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TENDER SPECIFICATION

TENDER NO. BHEL/ NR/SCT/ GVK GOINDWAL / ELE AND C&I / 803

FOR

ERECTION, TESTING, COMMISSIONING, TRIAL OPERATION AND HANDING OVER OF ALL ELECTRICAL AND C&I EQUIPMENTS OF UNIT NO. 1 & 2 OF 2X270 MW GVK, GOINDWAL TPS, DISTT. TARAN TARAN, PUNJAB.

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

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IMPORTANT NOTE

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THIS TENDER SPECIFICATION ISSUED TO:

M/S-----

RATE SCHEDULE

SL NO	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE (IN Rs.)	TOTAL AMOUNT (IN Rs.)
	HT/LT TRANSFORMERS:				
1	Transportation up to foundation, Assembly, testing & commissioning of Three Phase, 16.5/235kV,315MVA,OF AF,GENERATOR TRANSFORMER Core & winding 153 MT Tank & fittings 64 MT Shipping Weight 176 MT Total Weight 268 MT Overall dimensions 16300x8300x7750mm Oil Qty. 58600 ltr.	NO.	2		
2	Transportation up to foundation, Assembly, testing & commissioning of Three Phase ,220kV/6.9kV, 28/35 MVA, ONAF, STATION SERVICE TRANSFORMER Core & winding 35 MT Tank & fittings 15 MT Shipping Weight(N ₂ filled) 50 MT Total Weight 80MT Overall dimensions 10400X6500X7400 mm Oil Qty. 28000 ltr.	NO.	2		
3	Transportation up to foundation, Assembly, testing & commissioning of Three Phase ,16.5/6.9kV, 20/25 MVA, ONAF, UNIT TRANSFORMER Core & winding 24 MT Tank & fittings 15 MT Shipping Weight(N ₂ filled) 31 MT Total Weight 70 MT Overall dimensions 9100x5100x6600 Oil Qty. 25500 ltr.	NO.	2		

	ISOLATED PHASE BUS DUCT				
4	<p>Transportation from stores / storage yard to erection site, assembly, erection, welding, testing & commissioning of Isolated Phase Bus Duct (12500A) for interconnection of Generator & Generator Transformers, tap-off to unit transformers, LAVT, NG cubicles ,CT transformers along with all accessories & auxiliaries</p> <p>Main Run</p> <p>Enclosure Size:1070x8 mm</p> <p>Conductor size: OD 530 mm, Thk. 16 mm</p> <p>Phase to phase distance:1300mm</p> <p>Approx. length per unit 245 Mtr.</p> <p>Tap-off</p> <p>Enclosure Size:780x4.78 mm</p> <p>Conductor size: OD 152.4 mm, Thk. 8.1 mm</p> <p>Phase to phase distance:1000mm</p> <p>Approx. length per unit 45 Mtr.</p>	SET.	02		
	PANELS/RACKS/CONSOLES				
5	DCS Panel for SG,TG,STATION CNI 750X800X2415 mm	No.	212		
6	Generator ,GT,UAT Protection Panel 1000x1000x2230 mm	No.	08		
7	Generator Control Panel 2500X1000x2415 mm	No.	02		
8	Generator instrumentation Cabinet 1000X800X2200 mm	No.	02		
9	SOOT BLOWER MCC 9700x2450x1000 mm	No.	02		
10	Gas Analyser cabinet 1200x800x2110 mm	No.	02		
11	DAVR Panel	No.	02		

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	1200X1200X2315 mm				
12	VMS PANEL 800X800X2415 mm	No.	06		
13	VMS Local Cabinet 400x300x300 mm	No.	22		
14	EWLI LOCAL PANEL 600x600x350 mm	No.	04		
15	EWLI REMOTE DISPLAY UNIT 99x194x81 mm	No.	08		
16	ELEVATOR CONTROL PANEL	No.	02		
17	ERV CONTROLLER BOX 400x350x270 mm	No.	02		
18	FTP LOCAL STARTER 650x1000x300 mm	No.	04		
19	DC SCANNER AIR FAN STARTER 900x1120x375 mm	No.	02		
20	UPS PANEL 6580X900X2230 mm	No.	06		
21	ACDB 2280X895X2115 mm	No.	04		
22	HART MANAGEMENT SYSTEM PANEL 1200X800X2415 mm	No.	02		
23	UNIT CONTROL PANEL 1000x800x2415 mm	No.	02		
24	GRAVIMETRIC FEEDER REMOTE PANEL 1200X600X2315 mm	No.	10		
25	GRAVIMETRIC FEEDER INTEGRAL PANEL 1200X600X2315 mm	No.	10		
26	GPS RECEIVER 900X600X2415 mm	No.	02		

