

# TENDER

TENDER NOTIFICATION NO. - **FCX/18191035**

FOR

**Foundation & other allied civil works for  
Vapour Phase Drying (VPD) Plant in Block-3  
& Bed plate in Block-2 inside factory area.**

**PRICE BID**



**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION**

**BHARAT HEAVY ELECTRICALS LIMITED**

**(A Government of India Undertaking)**

**BHOPAL – 462 022 (M.P)**

## PREAMBLE OF PRICE BID

**1.0** This Price Bid consists of Three Schedule:

### **1.1 Schedule A**

Schedule A consists of Two Annexure:

Total price of the package combining Annexure I & Annexure II to be quoted by the bidders which shall form the basis for comparison for deciding lowest bid. For further processing and award, total quoted amount by the L1 (lowest) bidder for the package shall be used for deriving individual item rate by BHEL based on % (percentage) weightage specified at Annexure-I & Annexure II of Price Schedule.

The field quality plan (FQP) is attached with this tender documents. All the prescribed test as enumerated in FQP has to be done by the contractor in a Government approved/NABL accredited laboratory in presence of BHEL representative. All the expenses pertaining to these tests has to be borne by the contractor. Contractor may take a note of this while quoting the rate in the tender.

### **1.2 Schedule B**

It consists of details of free issue materials by BHEL.

### **1.3 Schedule C**

It consists of details of tools & tackles provided by BHEL either on higher basis or on free of cost basis which are mentioned in price bid.

**2.0** The work to be carried out under the contract shall, except as otherwise provided in tender conditions, include all labour, materials, tools, plant, equipment, and transport which may be required in preparation of and for full & entire execution and completion of the Works. The descriptions given in the Schedule of Quantities shall, unless otherwise stated, be held to include waste on materials, carriage and cartage, carrying in return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion as aforesaid in accordance with good practice and recognized principles as laid down in Technical Specification & elsewhere in Tender

**3.0** The price bid should not contain any condition. Conditional price Bids shall be summarily rejected.

**4.0** The bidder should not leave any column blank in Price Schedules.

**5.0** Price Quoted shall include all taxes, & duties except **GST**.

**6.0** Unless otherwise specified in the items involving cement, reinforcement steel or structural steel, these items shall be issued free of cost by BHEL.

**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION**

NIT No. :FCX/18191035

Price Schedule

Name of work : Foundation & other allied civil works for Vapour Phase Drying (VPD) Plant in Block-3 & Bed plate in Block-2 inside factory area.

**SUMMARY**

	Details ANNEXURE		Total Amount (Rs.)
	Total of ANNEXURE- (I) + (II)		

Amount in words: Rs. ....

.....

Total price of the package consisting of Annexure-I & Annexure-II to be quoted by the bidders which shall form the basis of comparison for deciding lowest bid.

For further processing & award total quoted Amount for the package by the L1 (lowest) bidder shall be used for deriving Individual item rate by BHEL based on % (percentage) weightage specified at annexure-I & Annexure-II of Price Schedule.

Seal & Signature of Contractor

Dy. Manager (FCX/PLG)

**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION**

NIT No. FCX/18191035

**Price Schedule A - Annexure: I**

Name of work : Foundation & other allied civil works for Vapour Phase Drying (VPD) Plant in Block-3 & Bed plate in Block-2 inside factory area. .

S. No.	Based on DSR' 2012	Item Description	Qty.	Unit	% Weightage of item amount against total amount
1		Carriage of material up to 1 km lead by Mechanical transport including, loading, unloading & stacking -1 Km lead			
	1.1.1	a) Lime, Moorum, building rubbish	146.00	cum	0.5051
	1.1.2	b) Earth	422.00	cum	1.8247
	1.1.4	c) Excavated Rock	49.00	cum	0.3390
	1.1.11	d) Steel	2.00	Tonne	0.0061
2		Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m; disposed earth to be levelled and neatly dressed.			
	2.6.1	All kinds of soil.	427.00	cum	2.8850
3		Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed:			
	2.7.1	a) Ordinary rock.	39.00	cum	0.4028
	2.7.3	b) Hard Rock (blasting prohibited).	10.00	cum	0.2560
4		Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.			
	2.8.1	All kinds of soil.	60.00	cum	0.4099
5	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations, etc. in layers not exceeding 20 cm in depth : consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5m	113.00	cum	0.4946
6		Extra for every additional lift of 1.5 m or part thereof in.			
	a) 2.26.1	All kinds of soil.	39.00	cum	0.0705
	b) 2.26.2	Ordinary or hard rock.	5.00	cum	0.0162
7	2.36	Deduct for disposed soil not levelled and neatly dressed.	10.00	cum	-0.0132

