement primer and applying <b>3 coats altek lappam</b> one coat after drying the previous coat and sand papering and applying one coat of oil bound cement primer etc., complete as directed by the Engineer-in-charge. (Only OBD Paint will be supplied by BHEL)	30.00	Sq.m	79.05	2,371.50
15	<b>Filling</b> with available excavated earth (excluding rock) in trenches , plinth , sides of foundations etc. in layers not exceeding 20 cm in depth , consolidation each deposited layer by ramming and watering , lead upto 50.00 m and lift upto 1.50 m	278.64	cum	45.70	12,733.85
16	<b>Conveyance</b> of excavated spoil up to a lead of 2 Kms, including loading , unloading and spreading etc. complete as directed by Engineer- in- charge.	116.50	cum	56.41	6,571.77
17	<b>Coursed rubble masonry</b> in second sort with hard stone in foundation & plinth with <b>cement mortar 1:6</b> (1 cement :6 coarse sand)(Cement only will be issued on free of cost by BHEL)	2.50	Cu.M	1521.00	3,802.50
18	<b>Flooring</b> in 25mm thick using 1 cement and 3 parts of granite stone chips of 3 to 10mm gauge (no sand) <b>ellis pattern</b> first sort including neat finishing, curing, cost of materials etc.; complete. Only cement will be issued by BHEL on free of cost at their store. Only cement will be issued by BHEL on free of cost at their store	14.44	Sq.m	117.49	1,696.56
19	Applying <b>exterior emulsion paint 2 coats</b> over one coat of primer to external new plastered surfaces including cost of all labour and other incidentals. ( only exterior paint will be issued by BHEL on free of cost).	80.00	Sq.m	20.40	1,632.00
20	Applying <b>two coats of oil bound distemper</b> of given shade <b>over a coat of primer</b> including through cleaning of the surfaces, cost of all labour and other incidentals. (Only OBD, OBD Primer Paint will be supplied by BHEL)	48.00	One Sq.m	34.60	1,660.80

S. No	Description	Qty	Unit	Rate in Rs	Amount (Rs)
21	<b>Fabrication of structural steel work</b> including all materials going into the process of fabrication and forming an integral part of steel work together with all shop and site rivets and electrodes for site welding as necessary and all site connections comprising sag rods, floor beams, girders, bracings, trusses and frame work for fixed false ceiling and for movable false ceiling, purlins with channel / angles, MS flat supports including all connections as per detailed drawings connected steel works etc., cleats, gusset plates, all bolts, nuts, washers, base plates, anchor bolts as per detailed drawings, cutting, welding and painting 2 coats of red-oxide primer before erection etc., complete. The rate shall include painting 2 coat of Red-oxide as per IS specifications and all charges for handling, leading and loading at the fabrication yard. The raw structural steel sections, electrodes, gasses will be issued by BHEL on FREE of cost at their stores	7.20	MT	6187.18	44,547.70
22	<b>Erection of Steel work</b> out lined in item No.1 above including the charges for handling, leading and stacking at site at approved locations prior to erection including all site rivetting, bolting, jointing and site welding where ever required	7.20	MT	2651.62	19,091.66
23	<b>Painting at site of all structural steel work</b> with 2 coats of aluminium paint / synthetic enamel paint of approved shade to trusses, columns, girders, bracings etc., with aluminium paint or synthetic enamel paint as required etc., complete. The required paint only will be issued free of cost by B H E L at their stores	7.20	MT	487.93	3,513.10
24	Fixing of <b>colour coated aluminium zinc alloy coated metallic hirib profile sheet of nominal 1015-1020mm effective cover width and 28-30 mm deep ribs</b> with subtle square fluting in the five pan at nominal 202-205mm centre-to-centre. The end rib shall be designed for anti-capillary action, to avoid any seepage of water through the lateral overlap. The feen material is manufactured out of nominal 0.45mm base metal thickness (BMT) or 0.5 mm TCT, Hi-Strength steel with minimum 550 MPa yield strength metallic hot dip coated with aluminium -Zinc alloy (55 % Aluminium ,45 % Zinc)as per AS 1397-Zincalume AZ150 (Min 150 Grams / Sq.Mt) Total on both sides) with colour bond steel quality paint coat as per AS/NZS 2728 type 3-4.The paint shall have a total coating thickness of nominal 35 µm, Comprising of nominal 20µm exterior coat on top surface and nominal 5 µm reverse coat on back surface over nominal 5µm primer coat on both surfaces of approved colour shade by concern authority.	116.00	Sq.m	67.78	7,862.48

