



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

SCHEDULE- A

Tender Notice No:

PRICE BID

HY/FCD/OT- 03 /2009-10 , Dt:- 10.06.2010

Item no : 02

Name of work : Construction of Foundations for cooling Towers, VCB room with transformer yard,GAS control room , foundation for liquid nitorgen plant & H2 and CO2 cylinders storage shed plat forms for 250 MW test facilities.

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
1	Earth work in excavation in all soils by mechanical means (Hydraulic Excavtors) / 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.	1123.40	Cu.m	103.40	116159.56
2	Earth work in excavation by mechanical means (Hydraulic Excavators) / manual measn over areas (exceeding 30 cm in depth , 1.5 m in width as well as 10 Sq.m on plan) including disposal of excavated earth , lead upto 50 m and lift upto 1.5 m, disposing earth to be levelled and neatly dressed for Hard Rock (Blasting prohibited).	38.00	Cu.M	325.25	12359.50
3	Providing and laying in position cement concrete of specified garde 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).	236.00	Cu.M	2449.00	577964.00
4a	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 up to plinth level with 1:1½ :3 (1 cement : 1½ coarse sand : 3 graded stone aggregate of 20 mm nominal size).	84.50	Cu.M	3732.00	315354.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
b	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 up to Floor five level with 1:1½ :3 (1 cement : 1½ coarse sand : 3 graded stone aggregate of 20 mm nominal size).	45.00	Cu.m	4092.35	184155.75
5a	Providing and laying in position specified grade, of Reinforced cement concrete excluding the cost of centering,shuttering, finishing and reinforcement - all work up to plinth level with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) -	45.00	cu.m	3359.60	151182.00
b	Providing and laying in position ready mix concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead up to 25 KM having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixures in recommended proportions as per ID: 9103 to accelerate/retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer-in-charge. M 20 grade Reinforced cement concrete by using 320 kgs of cement per cu.m of concrete. All works upto floor V level. (cement cost considered in the estimate is Rs 144.00 per bag. If there is increase or decrease proportionate reimbursement/recovery cost will be done by BHEL)	239.00	One Cu.m	3856.80	921775.20
6	Coursed rubble masonry in second sort with hard stone in foundation & plinth with cement mortar 1:6 (1 cement :6 coarse sand)	34.00	Cu.M	1913.10	65045.40
7	Supplying and filling in plinth with river sand under water supply pipe lines including , watering , ramming consolidating and dressing complete.	54.00	Cu.M	985.00	53190.00
8a	Centering and shuttering including strutting, propping etc; and removal of form work, for Foundations , footings, plinth beams, bases of columns , walls etc complete	707.00	Sq.M	180.40	127542.80
b	-----do-----for Columns , Beams ,lintels, pillars, Piers, Abutments, posts and structs etc complete.	150.00	Sq.m	238.40	35760.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
9	Filling 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.	326.00	Cu.M	45.70	14898.20
10	Conveyance of excavated spoil up to a lead of 2 Kms, including loading , unloading and spreading etc. complete as directed by Engineer- in- charge.	791.00	Cu.M	56.41	44620.31
11	Supplying and stacking at site - 63mm to 45mm size stone aggregate.	5.00	Cu.M	768.45	3842.25
12	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.	14.12	M.T	42700.00	602924.00
13	Plastering over roof slab in CM 1:4, 20mm 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.	176.00	Sq.m	115.06	20250.56
14	Grouting of bolt pockets with grout mix of specified proportion by the manufacturer, including cost of labour and incidentals etc. (The grout mix will be supplied free of cost by BHEL at their stores)	0.20	Cu.M	773.00	154.60
15	Providing and fixing G.I pipes complete with GI Fittings including trenching and refilling etc for 50mm dia nominal bore class B of IS 1239.	20.00	RM	280.10	5602.00
16	Brick work with FPS bricks of class designation 75 in superstructure above plinth level up to ground floor in all shapes and sizes in cement mortar 1:6.	51.00	Cu.M	2463.60	125643.60
17	Providing and fixing gun metal gate valve with CI wheel of approved quality (Screwed end). - 50 mm nominal bore	2.00	No.s	578.20	1156.40
18	Flooring in 25mm thick using 1 cement and 3 parts of granite stone chips of 3 to 10mm gauge (no sand) ellis pattern first sort including neat finishing , curing, cost of materials etc; complete.	1170.00	Sq.m	196.00	229320.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
19a	Plastering in CM 1:6 , 20 mm thick to internal and external surfaces of walls including the cost of all materials , labour , curing etc, complete -Upto 10.00 M level.	657.00	Sq.m	95.10	62480.70
b	Cement Plaster to ceiling /walls with 12mm thick cement plaster finished with a floating coat of neat cement of mix 1:3 (1 cement : 3 fine sand) .	172.00	Sq.m	107.80	18541.60
20	Supply and fixing of top fixed, side hung of NCL Seccolor Ajantha windows & Ventilators fabricated from Roll formed section made of pre painted steel (Base steel as per IS 513 of 0.6 mm thick, 'D' quality, galvanized as per IS 277 with zinc 120 GSM / Sq. Mtr). Section for shutter should be of 46 x 46 mm, external frame should be of 46 x 52 mm, section for glass beading should be of 18 x 25 mm & center mullion should be 46 x 70 mm. The sections to be cut to length, meter joined with corner bracket. Centre mullions are to be fixed using mullion cap. Handle made of high grade aluminium powder coated & with nylon receiver & glazed with 5 mm thick, Modi/Saint Gobain float glass. Gasket made of E.P.D.M. Corner brackets made of C.R.C.A with zinc phosphating. Million caps made of glass filled nylon. The above frames should be fixed to the concrete / masonry walls by means of self expanding screws. Approximate size of windows 1.30mx0.9m and 3.00mx2.10m - Double shutter without guard bars(grills)... Excise duty/nap on clips etc. complete. (No. of door -1) it	7.00	Sq.m	4046.00	28322.00
21	Granolithic topping of 25 mm thick using 1 cement 1 granite chips of 10mm down graded laid over base concrete when it is green conditions and ironite finishing 12mm thick using a mix of 50Kg of ironite , 200 Kg of cement and 0.30 Cu.m of granite metal 6mm down graded including cost of form work , curing etc. complete.	785.00	Sq.m	485.00	380725.00
22	Casting and placing in position of R.C.C cable trench covers of 75 mm thick in mix of 1:1.5:3 using 20 mm down graded metal including cutting, welding of Angle iron frame, cost of MS reinforcement as specified including cutting bending , binding wire, spreading of Ironite powder at 2 Kg / Sq.m, neat finishing ,cost of labour, etc complete as directed. (MS angles, electrodes only will be issued on free of cost by BHEL at their stores).	31.00	Sq.m	333.00	10323.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
23	Fabrication and fixing inserts 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 BHEI at their stores)	2.80	MT	3500.00	9800.00
24	Supply and Fixing of GI chain Link mesh of 25X25mm mesh and 3mm dia wire including cost of all materials etc ; complete all as directed by Engineer-in-charge.	390.00	Sq.M	135.00	52650.00
25	Supply & fixing of full height aluminium door with double leaf manual slide opening mechanism at main entrance in required size made out of anodised aluminum box section of size 44.50x47.50x2 mm for verticals, top and middle rails and 101.60x44.50x2 mm for bottom rail inclusive of supply & fixing of all aluminium fixtures and fittings suitable to the door sliding mechanism, handles, suitable locking arrangement etc. complete, wherever members are joined wooden runners are to be inserted in the box section. This includes grouting of rails/aluminum sliding sections to the floor properly etc. complete as directed by Engineer-in-charge.Providing & fixing of 12 mm toughened glass with rubber beading with screwless snap on clips etc. for top portion of the door frame of approximate size 3' x 2.5' on each door leaf and 12 mm thick "Novapan" particle board, exterior grade, laminated on both sides fixed to bottom portion of the door frame of approximate size 3' x 4.5' on each door leaf with rubber beading, screwless snap on clips etc. complete. (No. of door -1) door leaf - 2 Nos.and the approximate size of the door is 1.8x2.4 m - 2 Nos. & 1.2x2.1 m - 2 Nos.	2.00	Sq.m	4000.00	8000.00
26	Supply and Applying of two or more coats of distemper with oil bound washable distemper of approved brand and manufacture to given an even shade including preparation of the surface, cost of all labour, material and other incidentals including priming coat with cement primer.	424.00	Sq.m	41.60	17638.40

