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# **TENDER SPECIFICATIONS**

**TENDER NO. BHEL/ NR /SCT /GIRAL 2/ C and I / 486**

**FOR**

**Erection, testing, commissioning, post commissioning, trial operations and handing over of all C and I equipment for 1 x 125 MW, Unit 2, Lignite Thermal Power Plant at Giral District Barmer, Rajasthan.**

## **PART II – PRICE BID**



**Bharat Heavy Electricals Limited  
(A Govt. Of India Undertaking)  
Power Sector – Northren Region,  
Plot No. 25 , Sector - 16A ,  
Distt. Gautam Budh Nagar, NOIDA – 201 301 (INDIA)**



ISO 9001-2000, ISO 14001 and  
OHSAS 18001 certified  
company  
SubContract and Purchase  
Deptt.

**Bharat Heavy Electricals Limited**  
(A Govt. Of India Undertaking)  
**Power Sector – Northren Region,**  
Plot No. 25 , Sector - 16A ,  
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**IMPORTANT NOTE**

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THIS TENDER SPECIFICATION ISSUED TO:

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**BOQ CUM RATE SCHEDULE FOR C & I WORKS**  
**1 X 125 MW, UNIT # 2, GIRAL TPS, BARMER**  
**TENDER NO. BHEL/ NR /SCT /GIRAL 2/ C and I / 486**

SI. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE (IN RS.)	TOTAL AMOUNT ( IN Rs.) IN FIGURES AND WORDS
<b><u>PANELS / CONSOLES / RACKS</u></b>					
1	CONTROL CABINETS FOR S.G. (800L X 2415H X 750W)	No.	14		
2	CONTROL CABINETS FOR T.G. (800L X 2415H X 750W)	No.	21		
3	VIBRATION MONITORS CABINET (710L X 750H X 250W)	No.	6		
4	DAVR PANELS 1550L X 1250H X 2324W)	No.	1		
5	DC EOP/JOP CONTROL PANELS 800L X 2300H X 800W)	No.	2		
6	Local starter box for Furnace temperature probe ( 600 W x 1000 H x 300 D)	No.	3		
7	DC STARTER PANEL FOR BOILER	No.	9		
8	OPEN Type Instrument Rack	No.	14		
9	CLOSED type instrument rack	No.	2		
<b><u>Cable Tray Erection including Supports fabrication / erection</u></b>					
10	Ladder / perforated cable trays 300 mm wide including 250 mm wide cable duct with cover	Mtr.	600		
11	Ladder / perforated cable trays 150 mm wide including 180 mm wide cable duct with cover	Mtr.	600		
12	Ladder / perforated cable trays 100 mm wide	Mtr.	1000		
13	Ladder / perforated cable trays 50 mm wide including 60 mm wide cable duct with cover	Mtr.	550		
<b><u>Junction Boxes / Indication Boxes / Local Control Stations.</u></b>					
14	Junction boxes upto 12 ways / Local gun maintenace switch / local push buttons / shear pin failure indication box	No.	60		
15	Junction boxes upto 24 ways	No.	110		
16	Junction boxes upto 64 ways	No.	65		
<b><u>Power / Control / Signal cables laying, dressing, clamping &amp; termination.</u></b>					
17	2 Core / 1 Pair Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	4000		
18	4 Core / 2 Pair Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	15000		
19	6/7 / 8 Core / 4 Pair / 2 Triad Cable ( armoured / un- armoured) Core size upto 2.5 Sq. mm	Mtr	16000		
20	10 - 16 Core / 8 Pair Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	8000		
21	17 - 24 Core / 12 Pair Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	5000		
22	25 - 36 Core / 16 Pair Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	3000		
23	K TYPE 2 PAIR .5 SQMM	Mtr	2500		
24	3C X 70 SQMM WITH LUG & TERMINATION	Mtr	350		
25	3C X 4 SQMM	Mtr	12500		

