

BHARAT HEAVY ELECTRICALS LIMITED**RAMACHANDRAPURAM:: HYDERABAD::32****FACTORY CIVIL & PROJECTS DEPARTMENT****Phone nos: 040-23185059, 23182376 Fax: 040-23186122****email id: shankarproj@bhelhyd.co.in****Tender Notice No. HY/PROJ-EC/ELEC/OT-15/2015-16 Item No.1****Date: 20.07.2015****SCHEDULE-A****PRICE BID**

Name of the work: INSTRUMENTATION WORK FOR GT COMPLEX TEST BAY					
SCOPE OF WORK:					
The works are to be carried out in accordance with IE rules 1956.					
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 Health and Safety Management System (OHSAS) while executing the work.					
Sl.No	Work Description	Unit	Qty	Rate / Unit	Total Amount in Rs.
1	Fabrication and Erection of supporting stand (T-shape) with BHEL free issued 1" dia MS/SS 1000mm long pipe & 2" dia 200mm long MS/SS pipe in nozzle house for fixing Pt. RTD & Impact Tube for three beds (Fr9E, Fr6B & Fr5P) similar to existing Fr9FA mounting arrangement.	Nos	15	459.00	6885.00
2	Mounting of BHEL free issued Platinum RTDs for Fr9E, Fr6B & Fr5P three test beds for measuring air temperature similar to existing mounting arrangement for Fr9FA test bed.				
	a) Nozzle Houses	Nos	15	115.00	1725.00
	b) Inlet & Exhaust ducts	Nos	60	115.00	6900.00
3	Mounting of 3/8" dia Impulse Tube (max. 1mt length) in nozzle house for measuring inlet air pressure for three beds (Fr9E, Fr6B & Fr5P) similar to existing Fr9FA arrangement.	Nos	15	115.00	1725.00
4	Making provision for inserting performance instrumentation by drilling holes and welding threadolet in Inlet and exhaust SS Ducts for FR-5, Fr-6 & Fr-9E test beds	Nos	150	138.00	20700.00
5	Mounting of SS Manifold Tubing for Differential Pressure measurement in nozzle house for three beds (Fr9E, Fr6B & Fr5P) similar to existing Fr9FA arrangement.	Nos	15	115.00	1725.00
6	Fabrication and Erection of Pressure Transducer Gauge Rack with BHEL free issued MS structural steel as per drawing /similar to existing Fr9FA arrangement for three beds (Fr9E, Fr6B & Fr5P) to accommodate 50 PTs (10+10) in each row (total 3 rows) in grid arrangement to a suitable height for monitoring and repairing .	Ton	3	7434.12	22302.36
7	Mounting of BHEL free issued Pressure Transducer (PT) for for three beds (Fr9E, Fr6B & Fr5P) on the grid.	Nos	150	55.00	8250.00
8	Fixing of BHEL free issued Needle Valves. These needle valves are to be welded on to thick GI strip.	Nos	250	69.00	17250.00
9	Fixing of BHEL free issued Straight Connectors	Nos	500	28.00	14000.00
10	Fixing of BHEL free issued T - Connectors	Nos	350	28.00	9800.00
11	Fixing of BHEL free issued Nipples	Nos	1000	28.00	28000.00
12	Laying and Connecting of Performance Tubing (both Copper and Nylon tubing) for three beds (Fr9E, Fr6B & Fr5P) similar to existing Fr9FA arrangement. Pressure test is to be conducted on the tube after Laying & Connecting as per the instructions of the site Engineer..	Mts	7000	14.00	98000.00

Tenderer's Signature

Issuing Authority Signature

13	Laying of upto 600mm GI perforated cable tray for three beds (Fr9E, Fr6B & Fr5P) from Nozzle House to Pressure Transducer Gauge Rack.	Mts	120	41.00	4920.00
14	Supply and installation/Mounting of Flexible copper tube PVC insulated(OD=1/4" - ID 4 mm). Max. Working Pressure 150 Bar. Minimum length in drum 100 mtrs	Mts	2000	139.00	278000.00
15	Supply and installation/Mounting of Flexible Nylon tube(OD=1/4" - ID 4 mm) Max. Working Pressure 50 Bar. Minimum length in drum 100 mtrs	Mts	2000	62.00	124000.00
16	Supply and installation/Mounting of Brass ferrules suitable for 1/4" nylon/copper tube OD and suitable for 1/4" BSP connector	Nos	2000	15.00	30000.00
17	Supply and installation/Mounting of Brass straight connectors suitable for 1/4" OD copper/nylon tube at both end	Nos	1000	85.00	85000.00
18	Supply and installation/Mounting of Brass tee connectors suitable for 1/4" OD copper/nylon tube size 1/4" BSP M (three ends).	Nos	250	129.00	32250.00
19	Supply and installation/Mounting of SS Bulkhead Connector suitable for 1/4" OD copper/nylon tube(1/4" BSP M (both ends))	Nos	250	309.00	77250.00
20	Supply and installation/Mounting of Impact tube (L=600mm, 3/8" dia SS316) Process Connection 1/2" NPTM to 1/4" BSPF (GT-CIIF-001)	Nos	20	2939.00	58780.00
21	Supply and installation/Mounting of Impact tube (L=1250 mm, 3/8" dia SS316)(GT-NIN-001)	Nos	15	3046.00	45690.00
22	Supply and installation/Fixing of Alluminium washer for pressure gauge(ID=6.5MM,OD=17.7MM)	Nos	1000	10.00	10000.00
23	Supply and installation/Fixing of Sliding nut for pressure gauge connection(M20 x 1.5)	Nos	200	189.00	37800.00
24	Supply and installation/Mounting of Nipple for pressure gauge connection (M20 x 1.5)	Nos	200	159.00	31800.00
25	Supply and installation/Mounting of Welding on extension piece for pressure gauge connection (M20 x 1.5)	Nos	200	119.00	23800.00
26	Supply and installation/Mounting of Pressure gauge pipe coupling connection (M20 x 1.5L / M20 x 1.5R)	Nos	200	189.00	37800.00
27	Supply and installation/Mounting of 3 way needle valve for pressure gauge, Pressure rating: 250 bar max(M20X1.5 R/R/L)	Nos	200	2138.00	427600.00
28	LIGHTING for NOZZLE HOUSE:				
	a) Supply, erection and commissioning of 400W, 230V integral flood light luminaire with pressure die cast aluminium housing (IP65) with HPI-T PLUS Tubular bulb for three test beds (Fr9E, Fr6B & Fr5P). Make: Philips, Type: MWF331 1XHPITP 400WA.	Nos	25	10119.00	252975.00
	b) Supply, Erection and commissioning of 230V Rotating Danger Warning lights with bulbs (Red Colour) for three test beds (Fr9E, Fr6B & Fr5P).	Nos	24	888.00	21312.00
	c) Erection and commissioning of 2x36W, 230V TL fittings with bulbs for three test beds (Fr9E, Fr6B & Fr5P).	Nos	45	344.00	15480.00
	d) Supply and fixing of 3pin, 250 V. 10 Amps power socket cum switch with indication Roma type code 21113 and 21033 of Anchor make or North West. Fixed on suitable modular type concealed box top cover. Testing & commissioning.	Nos	15	356.70	5350.50