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
27	Supply and fixing of MS shutters of sheet 3.15mm thick and frame made out of MS angles 65x65x6 and 50x50x6, hinges out of MS plates 8mm 3 numbers per shutter including fixing necessary fixtures fittings etc., complete all as per drawing.	5.00	Sq.M	410.61	2053.03
28	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement :2 fine sand) including testing of joints etc. complete - 300 mm dia R.C.C pipe.	120.00	RM	338.75	40650.00
29	Supplying , laying and jointing 80 mm nominal bore GI pipe medium grade properties and weight as per IS 1239 , ISI marked with GI fittings, including cost of pipe and its fittings, labour charges, testing, etc., complete.	20.00	RM	458.15	9163.00
30	Applying exterior emulsion paint 2 coats 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).	290.00	Sq.m	29.90	8671.00
31	Applying two coats of synthetic enamel paint of given shade over a coat of primer to new wood work including scraping the surfacess, cost of all labour, tools and other incidentals etc.complete.(Only synthetic enamel paint and primer will be issued by BHEL on free of cost).	28.00	Sq.m	28.50	798.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
32a	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 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	3.62	MT	7563.80	27380.96
b	Erection of Steel work out lined in item No.32a 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.	3.62	MT	3241.60	11734.59
c	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 only will be issued free of cost by B.H.E.L at their stores.	3.92	MT	596.50	2338.28
33	Supplying and fixing of Tracdek Hi-rib single skin galvalume / Zincalume sheets of 0.5 mm thick. One Meter width and length upto 12 M 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 galvanized hex-head self drilling screws with integral washers and EPDM seals (4 fasteners per support) for sheet etc., compete as directed. (Including cost of galvalume sheets). - Coloured galvalume	300.00	Sq.m	672.40	201720.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
34	Supplying and fixing plain PVC pipe of 100 mm dia 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 complete	10.00	RM	193.18	1931.80
35	Supplying and fixing aluminum door with single shutters made out of new anodised aluminum box section of size 44.50x 47.50x 2.00mm for verticals, top and middle rails and 101.60x44.50x2.00mm for bottom rail inclusive of supply and fixing of all aluminum fixtures and fittings such as handles 2 nos, 1 No of tower bolt 12mm dia 200mm long, 1 No of hydraulic door closure of IS specification , 3 nos of 4" long(100mm) butt hinges, stopper 1 No and suitable locking arrangement etc. complete . Wherever members are joined wooden runners are to be inserted in the box section for taking hinges, tower bolts, handles, hydraulic door closer and providing necessary rubber bedding for closing of door shutters all as directed by Engineer-in -charge. The rate shall include cost of door frame using aluminium box sections of size 101.60x44.50x2.00 mm. etc. complete all as directed by Engineer in charge .	5.00	Sq.m	3800.00	19000.00
36	Supply and fixing of top fixed, side hung of NCL Secclor Ajantha windows & Ventilators fabricated from Roll formed section made of pre painted steel (Base steel as per IS 513 of 0.6 mm thick, 'D' quality, galvanized as per IS 277 with zinc 120 GSM / Sq. Mtr). Section for shutter should be of 46 x 46 mm, external frame should be of 46 x 52 mm, section for glass beading should be of 18 x 25 mm & center mullion should be 46 x 70 mm. The sections to be cut to length, meter joined with corner bracket. Centre mullions are to be fixed using mullion cap. Handle made of high grade aluminium powder coated & with nylon receiver & glazed with 5 mm thick, Modi/Saint Gobain float glass. Gasket made of E.P.D.M. Corner brackets made of C.R.C.A with zinc phosphating. Mullion caps made of glass filled nylon. The above frames should be fixed to the concrete / masonry walls by means of self expanding screws.Approximate size of windows 1.30mx0.9m and 3.00mx2.10m - Double shutter without guard bars(grills)... Excise duty/nap on clips etc. complete. (No. of door -1) it	9.6	Sq.m	4046.00	38841.60

