



**BHARAT HEAVY ELECTRICALS LIMITED**  
**RAMACHANDRAPURAM:: HYDERABAD::32**  
**FACTORY CIVIL & PROJECTS DEPARTMENT**  
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**SCHEDULE-A**

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Tender Notice No.HY/PROJ-EC/ELEC/OT-07/2015-

Dtd. 15.05.2015

**PRICE BID**

<b>Name of the work : HT &amp; LT WORKS FOR GT COMPLEX TEST BAY</b>					
<b>SCOPE OF WORK:</b>					
The works are to be carried out in accordance with IE rules 1956. After completion of erection works, the contractor has to arrange inspection by CEA and obtain the permission for charging the sub-station. BHEL will provide all relevant drgs and pay the processing fee indicated by CEA and other necessary arrangements will be born by the contractor. The quantities indicated are tentative and may increase or decrease. Any other works not mentioned but required for completion of the project are to be carried out by the contractor. The contractor should follow all the statutory requirements, Environmental Management System (EMS), Occupation					
<b>Sl.No</b>	<b>Work Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Rate / Unit</b>	<b>Total Amount</b>
1	Dismantling including disconnecting cables, Shifting, Assembling and Erection of the following equipment.				
	a) Fr9E Mark V Control Panel from Fr9E Control Room, 01-block to GT complex.Approx. size: 1.5 (L)x 0.8(W) x 2.7(H)mts, weight: 2.0 Tons	No	1	5460.00	5,460.00
	b) Fr6B Mark V Control Panel from Bed 1 Control Room, 01-block to GT complex. Approx. size: 1.5 (L)x 0.8(W) x 2.7(H)mts, weight: 2.0 Tons	No	1	5460.00	5,460.00
	c) 3500 Vibration Monitoring System from Bed 1 Control Room, 01-block to GT complex. Approx. size: 1.0 (L)x 1.0(W) x 1.0(H)mts, weight: 250 Kgs	No	1	2300.00	2,300.00
2	Shifting, Assembly, Erection, Testing and Commissioning of 6.6KV, VM-12 , BHEL make, Indoor type VCBs. The VCBs shall erect on the trenches by providing MS material. The job includes primary injection, secondary injection and testing of relays mounted on VCB panels. Approx. Size: 820(L) x 2355(W) x 2700(H) mm and Wt: 1500kgs each.	Nos	5	6468.00	32,340.00
3	Shifting, Erection & Commissioning of 1250A, 11KV panel type Isolator. The approximate weight is 1.0T and dimensions are 1500(L) x 2000(W) x 2700(H)mm.	Nos	5	4284.05	21,420.25
4	Shifting and Erection of soft starter panels for Fr9E & Fr6B/5P.The approximate weight is 2.0T and dimensions are 3000(L) x 1500(W) x 2500(H)mm.	Nos	2	5935.00	11,870.00
5	Shifting, Assembly, Erection, Testing and Commissioning of 415V Power Control Centre (PCC) panel.				
	a) Approx. Size: 3500(L) x 1500(W) x 2500(H) mm and Wt: 1500kgs.	No	1	6020.00	6,020.00
	b) Approx. Size: 3500(L) x 600(W) x 2500(H) mm and Wt: 1500kgs.	No	1	6020.00	6,020.00
6	Shifting, Assembly, Erection, Testing and Commissioning of 415V Motor Control Centre (MCC) panel.. Approx. Size: 14000(L) x 2500(W) x 2500(H) mm and Wt: 7.5 Tons.	No	1	9030.00	9,030.00
7	Shifting, Assembly, Erection, Testing and Commissioning of 125V DC Distribution Board (DCDB) panel.. Approx. Size: 4000(L) x 2500(W) x 2500(H) mm and Wt: 2.0 Tons.	No	1	6020.00	6,020.00
8	Shifting, Assembly, Erection and Testing of 125V 1000AH DC Battery Bank consisting of 64nos batteries. Approx. Wt: 5.0 Tons.	Set	1	6020.00	6,020.00