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SI. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE (IN RS.)	TOTAL AMOUNT ( IN Rs.) IN FIGURES AND WORDS
26	7C X 1.5 SQMM	Mtr	12500		
27	UTP CABLE	Mtr	1600		
	<b><u>Impulse Pipe / Tubing</u></b>				
28	6mm / 8mm /1 INCH mm Cooper Tube	Mtr	1000		
29	1/2 inch / 3/4 inch SS impulse Pipe	Mtr	1000		
30	1/2 "3/4 inch / 1 inch CS impulse Pipe	Mtr	2500		
31	1/2 inch / 3/4 inch AS impulse Pipe	Mtr	600		
	<b><u>Local / Field mounted Instruments / Equipment</u></b>				
32	Flame Scanner head assembly, including cable upto local JB	No.	2		
33	Electromagnetic relief valve controller box	No.	2		
34	Hardwired Consoles with push buttons and indicating lamps for SG / EAST / GEN.systems	No	7		
35	UCB mounted instrument / indicator / recorder / control station	No.	1		
36	Pneumatic indicating controller(gland + seal steam)	No.	7		
37	Heavy duty Limit Switches (for BTPS)	No.	26		
38	Air Filter Regulators	No.	150		
39	I / P Convertor	No.	50		
40	Erection, commissioning of Pneumatic Power cylinders 'Regulating type with positioner, PFT etc (Bore x Stroke - 6"x8" / 8"x8" / 8"x6" )	No	14		
41	Temp. elements ie.RTDs & Thermocouples (Bimetallic thermometer, Resistance thermometer, mercury in steel thermometer, Simplex / Duplex / Triplex, with thermowell)	No.	250		
42	Metal Temperature Measuring Thermocouples (Simplex / Duplex)	No.	30		
43	Pressure / diff. Pressure / temperature/ level gauge	No.	500		
44	Pressure / diff. Pressure / temperature / level switch (level switch can be flange type or welded type / with or without electronic unit)	No.	150		
45	Pressure / diff. Pressure / level / position transmitter	No.	100		
46	Flow meter/ Rotameter /Flow switch	No.	17		
47	Liquid Level Detector	No.	2		
48	<b>SENSORS / PICKUPS WITH CABLES</b>				
a	Relative / absolute Vibtation	No	22		
b	Relative Expansion	No	2		
c	Axial Shift	No	3		

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Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE (IN RS.)	TOTAL AMOUNT ( IN Rs.) IN FIGURES AND WORDS
d	Proximtors	No	35		
e	Speed pick up & measuring loop	No	8		
49	panel mounted Vibration , Axial displacement monitoring system,Bently Nevada 3500 series	No	2		
50	Flip Flop	No	1		
51	Printers	No	4		
52	PC set with monitor / keyboard / power supply unit	No	6		
53	Computer /Printer Table+Chair	SET	8		
54	Wall mounted cabinet 600WX500DX600H	No	2		
55	purge meter	No.	20		
56	Erection & calibration of SOV operated pneumatic trip valve	No	25		
57	calibration of SOV operated pneumatic trip valve	No	80		
58	calbration/commissioning of regulating control valve with positioners/LS/PFT/servo valves	No	52		
59	electronic earthing pit with electrodes	No	2		
60	Fabrication / Erection of structural steel	MT	12		
61	Data Acquisition Work Station set	No	1		
TOTAL AMOUNT		Rs.			

**NOTES**

- 1) All dimensions are in mm unless otherwise specified.
- 2) The contractor is required to quote unit-rate as well as total price against each item in the above schedule. Sub-total on each page shall be indicated and brought forward to next page and duly signed. The contractor shall ensure that grand total on this page is arithmetically checked and corrected and certified accordingly while signing below. Despite this if any calculation error is noticed after tender opening. BHEL reserves the right to deal with it as deemed fit at their end.
- 3) The quantities indicated against each item above are tentative and same are liable to vary depending upon the site requirement. The contractor has to erect / commission all items indicated by BHEL Engineer for achieving unit wise milestone
- 4) The Rate shall be entered in figures as well as in words. In case of difference in rates between words and figures THE LESSER OF THE TWO will be treated as valid rate.
- 5) In case of omission in quoting any rate, the evaluation will be done considering the highest quoted rate obtained against that item but the work , if awarded, will be on the lowest quoted rate obtained against that item.
- 6) The bidders shall enter both 'Unit Rate' & 'Amount'. In case of any mismatch between 'Total Amount based on Unit Rate' & 'Total Amount as quoted', the lower of the two shall be considered for evaluation and award.