



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

SCHEDULE- A

Tender Notice No:

HY/FCD/OT-06/2012-13, Dt: 16.06.2012

PRICE BID

Item no.: 6

**Name of work: Maintenance of structural Steel works etc., sheet roofing, rain water pipes, cleaning of cob webs in factory area.**

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
1	Repairing the leaking PVC joints of rain water pipes, at all levels in factory blocks. The work includes opening of joints, cleaning properly and applying sealing compound to arrest further leakages in the joints. The rate quoted shall include cost of all jointing materials and labour etc., complete as directed by Engineer-in-charge.	300.00	Each	43.34	13,002.00
2	Closing of sheet cracks, bolt holes or any punchers in the A.C. sheets at roof levels. (Required consumable materials will be supplied by BHEL free of cost at their stores) etc., complete as directed by Engineer-in-charge.	300.00	Each	10.45	3,135.00
3	Removing of old A.C. sheets, translucent sheets from roof, side walling of factory blocks and sheds and refixing with new/old sheets at all height including transportation of A.C. sheets and disposing off old sheets to a lead of 2 K.Ms. etc., complete as directed. (Required consumable materials will be supplied by BHEL free of cost at their stores) etc., complete as directed by Engineer-in-charge.	3,500.00	Sq.M	72.82	2,54,870.00
4a	Supply and Fixing of <b>Non - colour Coated aluminium zinc alloy coated metallic hirib profile sheet of nominal 1015-1020mm effective cover width and 28-30 mm</b> deep ribs with subtle square fluting in the five pan at nominal 202-205mm center-to-center. 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). The steel Manufacturers test certificate for the chemical and mechanical properties of steel must be submitted for approval by the engineer-in-charge. - <b>for Roofing</b>	25.00	Sq.M	545.90	13,647.50