9	Shifting, Erection and Testing of 125V 1000AH Battery Charger. Approx. Wt: 1.0 Ton and size: 2000(L) x 1500(W) x 2500 (H)mm.	No	1	3010.00	3,010.00
10	Shifting and Erection of 3500 Vibration Monitoring System. The approximate weight is 500Kgs and Dimensions are 1500(L) x 800(W) x 1600(H)mm.	No	1	2300.00	2,300.00
11	Shifting and Erection of Data Acquisition System for Fr9E, Fr6B and Fr5. The approximate weight is 1000Kgs and Dimensions are 1500(L) x 1500(W) x 2000(H)mm.	Nos	6	3010.00	18,060.00
12	Shifting, Erection and Testing of 25KVA UPS panel. Approx. Wt: 1.0 Ton and size: 2500(L) x 1500(W) x 2500 (H)mm.	No	1	3010.00	3,010.00
13	Shifting, Assembly, Erection and Testing of 25KVA UPS Battery Bank consisting of 32nos batteries. Approx. Wt: 2.0 Tons.	Set	1	4590.00	4,590.00
14	Shifting, Assembly, Erection and Testing of 30V DC Battery Bank consisting of 15nos batteries. Approx. Wt: 0.5 Tons.	Sets	2	2295.00	4,590.00
15	Shifting, Erection and Testing of 30V 40AH Battery Charger. Approx. Wt: 1.0 Ton and size: 1000(L) x 1000(W) x 1000 (H)mm.	Nos	2	3010.00	6,020.00
16	Shifting and Erection of Auxilliary Control Panel (ACP). The approximate weight is 1.0 Ton and Dimensions are 2000(L) x 1000(W) x 1500(H)mm.	Nos	3	3010.00	9,030.00
17	Shifting and Erection of Junction Boxes.				
	a) Type-A. The approximate weight is 1.0 Ton and Dimensions are 2000(L) x 1000(W) x 1500(H)mm.	Nos	10	3010.00	30,100.00
	b) Type-B. The approximate weight is 0.5 Ton and Dimensions are 1000(L) x 1000(W) x 1500(H)mm.	Nos	10	2295.00	22,950.00
	c) Type-C. The approximate weight is 250 Kgs and Dimensions are 500(L) x 500(W) x 500(H)mm.	Nos	10	1575.00	15,750.00
18	Shifting & Earthing of Equipment from nearest Earth riser with 50x6mm/ 25x3mm GI flat. Work includes supply and apply of Aluminium paint at each welding points.	Mt	1000	20.16	20,160.00
19	Shifting & Erection of cable tray upto 600mm width of ladder / perforated type. The job includes fabrication of cable tray bends wherever required. Some places the cable tray is to be erected at a height of 1st floor level on the wall.	Mt	500	42.00	21,000.00
20	Fabrication and Erection of structural steel for equipment/cable tray support etc.including red oxide painting. Supply of red oxide paint is in the scope of contractor.	Ton	3	7615.44	22,846.32
21	Supply and Erection of Special Earth Pits for Electronic earthing with 600x600x6mm Tinned copper plate, 50mm dia 2600mm long GI pipe with holes of 1/4" dia at 4" apart at random & 2nos 25x6, 2600mm long tinned copper flat material as per drawing. The work including supply of material for alternate layers of charcoal(75kgs), salt(150kgs) and making RCC/Brick chambers with MS/Cast iron cover. Contractor shall dig 300mm depth and 200mm width trench in the soil for laying the copper cable from earth pit electrode to equipment.	Nos	15	22140.00	3,32,100.00
22	Supply and Erection of Earth pits for Equipment body earthing with 65mm dia GI pipe Medium (class-B), strictly as per IS: 3043, 3000mm long with holes of 12mm dia at 150mm apart at random & 50x6x260mm MS Earthing plate welded to pipe as per drawing.The work including supply of material for alternate layers of charcoal, salt (75kg & 150kgs respectively) and making RCC/brick chambers with MS/cast iron cover. Contractor shall dig 300mm depth and 200mm width trench in the soil for laying the earth flat from earth pit electrode to earth mat/equipment.	Nos	6	6293.28	37,759.68