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
37	Supply and fixing of Electrically operated rolling shutters conforming to as per IS 6248 , Shutter curtain made out of Aluminum Double Wall with 60 mm, OD " C " class Pipe, side Guide 150x2.5 mm thick Top Bracket 6 mm thick, MS Plate and Aluminum Bottom Rail 3.0 mm thick and Angle support 40x40x5 mm thick Angle End to End, Hood Cover 1.00 mm thick, Electrical Gear Operated System with 1 No of Reduxion Gear Box, 1 No Cromption Induction Motor 3 Phase(capacity of the Motor shall be suitable to the size of the doors as mentioned below) with Limit Switch and Reversible Switch make of Bharat Cutter with necessary electrical cabling required for operation of shutter.One coat of Red Oxide paint except shutter curtain. The rolling shutter shall be provided with proper locking arrangement and shall be as per IS 6248. The rate quoted shall include cost of all materials, labour and scaffolding etc complete as directed by Engineer.The measurement will be made on finished item of the work for payment.(The shutter curtain is made out of Aluminium and all the other items are made out of MS and the approximatesize of the door is 5x6 M)	10.00	Sq.M	8100.60	81006.00
					4642669.08
Total : Rs.Forty six lakhs forty two thousand six hundred sixty nine only.					

Service Tax:- The Service tax as applicable is extra which will be paid by BHEL to the agency after submission of necessary valid documents by the agency.

Note : The Tenders are required to quote the tender value on percentage (%) basis at excess or less or on as per estimate value

Tender %	In figure	In words
Excess		
Less		
Estimated value		

1 The Soil Investigation tests are to be carried out by the Contractor if required as per site condition.The agency should bear the above expenditure.

Name of the Contractor :

Signature of the Contractor

Accounts Representative

Opening officer