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S. No.	Based on DSR' 2012	Item Description	Qty.	Unit	% Weightage of item amount against total amount
8		Extra rate for quantities of work, executed:			
	2.24.1	In or under water and/or liquid mud including pumping out water as required. (20 % of item no.3)			
		a) Ordinary rock.	3.90	Cum per metre depth	0.0081
		b) Hard Rock (blasting prohibited).	3.90	Cum per metre depth	0.0200
9	**	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:(Cement free issue by the Deptt.)			
	a) 4.1.3	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size ).	5.00	cum	0.6729
	b) 4.1.6	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size ).	41.00	cum	5.4253
10	4.12	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	5.00	per 50kg cement	0.0081
		Note: - Difference in dosing of water proofing compound as per the manufacturer's recommendation from the one indicated against the item shall not attract any extra claim by the contractor.			
11	4.15	Extra for laying concrete in or under water and/or liquid mud including cost of pumping or bailing out water and removing slush etc. complete.	9.00	cum per metre depth	0.1528
12	**	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering, shuttering, finishing and reinforcement - All work upto plinth level.(Cement free issue by the Deptt.)			
	5.1.2	a) 1 : 1.5 : 3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).	227.00	cum	31.9682
	5.1.3	b) 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	6.00	cum	0.8669
13	**	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts, etc. up to floor five level excluding cost of centering, shuttering, finishing and reinforcement :(Cement free issue by the Deptt.) <b>(Note: The payment shall be made against this item only if work is done above plinth level and upto floor five level.)</b>			
	5.2.2	a) 1 : 1.5 : 3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).	6.00	cum	1.0458

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S. No.	Based on DSR' 2012	Item Description	Qty.	Unit	% Weightage of item amount against total amount
	5.2.3	b) 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	3.00	cum	0.5339
14	** 5.3	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement with 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).(Cement free issue by the Deptt.) <b>(Note: The payment shall be made against this item only if work is done above plinth level and upto floor five level.)</b>	2.00	cum	0.3716
15		Centering and shuttering including strutting, propping, etc. and removal of form for:			
	5.9.1	a) Foundations, footings, bases of columns, etc. for mass concrete.	101.00	sqm	0.8016
	5.9.2	b) Walls (any thickness) including attached pilasters, buttresses, plinth and string courses, etc.	536.00	sqm	7.6698
	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	16.00	sqm	0.2100
		<b>(Note :- The contractor is supposed to bring shuttering materials for the work. If due to any urgency ,BHEL shuttering materials are used , deduction @ 50 % of schedule rate of this item.)</b>			
16		Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level :			
	5.22.5	a) Hard drawn steel wire fabric.	10.00	kg	0.0329
17	Ana. 5.22A.6	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. <b>(Reinforcement bars will be supplied free of cost from BHEL store).</b>			
		b) Thermo-Mechanically Treated bars.(TMT bars)	15096.00	kg.	5.8350
18	5.28	Providing and fixing in position 12 mm thick bitumen impregnated fibre board conforming to IS : 1838 including cost of primer, sealing compound in expansion joints.	24.00	per cm depth per 100m	0.4614
19	5.31	Extra for laying reinforced cement concrete in or under water and/or liquid mud including cost of pumping or bailing out water and removing slush etc., complete.	5.00	cum	0.0849
		<b>Note :</b>			

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**Price Schedule A - Annexure: I**