S. No	Description	Qty	Unit	Rate in Rs	Amount (Rs)
25	<b>Providing &amp; Fixing barge boards</b> in required girth (200 mm horizontal, 200 mm vertical) with 0.50 mm color galvalume sheets upto a length of 2.50 M, fixed to steel members with self drilling / self stitching fasteners at maximum 500 mm c/c along the length of capping, flashing etc., complete as directed by Engineer-in-charge including the cost of galvalume sheets, fixtures, fittings etc., complete. - (Plain Galvalume Sheet will be issued Free of cost by BHEL at their stores).	25.00	RM	542.50	13,562.50
26	<b>Supply and spreading of river sand</b> of good grade and quality for ETP filter beds as directed by Engineer-In-Charge. The rate includes supply of sand, spreading of the sand in the filter bed etc. all complete.	27.65	Cu.M	2464.00	68,129.60
27	Supply and stacking at site coarse aggregate of size 53mm to 22.4mm and spreading at site as directed by Engineer-In-Charge	11.55	Cum	810.55	9,361.85
28	Providing and placing on terrace (at all floor levels) of <b>polyethylene water storage tank of 3000 ltrs capacity</b> with double layer approved brand and manufacture as per ISI with cover and suitable locking arrangement and making necessary holes for inlet and outlet and overflow pipes with fittings (ballcock, inlet and outlet nipples) without base support for tank. (Brick work will be paid separately)	2.00	Each	18000.00	36,000.00
29	Supply & fixing <b>25 mm dia Nominal Bore GI pipe medium Grade properties</b> and weight as per IS 1239 ISI mark with GI fittings including the cost of GI pipe & its fittings, chasing brick work/concrete and making good the same ,cost of labour , all materials etc. complete.	200.00	RM	179.65	35,930.00
30	<b>Supply &amp; fixing of Gunmetal Gate (GM peet) valve</b> as per IS -778 class-I, Indian make heavy type 25mm (1/2") dia NB size.	4.00	Each	285.00	1,140.00
31	Supply and fixing Hot dipped Galvanised Iron Chain link mesh 8 gauge - (4.0 mm) as per IS: 2721-1979 - PVC Coated - 2"x2" (50 mm x 50 mm) - 8 Gauge	144.00	One Sqm	537.00	77,328.00
32	Supplying and laying of <b>vitrified tiles</b> of brighter shades and marble design of Premium Quality (1st quality ) in required texture, design and colour, for flooring /skirting /cladding using vitrified tiles of size <b>600 x 600mmx8 mm</b> thick of approved make. It includes cost of cutting, chamfering of tiles to required size, with base of Conmax C - 500 tile adhesive for fixing tiles on existing mosaic/cement flooring, jointing the tiles with colour tint etc. complete as directed by Engineer-in-charge. The rate quoted shall include cost of all materials, labour, adhesives, colour tint material, leads and lifts etc. complete. Amount will be paid on the basis of measurement of the area of finished work only. It also includes surface preparation of existing ceramic floor giving necessary slopes, cleaning joints and grouting joints with pigmented additives to match shade of the tile, making pockets for electrical, communication, network cables etc. complete as directed by Engineer-in-charge. Amount will be paid on the basis of measurement for finished work only.	30.00	Sq.m	1214.00	36,420.00
	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) upto plinth level with Cement mortar 1:6 (1 cement : 6 coarse sand)	276.00	Cum	1838.90	5,07,536.40

