



BHARAT HEAVY ELECTRICALS LIMITED  
RAMACHANDRAPURAM, HYDERABAD-32  
FACTORY CIVIL ENGINEERING DEPARTMENT

Issued to agency:HY/FCD/OT-15/09-10 IT- 03

SCHEDULE- A

Tender Notice No:

PRICE BID

HY/FCD/OT-15/2009-10 , Dt: - 24.10.2009

Item no : 03

**Name of work :** - Civil Works For Providing Machine Foundation, Ground Level reservoir and Over head water tank Etc; for megatherm furnace 5 T/ 2000 KW & Civil Works for 10T Semi Gantry crane in 04 Block.

| S. No | Description   | Approx Qty | Unit | Rate in Rs | Amount (Rs) |
|-------|---|------------|------|------------|-------------|
| 1a    | Earth work in excavation 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. | 480.00     | Cu.m | 103.40     | 49632.00    |
| b     | ----do---- up to First additional depth of 1.50 M to 3.00 M.  | 146.00     | Cu.m | 122.30     | 17855.80    |
| 2     | Earth work in excavation by mechanical means (Hydraulic Excavators) / manual means 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 <b>Hard Rock</b> (Blasting prohibited).                              | 85.00      | Cu.M | 325.25     | 27646.25    |
| 3     | 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 <b>1:4:8</b> (1 cement : 4 coarse sand : 8 graded stone aggregate of 20 mm nominal size ).   | 71.50      | Cu.M | 2449.00    | 175103.50   |
| 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 <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 ).                                    | 85.00      | Cu.M | 3732.00    | 317220.00   |
| 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 <b>up to floor five level</b> with <b>1:1½:3</b> (1 cement : 1½ coarse sand : 3 graded stone aggregate of 20 mm nominal size ).                                | 215.00     | Cu.M | 4092.35    | 879855.25   |

| S. No | Description  | Approx Qty | Unit     | Rate in Rs | Amount (Rs) |
|-------|--|------------|----------|------------|-------------|
| c     | 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 <b>R.M.C</b> from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures 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. <b>M 25 grade</b> Reinforced cement concrete by using 410 kgs of cement per cu.m of concrete. All works upto floor V level. as per IS 456: 2000 for all concrete works upto all levels. | 55.00      | One Cu.m | 4356.50    | 239607.50   |
| 5a    | Providing and laying in position specified grade, of <b>Reinforced cement concrete</b> excluding the cost of centering,shuttering, finishing and reinforcement - <b>all work up to plinth level with 1:2:4</b> (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size ) -  | 31.00      | cu.m     | 3359.60    | 104147.60   |
| 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 admixtures 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. <b>M 20 grade</b> Reinforced cement concrete by using <b>320 kgs</b> of cement per cu.m of concrete. All works upto floor V level.   | 20.00      | One Cu.m | 3886.00    | 77720.00    |
| 6     | <b>Centering</b> and shuttering including strutting, propping etc; and removal of form work, for columns, pillars,peirs,abutments,machine foundations, posts and struts.   | 1696.00    | Sq.M     | 180.40     | 305958.40   |
| 7     | <b>Reinforcment 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.  | 28.70      | M.T      | 42700.00   | 1225490.00  |

| S. No | Description  | Approx Qty | Unit | Rate in Rs | Amount (Rs) |
|-------|--|------------|------|------------|-------------|
| 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.   | 474.00     | Cu.M | 56.41      | 26738.34    |
| 9     | <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.  | 169.00     | Cu.M | 45.70      | 7723.30     |
| 10    | 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    |
| 11    | <b>Brick work</b> 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.  | 74.00      | Cu.M | 2357.40    | 174447.60   |
| 12a   | Plastering in <b>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.  | 684.00     | Sq.m | 95.10      | 65048.40    |
| b     | Cement Plaster to <b>ceiling</b> /walls with <b>12mm</b> thick cement plaster finished with a floating coat of neat cement of mix 1:3 ( 1 cement : 3 fine sand ) .   | 355.00     | Sq.m | 107.80     | 38269.00    |
| 13    | Providing & Fixing of top fixed, side hung of <b>NCL Secular windows</b> 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 150 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 4 mm thick, modi 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. | 16.00      | Sq.m | 3000.00    | 48000.00    |