23	Supply of Commissioning Assistance during machines & other systems commissioning.				
	a) Skilled	Days	30	858.50	25,755.00
	b) Un-skilled	Days	30	717.40	21,522.00
24	Shifting, Erection and Commissioning of 3 phase Fuse Distribution Board (FDB) as per site engineers instruction.				
	a) 32A, 12 way	No	2	2026.92	4,053.84
	b) 63A, 8 Way	No	1	2026.92	2,026.92
25	Shifting and laying of the following HT power cables (UE). The job includes Dressing & Tagging, Fixing of free issued trefoil clamps for Single Core cable at 1mt interval etc.				
	a) 1C x 630sq.mm 11KV armoured XLPE Aluminium cable	Mts	750	22.00	16,500.00
	b) 3C x 300sq.mm 11KV armoured XLPE Aluminium cable	Mts	1000	25.00	25,000.00
	c) 1C x 95sq.mm 11KV Flexible XLPE Copper cable	Mts	1000	17.00	17,000.00
26	Execution of the following HT Cable End terminations /Joints with Heat Shrinkable joint kits by qualified cable joiner.				
	a) 1C x 630sq.mm 11KV armoured XLPE Aluminium cable	Nos	18	1150.00	20,700.00
	b) 3C x 300sq.mm 11KV armoured XLPE Aluminium cable	Nos	20	1150.00	23,000.00
	c) 1C x 95sq.mm 11KV Flexible XLPE Copper cable	Nos	30	765.00	22,950.00
27	Shifting and laying of 1.1KV LT power PVC armoured Aluminium cable including Dressing & Tagging				
	a) 1C x 630sq.mm	Mts	500	16.40	8,200.00
	b) 31/2C X 185sq.mm	Mts	1000	18.04	18,040.00
	c) 31/2C X 120sq.mm	Mts	500	14.76	7,380.00
	d) 31/2C X 95sq.mm	Mts	1750	14.76	25,830.00
	e) 31/2C X 50sq.mm	Mts	750	12.30	9,225.00
	f) 4C X 35sq.mm	Mts	3500	10.66	37,310.00
	g) 4C X 16sq.mm	Mts	2500	9.84	24,600.00
28	Power cable termination including supply of cable glands & lugs(Aluminium).				
	a) 1C x 630sq.mm	Nos	24	504.30	12,103.20
	b) 31/2C X 185sq.mm	Nos	4	787.20	3,148.80
	c) 31/2C X 120sq.mm	Nos	8	653.54	5,228.32
	d) 31/2C X 95sq.mm	Nos	48	520.70	24,993.60
	e) 31/2C X 50sq.mm	Nos	24	321.44	7,714.56
	f) 4C X 35sq.mm	Nos	92	234.52	21,575.84
	g) 4C X 16sq.mm	Nos	64	194.34	12,437.76
29	Shifting and laying of 1.1KV LT power PVC Flexible Copper cable including Dressing & Tagging				
	a) 31/2C X 95sq.mm	Mts	500	18.00	9,000.00
	b) 31/2C X 50sq.mm	Mts	500	16.00	8,000.00
	c) 4C X 16sq.mm	Mts	1000	13.00	13,000.00
	d) 4C X 10sq.mm	Mts	1000	11.00	11,000.00
30	Power cable termination including supply of cable glands & lugs(Copper).				
	a) 31/2C X 95sq.mm	Nos	24	688.00	16,512.00
	b) 31/2C X 50sq.mm	Nos	24	360.00	8,640.00
	c) 4C X 16sq.mm	Nos	64	255.00	16,320.00
	d) 4C X 10sq.mm	Nos	64	192.00	12,288.00
31	Shifting and laying of 1.1KV LT Control PVC Armoured Copper cable including Dressing & Tagging				
	a) 24C x 1.5sq.mm	Mts	8500	21.00	1,78,500.00
	b) 12C X 1.5sq.mm	Mts	5000	16.00	80,000.00
	c) 7C X 1.5sq.mm	Mts	4000	12.00	48,000.00
	d) 5C X 1.5sq.mm	Mts	2500	11.00	27,500.00

32	Control cable termination including supply of cable glands, PVC Ferrules & Copper lugs (U-type/Ring type/Pin type).				
	a) 24C x 1.5sq.mm	Nos	200	530.00	1,06,000.00
	b) 12C X 1.5sq.mm	Nos	130	350.00	45,500.00
	c) 7C X 1.5sq.mm	Nos	80	260.00	20,800.00
	d) 5C X 1.5sq.mm	Nos	50	200.00	10,000.00
		<b>TOTAL</b>			<b>16,72,591.09</b>

**Total Rupees Sixteen lakhs Seventytwo thousand Five hundred and Nintyone and Paisa Nine only.**

- NOTE:** 1) The above rates are inclusive of VAT.
- 2) Service Tax is extra, as applicable and the contractor shall indicate Service Tax separately as extra in price bid.
- 3) The Contractor has to submit separate Service tax invoice alongwith RAB (Running Account Bill)
- 4) The quantities indicated in the schedule are tentative and may increase or decrease or delete.
- 5) Any other works not mentioned but required for completion of the project are to be carried out by the contractor with mutually agreed rates and vetted by finance.
- 6) The contractor shall mark with paint on all panels regarding power cables size & FROM/TO destinations.
- 7) Contractor shall shift the materials from different locations inside the factory to the project site and return back the left over materials after completion of the work to the project stores or as per the instructions of the site engineer.
- 8) **Safety** : Contractor has to ensure usage of safety shoes, safety helmets, safety belts, safety net & anchoring rope, hand gloves etc. during erection and commissioning for all his personnel.
- 9) Contractor should ensure the availability of calibration certificates for all the equipments likely to be used.
- 10) Contractor has to follow the work permit system strictly wherever applicable.
- 11) Contractor has to ensure neatness of the site by removing unwanted materials/scrap materials.
- 12) The contractor should follow all the statutory requirements, Environmental Management System (EMS), Occupational Health and Safety Management System (OHSAS) while executing the work.
- 13) The works are to be carried out in accordance with IE rules 1956.
- 14) **Terms of Payment:** Payment will be based on work % completion/milestone basis.

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 Percentage	In Figures	In Words
Excess		
Less		
On Par with Estimate		