S. No	Description	Qty	Unit	Rate in Rs	Amount (Rs)
				<b>Part A Total</b>	<b>13,01,873.61</b>
<b>B: SANITARY FITTINGS</b>					
1	Supply & fixing of 6 mm thick mirror of approved quality "Modi float/Saintgobin glass", with 6 mm thick hard board back and with best quality teak wood frame (design beading) all round the mirror including necessary clamps, polishing to the beading, cost of all materials etc. complete.	2.00	Sq.m	1358.30	2,716.60
2	Providing and fixing shutters along with frames for toilets that are 30 mm thick factory made PVC rigid foam paneled, door and shutters manufactured by M/s. Rajashri made from M.S. tube, 19 gauge thick, size 19x19mm for styles and 15x15mm for top and bottom rails, covered with heat moulded PVC "C" channel of 5mm thick sheet and 30x50mm wide for styles and 5mm thick and 75mm wide PVC sheets for top rail and bottom rail either side and 5 mm thick, 20mm wide cross PVC sheet as gap insert for top rail and bottom rail, paneling of 5mm thick PVC sheet fitted with M.S. frame welded / sealed to the styles and rails with 5x30mm PVC sheet beading on either side and joined together with solvent cement adhesive etc. complete in all respects as per direction of engineer in-charge fixed to frames. This includes providing brass hinges, brass aldrops, brass tower bolts, brass handles and brass door stoppers (For W.C. and bathroom doors).	3.36	Sq.m	1720.20	5,779.87
3	Supply & fixing "Jaquar" make Pressmatic urinal flush valve for urinal pots (Cat. No. 51027) with all accessories.	2.00	Each	1240.80	2,481.60
4	Supply & fixing of <b>18 mm thick</b> best quality approved colour and design machine cut <b>mirror polished granite slabs</b> in required sizes for counter wash basins, floorings, vanity counter, claddings, facias etc. including cutting, champering, rounding and mirror polishing etc. complete as directed. Cost of granite slabs shall be Rs. 1600/- per Sq. m and granite slabs of required design and colour will be selected by department.	18.00	sq.m	523.20	9,417.60
5	Construction of brick masonry chamber of size 23 x 30 Cm (9" x 12") in brick work in CM 1:6 and plastering in CM 1:4, 20 mm for <b>gully trap</b> 150 mmx100mm including cost of excavation, PCC 1:4:8, 75 mm thick, all materials, labour etc. complete.	2.00	Each	301.74	603.48
6	Providing and placing on terrace (at all floor levels) of <b>polyethylene water storage tank of 1000 ltrs capacity</b> with double layer approved brand and manufacture as per ISI with cover and suitable locking arrangement and making necessary holes for inlet and outlet and overflow pipes with fittings (ballcock, inlet and outlet nipples) without base support for tank. (Brick work will be paid separately)	1.00	Each	6000.00	6,000.00
7	Supply and Fixing <b>PVC Ventilating cowl</b> of 110mm dia.	2.00	Each	13.16	26.32
8	Supply and Fixing 12.7 mm PVC connection with brass union nut CP Coated.	2.00	Each	62.98	125.96
				<b>Part B Total</b>	<b>27,151.43</b>
<b>Part C: Septic tank and soak pit</b>					
1	<b>Earth work in excavation in all soils</b> by mechanical means (Hydraulic Excavators) / manual means in foundations trenches or drains (not exceeding 1.5m in width or 10 Sq.m on plan ) including dressing of sides and ramming of bottoms, lift upto 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50M.	54.00	Cu.m	103.40	5,583.60