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
b	Supply and Fixing of colour coated aluminium zinc alloy coated metallic hirib profile sheet of nominal 1015-1020mm effective cover width and 28-30 mm deep ribs with subtle square fluting in the five pan at nominal 202-205mm center-to-center. 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. The steel manufactures test certificate for the certificate for the chemical and mechanical properties of steel must be submitted for approval by the engineer-in-charge.. do .for louvers and cladding ( <b>colored</b> ) etc., complete as directed by Engineer-in-charge.	50.00	Sq.M	672.40	33,620.00
5	Removing old G.I. bolts, nuts and washers from the existing A.C. sheeting work or roofs and side cladding of factory blocks and fixing with new G.I.6.5mm dia 'L' bolts with nuts, washers, bitumen washers etc., complete as directed. The new G.I. bolts should be dipped in Acid/Alkali resisting paint before fixing in position. The bolts, nuts and washers etc., should be suitable as per site conditions. (GI 'J' Bolts & 'L' Bolts, washers and nuts will be supplied by BHEL at their stores) etc., complete as directed by Engineer-in-charge.	500.00	Each	3.30	1,650.00
6	Removing the existing broken A.C./M.S. spiral pipes and fixing new P.V.C. pipes of 100 mm to 159 mm dia and standard length including cost of jointing materials, labour, conveying new pipes and dismantled pipes to stores etc., complete as directed. (P.V.C. pipes and specials will be supplied by BHEL free of cost at their stores) etc., complete as directed by Engineer-in-charge.	300.00	R.M	88.55	26,565.00
7	Fabricating and fixing MS Clamps of 50 mm width fabricated with MS flat/plate of 3.15 to 5 mm thick for PVC pipes of 150 mm dia at all heights of blocks, drilling suitable holes for clamping the pipe with bolts of 16 mm dia of suitable length with nuts, welding the clamps to the MS columns etc., complete as directed by Engineer-in-charge. The rate quoted shall include cost of bolts, nuts and washers, painting two coats with Synthetic Enamel paint over a coat of red oxide primer. (MS plates, flats, acetylene, oxygen will be issued at free of cost by BHEL at their stores) etc., complete as directed by Engineer-in-charge.	150.00	Each	36.00	5,400.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
8	Fixing M.S./G.I. flashing over the roof of factory blocks or outside walkways, gutters and around ducting including cutting, bending, fixing in position etc., complete as directed by Engineer-in charge.	100.00	Sq.M	119.00	11,900.00
9	Making locking arrangements to paneled steel door shutters, sliding doors/rolling shutters such as aldrops, tower bolts if any. Such arrangements including gas cutting, welding etc., complete as directed by Engineer-in-charge	50.00	Each	337.00	16,850.00
10	Fabrication and erection of paneled steel door shutter sliding or hinged, Including gas cutting, welding of sheets or angles wherever required etc., complete as directed by Engineer-in-charge. (Structural steel sections will be issued free of cost by BHEL) etc., complete as directed by Engineer-in-charge.	50.00	Sq.M	248.00	12,400.00
11	Dismantling M.S. partitions (Weld mesh, glazed or paneled) of standard size 1.20 M x 2.40 M or 1.20 x 3.30 M including M.S. Posts and transporting and stacking the materials for reuse etc., complete as directed by the Engineer-in-charge (The rate shall include for removing glass panes before dismantling glazed partitions and stacking glass panes) etc., complete as directed by Engineer-in-charge.	75.00	Each	643.35	48,251.25
12a	Fabrication of M.S. partitions, (weld mesh, glazed or paneled) of the following sizes as directed. (Structural Steel sections will be issued free of cost by BHEL) etc., complete as directed by Engineer-in-charge. i. Size 1.20 M x 2.40 M.	7.00	Each	562.85	3,939.95
b	ii. 1.20 M x 3.30 M.	7.00	Each	757.10	5,299.70
13a	Erection of M.S. partitions (No fabrication) weld mesh / glazed or paneled of the following sizes, with required M.S. posts for fixing with nuts and bolts, drilling holes in C.C. floor complete as directed by Engineer-in-charge. The rate shall include for cost of fixing glass panes after erection of partition frame in case of glazed partition etc., complete as directed by Engineer-in-charge. i. Size 1.20 M x 2.40 M	5.00	Each	447.60	2,238.00
b	ii. 1.20 M x 3.30 M size.	5.00	Each	649.80	3,249.00
14	Erection of steel doors for M.S. steel partition for cabins (weld mesh, glazed or paneled) with required M.S. posts and all accessories such as hinges, aldrops etc., including gas cutting, welding etc., complete as directed by Engineer-in-charge. (The rate shall include for fixing glass panes after erection of door in case of glazed doors). (Size approximately 1.20Mx2.40M)	10.00	Each	376.80	3,768.00
15	Fixing of weldmesh / expanded metal to angle iron frame of suitable size for RCC louvers/ceiling including gas cutting and welding as directed by the Engineer-in-charge. (M.S. angle iron frame, weldmesh/expanded metal will be supplied by BHEL at their stores at free of cost) etc., complete as directed by Engineer-in-charge.	100.00	Sq.M	69.65	6,965.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
16	Dismantling of weldmesh / expanded metal from ceiling including gas cutting etc., complete as directed by Engineer-in-charge. The dismantled materials should be handed over to BHEL stores for reuse the same wherever it is required etc., complete as directed by Engineer-in-charge.	35.00	Sq.M	36.70	1,284.50
17	Fabrication of structural steel work including all materials going into the process of fabrication and forming an integral part of steel work together with all shop and site welding as necessary and all site connections. The rate shall include painting with one coat of red oxide as per I.S. specification and all site charges for handling, leading and loading and unloading of materials at fabrication yard. (The raw structural steel sections acetylene, oxygen will be issued free of cost) etc., complete as directed by Engineer-in-charge.	40.00	MT	7,563.80	3,02,552.00
18	Erection of structural steel work outlined above including the charges for handling, leading and stocking at the site at approved locations prior to erection include all site welding, revittings, bolting, jointing and site welding etc., complete as directed by Engineer-in-charge.	40.00	MT	3,241.60	1,29,664.00
19	Dismantling the existing structural steel work carefully by loosening nuts, gas cutting as per the site conditions for reuse and stacking at site/handing over to stores as directed by Engineer-in-charge.	15.00	MT	1,844.90	27,673.50
20	Dismantling the existing structural steel work Carefully by loosening nuts, gas cutting as per the site conditions and re-erecting the same, suitably modifying by gas cutting, welding, drilling new holes, jointing the new members by welding or bolting etc., complete as directed by Engineer-in-charge.	10.00	MT	5,505.90	55,059.00
21	Erection of cycle shed of <b>5 spans</b> including erection of steel posts, trusses and purlins and fixing of Galvalume /A.C. sheet and ridges, using 'J' bolts, nuts, etc., complete as directed by Engineer-in-charge.(labour charges only)	5.00	Each	7,610.65	38,053.25
22	Earth work excavation in all soils except rock requiring blasting for an initial lead of 10 M and initial depth of 1.5 M including strutting, shoring if any and dressing the bottom of excavation to receive concrete etc., complete as directed by Engineer-in-charge.	10.00	Cu.M	103.40	1,034.00
23	Plain cement concrete 1:4:8 using 20 mm and down graded granite stone metal for leveling course including ramming, consolidation curing etc., complete. (60% of 20 mm metal and 40% of 10 mm metal) etc., complete as directed by Engineer-in-charge.**	10.00	Cu.M	1,560.50	15,605.00
24	Dismantling of cycle shed of 5 spans including removal. Transporting and stacking at BHEL stores or any other place (upto 2 KMs. lead) for reuse of A.C. sheet, ridges, purlins, trusses, columns, etc., complete steel columns shall be loosened by breaking concrete using necessary tools etc., as directed by Engineer-in-charge.	5.00	Each	4,833.85	24,169.25