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|-------|--|------------|------|------------|-------------|
| 14    | Grouting with Fos Rock to Bolt Pockets , as per the manufactures specification .(Only Fos Rock will be issued free of cost at BHEL Stores).  | 0.75       | Cu.m | 444.00     | 333.00      |
| 15    | 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 <b>ironite finishing</b> 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.   | 519.00     | Sq.m | 428.50     | 222391.50   |
| 16    | 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. | 10.00      | Sq.m | 950.00     | 9500.00     |

| S. No | Description   | Approx Qty | Unit     | Rate in Rs | Amount (Rs) |
|-------|---|------------|----------|------------|-------------|
| 17    | Providing and fixing in true horizontal level 600 mm x 600mm false ceiling system manufactured by M/s. <b>Armstrong</b> World Industries using DUNE SUPREME RH 99 MICROLOOK EDGE WITH SILHOUETTE GRID, using hot dipped galvanized steel section, rotary stitched main tee of size 15mm x 42 mm web height, having 0.36 mm gauge at every 600 mm centre to centre maximum and rotary stitched cross tee of size 15 mm x 42 mm, having 0.33 mm gauge at every 600 mm. c/c. and wall angle of size 19 x 19 mm., having 0.35 mm gauge fixed to the periphery of the wall. The above grid is suspended at every 600mm c/c. in both directions using 2.0 mm. thick pre-straightened GI wire, and laying Dune Supreme Microlook Edge ceiling tiles manufactured by M/s. Armstrong World Industries, of size 600mmx600mmx15mm having NRC 0.50, Light reflectance of >85% (WT), thermal conductivity k = 0.052-0.057 W/m0K, Humidity Resistance of 99% (having LIFETIME GUARANTEE against SAG), having Fire Performance CLASS O / CLASS 1 (BS 476), surface having 3 coats of white paint - crisp finely granulated with microperforations, | 9.00       | Sq.m     | 1130.00    | 10170.00    |
|       | back of the tile duly sanded and finished with a coat of protective paint over the formed grid and complete in all respects. Boards, where light fixtures to be fixed shall be handed over to Department. Make: Armstrong   |            |          |            |             |
| 18    | Supply and aluminium partition with new anodised box - section of size 101.60 X 44.45 X 2 mm for verticals, Top & Horizontal and 63.50 X 38.10 X 2 mm for inter mediate horizontal at spacing suiting to the site requirements as approved . Wherever doors are coming wooden runners are to be provided into box section. This includes grouting of the frame to the flooe properly fixed at ends to walls , cost of aluminium section , labour etc; Complete .( The door opening shall be deducted for payment).  | 36.00      | One sq.m | 1316.00    | 47376.00    |

| S. No | Description  | Approx Qty | Unit  | Rate in Rs | Amount (Rs) |
|-------|--|------------|-------|------------|-------------|
| 19    | Supply & fixing of <b>aluminium door</b> with single shutter made out of anodised aluminium box section of size 44.50 x 47.50 x 2.00 mm for verticals, top and middle rails and 101.60 x 44.50 x 2.00 mm for bottom rail inclusive of supply and fixing all aluminium fixtures and fittings such as handles 2 Nos., 1 No., of tower bolt 12 mm dia, 200 mm long, 1 No. of hydraulic door closure of IS specification, 3 Nos. of 4" (100 mm) long butt hinges, stopper 1 No., suitable locking arrangement etc. complete. Wherever members are joined wooden runners are to be inserted in the box section for fixing hinges, tower bolts, handles, hydraulic door closure and providing necessary rubber beeding for smooth closing of door shutter. All as directed by Engineer-in-charge. The rate shall include cost of door frame using aluminium box section of size 101.60 x 44.50 x 2.00 mm, 12 mm thick toughened glass etc. complete. approx size of doors 1.2mx2.1m.                                       | 10.50      | Sq. m | 2918.40    | 30643.20    |
| 20    | Dismantling reinforced cement concrete / plain cement concrete and disposing of debries upto to a lead of 2 KM including loading, unloading and spreading as directed by Engineer-in-charge etc., complete.  | 40.00      | Cu.m  | 582.68     | 23307.20    |
| 21    | Fabrication of structural steel work including all materials going into the process of fabrication and forming and integral form 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 rate includes cost of electrodes, gases etc., The raw structural steel sections will be issued FREE of cost at BHEL stores. | 8.00       | MT    | 8805.00    | 70440.00    |
| 22    | Erection of Steel work 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.   | 8.00       | MT    | 3774.00    | 30192.00    |