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S. No.	Based on DSR' 2012	Item Description	Qty.	Unit	% Weightage of item amount against total amount
		The quantity will be calculated by multiplying the depth measured from the subsoil water level up to the centre of gravity of the R.C.C. under subsoil water with the quantity of R.C.C. in cubic metre executed under subsoil water. The depth of centre of gravity shall be reckoned correct to 0.1m, 0.05 m or more shall be taken as 0.1 m and less than 0.05 m ignored. No extra payment shall be made for placing reinforcement or centering & shuttering under sub-soil water conditions.			
20	10.1 Ana	Structural steel work in single section fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.(Structural steel & Primer free issue from BHEL stores).	1900.00	kg	0.7890
21	10.2 Ana	Structural steel work welded /riveted/ bolted in built up sections, trusses and framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete. (Structural steel & primer will be issued free of cost from BHEL store)	16896.00	kg	11.5171
22	** 11.4	52 mm thick cement concrete flooring with concrete hardener topping under layer 40 mm thick cement concrete 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and top layer 12 mm thick cement hardener concrete consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) by volume. Hardening compound is mixed @ 2 litre per 50 kg of cement or as per manufactures specifications. This includes cost of cement slurry, but excluding the cost of nosing of steps etc. complete.(excluding cost of cement)	200.00	sqm	2.9345
23	**	12 mm cement plaster of mix:(Cement free issue by the Deptt.)			
	13.4.1	a) 1 : 4 (1 cement : 4 coarse sand) .	11.00	sqm	0.0570
	13.4.2	b) 1 : 6 (1 cement : 6 coarse sand) .	42.00	sqm	0.2176
24	**	15 mm cement plaster on the rough side of single or half brick wall of mix:(Cement free issue by the Deptt.)			
	a) 13.5.1	1 : 4 (1 cement : 4 coarse sand).	11.00	sqm	0.0658
	b) 13.5.2	1 : 6 (1 cement : 6 coarse sand).	42.00	sqm	0.2508
25		Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer-in-charge.			
	15.2.1	a) 1:3:6 or richer mix.	4.00	cum	0.1402
	15.2.2	b) 1:4:8 or leaner mix.	34.00	cum	0.7346

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Name of work : Foundation & other allied civil works for Vapour Phase Drying (VPD) Plant in Block-3 & Bed plate in Block-2 inside factory area. .

S. No.	Based on DSR' 2012	Item Description	Qty.	Unit	% Weightage of item amount against total amount
26	15.3	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.	109.00	cum	5.5736
27		Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.			
	15.7.4	In cement mortar.	5.00	cum	0.1480
28		Demolishing stone rubble masonry manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge:			
	15.9.2	In cement mortar	5.00	cum	0.1766
29		Dismantling steel work in single sections including dismembering and stacking within 50 metres lead in:			
	15.17.2	Channels, angles, tees and flats	200.00	kg	0.0068
30	15.18	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50 metres lead.	200.00	kg	0.0162
31	15.19	Dismantling steel work manually/ by mechanical means in built up sections without dismembering and stacking within 50 metres lead as per direction of Engineer-in-charge.	2000.00	kg	0.1097
32		Dismantling roofing including ridges, hips valleys and gutters, etc., and stacking the material within 50 metres lead of:			
	15.28.1	a) G.S. sheet	20.00	sqm	0.0477
	15.28.2	b) Asbestos sheet	50.00	sqm	0.0564
33		Dismantling manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead:			
	15.43.1	Water bound macadam road	332.00	sqm	1.0700
34	**	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground levels for underground structures as directed by Engineer-in-Charge and consisting of:			

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Name of work : Foundation & other allied civil works for Vapour Phase Drying (VPD) Plant in Block-3 & Bed plate in Block-2 inside factory area. .

S. No.	Based on DSR' 2012	Item Description	Qty.	Unit	% Weightage of item amount against total amount
		I) 1st layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1 : 3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS: 2645 in the recommended proportion over the levelling course (levelling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound.			
		II) 2nd layer of 25 mm thick cement mortar 1 : 3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportions.			
		III) Finishing top with stone aggregate of 10 mm to 12 mm nominal size spreading @ 8cudm/sqm thoroughly embedded in the 2nd layer:			
	22.1.1	Using rough kota stone (Cement free issue by Deptt.)	18.00	sqm	0.4632
35	**	Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement:3 coarse sand) 20mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by engineer -in-charge.			
	22.2.1	Using rough kota stone (Cement free issue by Deptt.)	7.00	sqm	0.2147
36		Providing and placing in position suitable PVC water stops confirming to IS: 12200 for construction / expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete:			
	22.4.2	Dumb bell with central bulb (180mm wide , 8mm thick)	6.00	metre	0.1101
					88.0655

Seal & Signature of Contractor

Dy. Manager (FCX/PLG)

# FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION

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## Price Schedule A - Annexure: II

Name of work : Foundation & other allied civil works for Vapour Phase Drying (VPD) Plant in Block-3 & Bed plate in Block-2 inside factory area. .