S. No	Description	Qty	Unit	Rate in Rs	Amount (Rs)
2	----do---- up to First additional depth of 1.50 M to 3.00 M.	54.00	Cu.m	122.30	6,604.20
3	<b>Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering including consolidation by vibrations for all works up to plinth level with 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate of 20 mm nominal size ).(Cement only will be issued on free of cost by BHEL)</b>	2.70	Cu.M	1560.00	4,212.00
4	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering ,shuttering, finishing and reinforcement ,including consolidation by vibrations for all works <b>up to plinth level with 1:1½ :3</b> (1 cement : 1½ coarse sand : 3 graded stone aggregate of 20 mm nominal size ).(Cement only will be issued on free of cost by BHEL)	20.00	Cu.M	1640.30	32,806.00
5	<b>Centering</b> and shuttering including strutting, propping etc.; and removal of form work, for walls(any thickness) including attached pillasters,butterresses , plinth and string courses etc.	106.00	Sq.M	119.25	12,640.50
6	<b>Reinforcement for R.C.C. work</b> including straightening , cutting , bending , placing in position and binding grills with binding wire all complete by cold twisted bars.(Reinforcement shall be issued free of cost by BHEL at their stores	1.20	M.T	4003.00	4,803.60
7	<b>Filling</b> with available excavated earth (excluding rock) in trenches , plinth , sides of foundations etc. in layers not exceeding 20 cm in depth , consolidation each deposited layer by ramming and watering , lead upto 50.00 m and lift upto 1.50 m	16.00	Cu.M	45.70	731.20
8	<b>Conveyance</b> of excavated spoil up to a lead of 2 Kms, including loading , unloading and spreading etc. complete as directed by Engineer- in- charge.	92.00	Cu.M	56.41	5,189.72
9	<b>Plastering in CM 1:6 , 20 mm</b> thick to internal and external surfaces of walls including the cost of all materials , labour , curing etc., complete -Upto 10.00 M level.(Cement only will be issued on free of cost by BHEL)	50.00	Sq.m	65.80	3,290.00
10	Construction of brick circular Manhole of 1.22 M at bottom and 0.56 m dia in cement mortar 1:4 (1 cement: 4 coarse sand), inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement: 4 coarse sand)finished with a floating coat of neat cement, foundation concrete 1:3:6( 1 cement: 3 coarse sand: 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 finished with a floating coat of neat cement all complete as per standard design, complete. 1.68 m deep with SFRC cover and frame, 560 mm internal diameter conforming to IS 12592, total weight of cover and frame to be not less than 182 kg fixed in cement concrete 1:2:4 including centering shuttering all complete. With FPS brick class designation 75.	2.00	Each	6157.00	12,314.00
				<b>Total Part C</b>	<b>88,174.82</b>
	<b>Part D : Road Works</b>				
1	<b>Exacation upto 22.5 cm</b> Preparation of subgrade by excavation earth to an average of 22.5 cm, dressing to camber and consolidation with road roller including making good the undulations etc. and disposal of surplus earth lead upto 50 m .	4,875.00	Sq.m	33.90	1,65,262.50
2	Laying , spreading and compacting stone aggregate of specified sizes to WBM specifications including spreading in uniform thickness, hand picking , rolling with 3 wheeled road / vibratory roller 8-10 tonne in stages to proper grade and camber, applying and brooming requisite type of screening / binding material to fillup interstices of coarse aggregate watering and compacting to the required density.	1462.50	Cum	192.55	2,81,604.38

S. No	Description	Qty	Unit	Rate in Rs	Amount (Rs)
3	Providing and applying tack coat using bitumen emulsion (rapid setting) complying with IS 8887 - 1995, spraying the bitumen emulsion with mechanically operated spray unit, cleaning and preparing the existing road surface as per specification on WBM @ 0.75 kg/Sq.m	4875.00	Sqm	47.82	2,33,122.50
4	Providing and laying Bitumen Macadam on prepared surface for <b>Pot holes</b> with specified graded crushed stone aggregate for profile corrective base/binder course including loading of aggregates with F.E. loader , hot mixing of stone aggregates and bitumen in <b>hot mix plant</b> , transporting the mixed material by tippers to paver and laying the mixed material with paver finisher fitted with electronic sensing device to the required level and grade and rolling with road rollers, as per Morth specification to achieve the desired density and compaction and including the cost of primer / tack coat - <b>50 mm / 75 mm average compaction thickness</b> with bitumen of 60/70 grade @ 3.5 % (percentage by weight of total mix) .	243.75	Cum	6327.00	15,42,206.25
5	Providing and applying tack coat using bitumen emulsion (rapid setting) complying with IS 8887 - 1995, spraying the bitumen emulsion with mechanically operated spray unit, cleaning and preparing the existing road surface as per specification on Bitumenous surface @ 0.5 Kg/ Sq.m	4875.00	Sqm	47.27	2,30,441.25
6	Providing and laying seal coat of premixed fine aggregate (passing 2.36 mm and retain on 180 micron sieve ) with bitumen using 128 Kg of bitumen of grade 80/100 bitumen per cu.m of fine aggregate and 0.60 Cu.m of fine aggregate per 100 Sq.m of road surface including rolling and finishing with road roller all complete.	4875.00	Sq.m	60.84	2,96,595.00
				<b>Total Part D</b>	<b>27,49,231.88</b>
	Total			<b>Total A + B + C+D</b>	<b>41,66,431.74</b>
	<b>Rs.Fourty one lakhs sixty six thousand four hundred thirty one and seventy four paise</b>				

**Note:**

1	A penalty of 0.50 % of the gross value of work will be levied for every week's or part thereof delay in execution of work by the agency, subject to a maximum penalty of 10 % of gross value of the total work executed.
2	The rates are inclusive of all taxes and duties except Service tax, which is extra as per service tax norms will be paid by BHEL to the agency after submission of necessary documents.

**Note :** The bidders are required to quote the tender value on percentage (%) basis at excess or less or on par with estimate value in figures and words.

Tender %	In figure	In words
Excess		
Less		
Estimated value		