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
25	Removing the existing A.C. sheets carefully from factory blocks and ceiling along with 'J' bolts, nuts etc., of steel cabins and cycle sheds, transporting and stacking at BHEL stores or other specified places (upto 2 KMs., lead) as directed by Engineer-in-charge.	300.00	Sq.M	43.65	13,095.00
26a	Fabrication and fixing of M.S./G.I. pipes/M.S. round for railings to crane gantries. Catwalk ways at all heights by jointing or connecting through threading, welding etc., complete as directed by Engineer-in-charge.	200.00	RM	85.10	17,020.00
b	-----do----- ground level	100.00	RM	72.35	7,235.00
27a	Fabrication bending to shape and erection of <b>rain water gutters</b> at roof level including all materials going into the process of fabrication and fixing an integral part of steel work together with all rivets and electrodes for shop or site weldings necessary and all site conditions. The rate shall include removal of old/spoiled valley /eaves gutters, painting with one coat of red oxide to relevant IS specification before erection and also for all charges for handling, loading and unloading of materials at fabrication yard. The work has to be executed at full height of the blocks. The rate shall include removal and refixing of A.C sheets and North light glazing etc., complete as directed by Engineer-in-charge. a. Valley gutter of 750 mm size using 3.15 mm to 5 mm thick plate made into required shape.	200.00	RM	564.10	1,12,820.00
b	Eaves gutter of 400 mm dia using 3.15 mm to 5 mm thick plate.	10.00	RM	345.00	3,450.00
c	walk ways of size varying from 1.20 M to 1.60 M using M.S. angles of size 60 x 60 x 6 mm / 45 x 45x 6 mm and M.S. pipes of 20 mm dia.	20.00	RM	228.00	4,560.00
28	Fixing wooden planks for walkway in factory blocks including cutting to size. Drilling holes to wooden planks, cost of bolts, nuts and washers etc., complete but excluding cost of wooden planks which will be supplied by BHEL free of cost at their stores etc., complete as directed by Engineer-in-charge.	300.00	Each	56.00	16,800.00
29	Supplying and fixing aluminium strips for fixing wire glasses including removal and disposal of the excising damaged aluminium strips to specified places (upto a maximum lead of 2 KMs.) etc., complete as directed by Engineer-in-charge. The strips should be suitable to the glasses which will be fixed against item No.	100.00	RM	141.00	14,100.00
30	Cleaning of North light glasses on both sides at roof level of factory blocks with paint remover or any suitable chemical solution to the satisfaction of the Engineer-in - charge. The glazing will be consist of 1.52 M and 1.22 M with a overlap and air gap. (BHEL asses one U.S.W. for cleaning for 5.00 Sq.m.) etc., complete as directed by Engineer-in-charge.	1,100.00	Sq.M	41.92	46,112.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
31	Transporting and fixing in position of North light glazing to factory blocks including fixing of wired glasses, aluminium strips, glazing runners, accessories, bolts, nuts, washers, clamps etc., complete (Only labour charges are to be quoted, and all materials will be issued free of cost by BHEL at their stores) etc., complete as directed by Engineer-in-charge.	150.00	Sq.m	76.50	11,475.00
32	Repairs to sliding doors / rolling shutters / paneled type doors / collapsible gates etc., in factory area including lowering of shutters, repairing in all respects such as straightening of bends, welding of sheets or angles, wherever required and re-erecting the same including locking arrangements, before and after closing the doors. The doors to be finished in good condition as directed by Engineer-in-charge.				
a	Repairs / Replacement of hinges.	50.00	Each	103.30	5,165.00
b	Locking arrangements	10.00	Each	85.00	850.00
c	Repairs to shutters	800.00	Sq.m	287.50	2,30,000.00
33	Removing the existing unserviceable collapsible shutter and handing over to stores, supplying and fixing in position new collapsible steel shutter with vertical channels 20 mm x 10 mm x 2 mm braced with flat iron diagonals 20 mm x 5 mm size with top and bottom rails or M.S. 'T' 40 mm x 40 mm x 6 mm with 38 mm dia steel pulleys complete with bolts and nuts. locking arrangements, stoppers, handles, including applying one coat of red oxide primer before erection and two coats of synthetic enamel paint of approved colour and brand after erection etc., complete including cost of all materials etc., complete as directed by Engineer-in-charge.	25.00	Sq.M	2,592.70	64,817.50
34	Removing the existing unserviceable rolling shutters and handing over to stores. Supply and fixing new rolling shutter of approved make, made of 80 x1.25 mm M.S. laths interlocked together through their entire length and jointed together through their entire length and jointed together at the ends by end locks mounted on specially designed pipe shaft with bracket plates, guide channels and arrangement with inside and outside locking including the cost of supply and fixing the hood cover 1.25 mm thick, Helical springs 2 Nos 27.5 cms long, ball bearings requisite number of approved make and brand, gear box with crank handle, with one coat of red oxide primer and two coats of synthetic enamel paint of approved brand and shade including cost of all materials etc., complete as directed by Engineer-in-charge.	10.00	Sq.M	1,208.45	12,084.50
35	Repairs to steel windows ventilators such as welding of rivets, flats, peg stays, stoppers, parliamentary hinges and straightening of bends in the frame work etc., complete (Plates and peg stays will be given free of cost at BHEL stores) etc., complete as directed by Engineer-in-charge.	200.00	Sq.M	88.55	17,710.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
36	Removing cobwebs, including cleaning the dust from the roof sheeting, structures, wired glasses, cranes, girders, gantries, side sheeting and cladding and from top of internal annexes, cabins partitions and sweeping the floor of the resultant dust and waste and disposing the same to specified places (Upto a lead of 2 KMs.) as directed by Engineer-in-charge. (The measurement will be as per the floor area of the factory blocks) etc., complete as directed by Engineer-in-charge.	5,00,000.00	Sq.m	0.62	3,10,000.00
37	Cleaning of valley gutters over the factory roof including cleaning the dust, muck etc., from the A.C. sheets and pouring the waste materials through buckets or with gunny bags by arranging all necessary safety precautions and disposing off the same to specified areas (Upto a lead 2 KMs.) as directed by Engineer-in-charge. The rate shall include for sweeping of factory floors to remove any dust fallen during the operations. (The measurements as per rain water gutter lengths.) etc., complete as directed by Engineer-in-charge.	5,000.00	RM	1.50	7,500.00
38	Cleaning of roof, roof terraces with brooms and brushes and removing the debris including removing the weeds on the walls and terraces, canopies, chajjas etc., complete. (Payment will be made as per plinth area of the building.) etc., complete as directed by Engineer-in-charge.	50,000.00	Sq.m	0.64	32,000.00
39	Cleaning glass panes of window, partitions with paint remover and thinner, to remove the strains on both sides of glasses. (Payment will be made to one side area of the glasses only) etc., complete as directed by Engineer-in-charge.	800.00	Sq.m	5.50	4,400.00
40	Supply and fixing glazed steel windows and ventilators of approved make including supply and fixing 4 mm thick plain glass with best quality putty. MS handles and peg stays including painting with two coats of synthetic enamel paint over one coat of red oxide paint including supplying and fixing weldmesh 50 x 50 mm (8G x 8 g). The window section and fabrication shall confirm to I.S. 1038 etc., complete as directed by Engineer-in-charge.	6.00	Sq.m	1,114.00	6,684.00
41	Removing of AC sheet over annexe terrace and cleaning the terrace and refixing the AC sheets after cleaning etc., complete as directed by Engineer-in-charge.	200.00	Sq.M	31.40	6,280.00
42	Supply & fixing in position stainless steel fly mesh of 20 x 30 G including fixing with suitable MS flats including cutting mesh and flat to required size, fixing neatly necessary welding, riveting, cost of all materials and labour etc. complete. (Acetylene, oxygen will be issued by BHEL on free of cost)	70.00	Sq.M	400.00	28,000.00