	e) Supply and Installation of MCB DB with MCB 415V, 8 way consisting of 10 to 20A -- 8nos MCBs on each phase , sheet enclosed, dust & vermin proof. Type KSTIL of STANDARD/ KOPP MAKE along with controlling 100A ICTPN in sheet enclosure with HRC fuses, PVC marking ferrules etc. It is to be fixed on a neatly fabricated steel frame and mounted on to walls or as required for lighting distribution. The job includes painting of steel frames, labelling / writing the connection chart inside the door with WHITE duco paint as required, double earthing, testing & commissioning.	Nos	3	14361.48	43084.44
	f) cable laying & fixing of 3x2.5sq.mm armoured PVC FRLS copper cable for 1000W light fittings. Job includes supply and fixing of suitable saddles.	Mtr	500	9.02	4510.00
	g) Termination of 3x2.5sq.mm armoured PVC FRLS copper cable for 1000W light fittings. Job includes supply of suitable cable glands & copper lugs.	Nos	60	123.00	7380.00
	h) Supply and execute the concealed / surface PVC/MS Pipe wiring with 1.5 sq. mm 660 / 1100. V. Grad PVC insulated copper wire multi strand of make Finolex / Rediant / fincab/ Havells/ L&T. In PVC/MS pipe of suitable dia (As per IS for wiring points) with 14 G/1.5sq.mm green colour copper wire for earth continuity. Each light / fan point should be connected to three plate ceiling rose code 30090 of Roma modular type of Anchor or North West make / connector suspended duly with couduit / PVC pipe etc. Each circuit should not have more than 7 points 700 watts.	Mtr	84	952.84	80038.56
	i)Supply and fixing of 10 Amps 250 V. SP switches for control of light fitting and fans with Roma Type code : 21011 of Anchor or North West make . Fixed on a suitable modular type concealed box with suitable top cover. Testing & commissioning.(four switches on each box)	Nos	69	231.24	15955.56
29	Shifting, Erection and commissioning of 3-phase, 36" Man coolers along with 16A TPN & DOL starter for three test beds (Fr9E, Fr6B & Fr5P).	Nos	12	2001.00	24012.00
30	Shifting, Erection and commissioning of 1-phase, 15" Exhaust Fans along with 16A TPN & DOL starter for three test beds (Fr9E, Fr6B & Fr5P).	Nos	12	1377.00	16524.00
31	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	1	7434.12	7434.12
32	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	200	19.68	3936.00
33	Supply and Laying of 40mm dia PVC pipe for running of Ethernet / Fibre Optic / Arcnet cables for three beds (Fr9E, Fr6B & Fr5P). PVC pipe is to be clamped as per the instructions of the site Engineer.	Mts	3000	60.00	180000.00
34	Laying and Termination of Ethernet / Fibre Optic / Arcnet cables in 40mm dia PVC pipe for three beds (Fr9E, Fr6B & Fr5P)	Mts	3000	9.00	27000.00
35	Shifting and laying of Signal PVC Armoured Copper cable including Dressing & Tagging				
	a) 24P x 1.5sq.mm	Mts	8500	18.00	153000.00
	b) 4P X 1.5sq.mm	Mts	3500	10.00	35000.00
	c) 12P X 1.5sq.mm Thermocouple Cable	Mts	1500	14.00	21000.00
	d) 12 Traid X 1.5sq.mm	Mts	3000	14.00	42000.00

36	Signal cable termination including supply of cable glands, PVC Ferrules & Copper lugs (U-type/Ring type/Pin type).				
	a) 24P x 1.5sq.mm	Nos	200	537.00	107400.00
	b) 4P X 1.5sq.mm	Nos	80	189.00	15120.00
	c) 12P X 1.5sq.mm Thermocouple Cable	Nos	30	344.00	10320.00
	d) 12 Traid X 1.5sq.mm	Nos	80	372.00	29760.00
	TOTAL				2660544.54
Total: Rupees Twenty six lakhs sixty thousand five hundred and forty four Paisa fifty four 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
- 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 %	In Figures	In Words
Excess		
Less		
On par with Estimates		