| S. No | Description  | Approx Qty | Unit | Rate in Rs | Amount (Rs) |
|-------|--|------------|------|------------|-------------|
| 23    | 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.   | 8.40       | MT   | 596.50     | 5010.60     |
| 24    | Fabrication and fixing <b>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)   | 6.00       | MT   | 3500.00    | 21000.00    |
| 25    | Supply and fixing of <b>Electrically operated rolling shutters conforming to as per IS 6248</b> , 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) | 19.00      | Sq.M | 9396.00    | 178524.00   |

| S. No | Description  | Approx Qty | Unit | Rate in Rs | Amount (Rs) |
|-------|--|------------|------|------------|-------------|
| 26    | Applying two or more coats of distemper with <b>oil bound washable distemper</b> 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.  | 906.00     | Sq.m | 41.60      | 37689.60    |
| 27a   | 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.                          | 140.00     | Sq.m | 115.06     | 16108.40    |
| b     | Plastering over <b>roof slab in CM 1:3, 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.                          | 320.00     | Sq.m | 126.62     | 40518.40    |
| 28    | Providing and Laying ceramic glazed floor tiles 300 X 300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS:15622 of approved make in colours such as white , Ivory , grey , fume red brown , laid on 20mm thick cement mortar 1:4 (1cement : 4 Coarse sand) including pointing the joints with white cement and matching pigments etc; complete. | 215.00     | Sq.m | 598.65     | 128709.75   |
| 29    | Supply and Fixing <b>PVC Ventilating cowl</b> of 110mm dia.  | 13.00      | Each | 14.00      | 182.00      |
| 30    | Applying <b>exterior</b> emulsion paint 2 coats to external new plastered surfaces including curing etc., over a coat of primer ( paint will be issued free of cost by BHEL at their stores).  | 391.00     | Sq m | 28.20      | 11026.20    |
| 31    | Fixing 52 Kg rails for various gauges at floor level including fixing side guide angle etc., complete with necessary clamps required for fixing rails in position and alignment, leveling as per B.I.S 7215-1974. (M.S rails, M.S. Angles, Strl. steel will be issued free of cost by BHEL at their stores).Including cost of clamps,bolts & nuts etc.,                            | 4.50       | MT   | 6000.00    | 27000.00    |
| 32a   | Removal of wood scrap collected in the dust bins inside Factory area and open areas including dismantling the boxes kept out side the blocks as directed by the Engineer In Charge.  | 5.00       | MT   | 508.00     | 2540.00     |

| S. No   | Description  | Approx Qty | Unit | Rate in Rs | Amount (Rs)         |
|---|--|------------|------|------------|---------------------|
| b   | MS scrap including MS packing strips etc.  | 5.00       | MT   | 381.00     | 1905.00             |
| c   | Garbage, including oil soaked cotton waste, dry packing grass, packing cartoons and waste papers etc.  | 5.00       | MT   | 655.00     | 3275.00             |
| 33  | Felling trees of the girth (measured at a height of 1m above ground level) including cutting of trunks and branches removing the roots and stacking of serviceable materials and disposal of unserviceable materials - upto 1.20 M | 5.00       | Each | 359.80     | 1799.00             |
| <b>Total Rs.</b>  |  |            |      |            | <b>4,765,149.19</b> |
| <b>Total : Rs. Forty Seven lakhs Sixty Five thousand and One hundred Forty nine only.</b> |  |            |      |            |                     |

**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 Rate only |           |          |

**Name of the Contractor :**

**Signature of the Contractor**

**Accounts Representative**

**Opening officer**