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
43	Supplying and fixing of 50mm (2") dia stainless steel tubular railings ( pipe of A304 grade 1.2 mm thick) as per design and drawing of BHEL. The cost will include bending, welding/brazing, buffing , polishing, fixing to the plumb, wastage, etc., complete. The above pipe will be used for hand railing, vertical pipe, horizontal pipe as per requirement. (The vertical pipe will be embedded in concrete for a depth of 45 cm from finished floor level along with necessary hold fasts. The verticals will be at intervals of 1.2 to 1.5 M.).The payment will be made for finished quantity measured above finished floor level.) etc., complete as directed by Engineer-in-charge.	20.00	RM	1,435.00	28,700.00
44	Supply and fixing 5 mm thick polycarbonate sheets and anodised aluminium glazing bars together with accessories complete for North light glazing including cost of all materials, labour etc., complete as directed by Engineer-in-charge.	70.00	Sq.m	1,207.50	84,525.00
45	Fixing of Aluminium zinc alloy coated metallic roofing sheet of 0.5 mm tk. 1 mtr width and length upto 12 mts with factory cut and fixing to the roof shall be crest fixed to roof purlins with number 12-14 x 55 mm long polymer coated galvanised hex head self drilling screws with integral washers and EPDM seals (4 fasteners for support) for sheet etc., complete as directed (Excluding cost of galvalume sheets which will be issued free of cost by BHEL at their stores) - For roofing, side cladding and louvers with necessary fixtures etc., complete as directed by Engineer-in-charge.	150.00	Sq.m	100.00	15,000.00
46	Supply and fixing North Light curves in required girth with 0.5 mm color aluminium zinc alloy coated metallic sheet upto a length of 2.5 M having curved width upto 600 mm fixing to the steel members with self drilling / self stitching, fasteners at a maximum of 500 mm c/c along the length of capping, flashing etc., complete as directed by Engineer-in-charge including the cost of galvalume sheets, labour etc., complete as directed by Engineer-in-charge.	70.00	Sq.m	720.00	50,400.00
47	Repairs to Aluminium rolling shutters by replacing the damaged aluminium strips with new one. The rate quoted shall include the cost of all materials, labour for fixing etc., complete. VAT 14..5% is inclusive on cost material. (The payment will be made for the finished area of aluminium strips replaced only) etc., complete as directed by Engineer-in-charge.	35.00	Sq.m	590.35	20,662.25
48	Supplying and fixing plain PVC pipe of 200 mm dia of 6 kg's/cm2 of approved quality with specials, accessories and approved sealing /jointing compound on the exterior of the inserted portion of the fitting and fixing in position and joining to MS gutters , including cost of all materials, sealing compound, labour etc., for all heights etc., complete as directed by Engineer-in-charge.	70.00	RM	640.17	44,811.90