S. No.	Item Description	Qty.	Unit	% Weightage of item amount against total amount
1	Making holes in the existing concrete floor/pedestal through core cutting up to the required depth and as per the instruction of Engineer-in-charge. <b>(All equipment like core cutter etc. to be arranged by the contractor.)</b>			
	Diametre upto 100 mm	10.00	per metre depth	2.0293
2	Laying / pouring of grouting material as per manufacturer's specification in foundation and plinth. <b>(Grouting materials will be free of cost from BHEL stores)</b>	1.00	cum	0.0772
3	Brick work with Ghol bricks of class designation 50 and above in foundation and plinth in cement mortar 1:6 (1 cement : 6 coarse sand) : <b>(Cement free issue by the Deptt.)</b>	8.00	cum	2.6417
4	Brick work with Ghol bricks of class designation 50 and above in superstructure above plinth level up to floor V level in all shapes and sizes in cement mortar 1:6 (1 cement : 6 coarse sand). <b>(Cement free issue by the Deptt.)</b>	2.00	cum	0.7130
5	Half brick masonry with Ghol bricks of class designation 50 and above in foundations and plinth in Cement mortar 1 : 4 (1 cement : 4 coarse sand) . <b>(Cement free issue by the Deptt.)</b>	15.00	sqm	0.8912
6	Half brick masonry with Ghol bricks of class designation 50 and above in superstructure above plinth level up to floor V level:Cement mortar 1 : 4 (1 cement : 4 coarse sand) . <b>(Cement free issue by the Deptt.)</b>	15.00	sqm	0.9598
7	Fabrication & Erection of temporary barricade with structural steel members in single/built up sections , fixing them with non-AC/A.C./G.S. sheets along with all necessary fittings/ fixtures for construction of machine foundation so as to prevent fouling of adjoining / nearby areas with dirt/dust/earth etc., followed by dismantling the above complete including dismantling and stacking within a lead of 50m. (Supply of non-AC/ AC/GS sheets and structural steel free issue by BHEL) <b>(Unit: Peripheral length multiplied by height)</b>	278.00	sqm	2.8255

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## Price Schedule A - Annexure: II

Name of work : Foundation & other allied civil works for Vapour Phase Drying (VPD) Plant in Block-3 & Bed plate in Block-2 inside factory area. .

S. No.	Item Description	Qty.	Unit	% Weightage of item amount against total amount
8	Supplying and filling in plinth with stone dust under floors, including watering, ramming, consolidating and dressing complete.	25.00	cum	1.0093
9	Providing & fastening chemical capsule Anchoring in RCC member using HILTI, FISCHER or equivalent, adhesive capsule & Galvanised anchor rod steel grade 5.8 complete with nuts & washer including drilling holes of required dia & depth using hammer drill etc complete. To arrest dust & dirt generated during drilling operation, vaccum dust collector should be deployed area of operation should be cordon-off by making temporary enclosure for which enclosure material shall be supplied by BHEL free of cost. The rate should be inclusive of all material, labour, tools & tackles etc. complete except specified otherwise. The job is to be carried out by a authorized applicator only of the concerned company of which anchors are proposed.			
	M24 x 210 mm	10.00	each	0.7875
			Total :	11.9345
	Total of ANNEXURE- (I) + (II)			100.0000

Note.1 . Making of pocket for bolting of machines to foundation shall be under the contractor's scope. Materials(wood/pipe) for making of pocket shall be provided/arranged by BHEL

Seal & Signature of Contractor

Dy. Manager (FCX/PLG)

# FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION

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## Price Schedule B

Name of work : Foundation & other allied civil works for Vapour Phase Drying (VPD) Plant in Block-3 & Bed plate in Block-2 inside factory area. .

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The following material free issue from BHEL stores.

- 1 Cement
- 2 Reinforcement steel
- 3 Red Oxide primer
- 4 Structural steel
- 5 Grouting material
- 6 AC Sheet/MS Sheet/GI Sheet

Seal & Signature of Contractor

Dy. Manager (FCX/PLG)

## SCHEDULE-C

Name of work : Foundation & other allied civil works for Vapour Phase Drying (VPD) Plant in Block-3 & Bed plate in Block-2 inside factory area. .

- 1 Hire charges.
    - i) Drill machine @ 252.00/- per day
    - ii) Jack Hammer @108.00/- per day
  - 2 Drill machine/jack hammer rod Rs. 100.00 per rod
  - 3 Electricity charges at Rs.66.00/- per M.T. of fabrication of structural steel
- } (Subject to availability)

Seal & Signature of Contractor

Dy. Manager (FCX/PLG)