S. No.	Description of the item	Qty	Unit	Rate (₹)	Amount (₹)
49	Supplying and fixing plain PVC pipe of 160 mm dia of 6 kg's/cm <sup>2</sup> of approved quality with specials, accessories and approved sealing /jointing compound on the exterior of the inserted portion of the fitting and fixing in position and joining to MS gutters , including cost of all materials, sealing compound, labour etc., for all heights etc., complete as directed by Engineer-in-charge.	70.00	RM	412.40	28,868.00
50	Painting at site of all structural steel work 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 EXCEPT Red oxide primer only will be issued by B.H.E.L at FREE of cost at their stores etc., complete as directed by Engineer-in-charge.	100.00	MT	596.50	59,650.00
<b>Total value of work</b>				₹	<b>23,66,620.05</b>
<b>Total : ₹ Twenty three lakhs sixty six thousand six hundred twenty and five paise only</b>					

<b>Note:</b> ** Cement, structural steel/MS reinforcement steel, paints will be issue by BHEL on free of cost at their stores.	
1	A penalty of 0.5% of the gross value of work will be levied for every week's delay of work subject to a maximum penalty of 10% of the gross value of work.
2	Service tax is extra as applicable, which will be reimbursable to the agency on production of paid proof documents.
3	The rates are inclusive of all taxes and duties.

**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		

Name of the Contractor :

Signature of the Contractor