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27	STRP 1000x800x2295 mm	No.	06		
28	NETWORK PANEL 800x800x2415 mm	No.	08		
29	HART MANAGEMENT STATION 1505X760X735 mm	No.	02		
30	SWAS Sample handling system with racks & Sample conditioning panel with chiller	Set	02		
31	Starter cabinet for DC Jacking Oil Motor, Emergency Lube Oil Motor, DC seal oil Motor 1000X800X2200 mm	No.	06		
32	Max engineer/max storian/max operator/max link stations/station supervisor/shift in charge terminal/LVS PC/TSC PC/22" TFT monitor	Nos.	38		
33	PRINTERS(A4 & A3 COLOUR LASER JET, INKJET, DOT MATRIX) WITH PRINTER TABLE and accessories	No.	10		
34	LARGE VIDEO SCREEN(67") ,resolution 1400x1050 pixels	No.	02		
35	Ethernet switches	Set	02		
36	Control Desk	No.	02		
37	Computer furniture for all Servers, PCs, Printers	Set	02		
	INSTALLATION,CALIBRATION & COMMISSIOING OF LOCAL/FIELD INSTRUMENTATION/EQUIPMENT				
38	Flow meters/Flow transmitters	No.	50		
39	Temperature gauges/Pressure gauges/ Diff. Pressure gauge	No.	506		
40	Temp. Transmitter /Pressure Transmitters / Differential pressure/position transmitters	No.	184		
41	Level Transmitter/Level gauge	No.	22		
42	Temp. switches/Pressure switches /DP switches	No.	144		
43	Level switch/Level switch(Conductivity type)/ Level switch(Float type) / Level Instruments	No.	06		
44	Electronic/Guided Wave Radar type level Transmitters	No.	44		

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45	Limit switches	No.	12		
46	EWLI /DWLG for drum	No.	08		
47	Flame scanner head assy.	No.	32		
48	Flue gas Analyser Sample Handling System	Set	02		
49	ANALYSER(pH/Dissolved /oxygen/silica/sodium/Hydrazine/conductivity/phosph ate)	Nos.	42		
50	Oxygen Analyser	Set	10		
51	Thermocouples/RTD's	No.	1034		
52	Thermocouple assy with 6 / 9 Cr-Al MI T/C along with integral JB	No.	04		
53	MTM Thermo Couple (Simplex/duplex)	No.	40		
54	Burner Tilt shear pin failure indication box	No.	08		
55	Furnace temp. Probe	No.	04		
56	HEA exciter system	No.	24		
57	Air Filter Regulators	No.	100		
58	I/P Converters	No.	130		
59	Vibration Transducers/Monitor/ Detectors	No.	78		
60	Solenoid Valves	No.	150		
61	Speed Regulators / Air lock valves in oil gun corner rack	Nos	24		
62	Opacity monitor	Set	02		
63	Coal bunker level Monitoring strain gauge	Sets	02		
64	Recorder 24 / 30 Channel	No.	4		
65	Recorder 3 channel	No.	6		
66	Speed switch / Speed detector	No.	6		
67	Pneumatic Pressure controller with accessories	No	2		
68	Pneumatic Temperature controller with accessories	No	10		
69	Master Slave Clock System	SET	01		
	CONTROL/SIGNAL/SCREENED/POWER CABLES LAYING,DRESSING,CLAMPING & TERMINATION	UNIT	QTY		
70	2P X 0.5 SQ MM	Mtr	19000		

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71	2P X 1.5 SQ MM	Mtr	23800		
72	4P X 0.5 SQ MM	Mtr	70500		
73	8P X 0.5 SQ MM	Mtr	35250		
74	12 P X 0.5 SQ MM	Mtr	13600		
75	2C X 2.5 SQ MM	Mtr	8000		
76	3C X 2.5 SQ MM	Mtr	87000		
77	3C X 6 SQ MM	Mtr	2000		
78	5C X 2.5 SQ MM	Mtr	28000		
79	7C X 2.5 SQ MM	Mtr	6400		
80	10C X 2.5 SQ MM	Mtr	1000		
81	16C X 2.5 SQ MM	Mtr	6000		
82	19C X 1.5 SQ MM	Mtr	4000		
83	19C X 2.5 SQ MM	Mtr	3000		
84	T/C ext. cable	Mtr	16000		
85	Flame scanner cables	Mtr	4000		
86	UTP E-CAT cable	Mtr	2000		
87	Fibre optic cable	Mtr	2000		
88	Compensating cable	Mtr	500		
	EARTHING MATERIAL				
89	75 x 10 mm GI earthing flat	Mtr	1000		
90	50 x 6 mm GI earthing flat	Mtr	1000		
91	35 X 6 mm GI earthing flat	Mtr	500		
92	3.15 mm GI earthing wire	Mtr	5000		
	CABLE TRAY & Accessories(including supports fabrication/erection)				
93	Ladder/ Perforated type Cable tray, W=50mm	MTRS	1785		
94	Ladder/ Perforated type Cable tray, W=100mm	MTRS	2000		
95	Ladder/ Perforated type Cable tray, W=150mm	MTRS	525		
96	Ladder/ Perforated type Cable tray, W=300mm	MTRS	70		
	INSTALLATION & FABRICATION OF				

	STRUCTURAL STEEL				
97	ANGLE ,ISMC,PLATES etc	MT	20		
	IMPULSE PIPES/ TUBES ALONG WITH FITTINGS				
98	Copper Tube-6mm/8mm	MTRS	1500		
99	6mm SS Tube	MTRS	500		
100	1/2",3/4" CS impulse pipe	MTRS	2000		
101	1/2",3/4" AS impulse pipe	MTRS	1500		
102	1/2",3/4" SS impulse pipe	MTRS	500		
103	GI pilica conduit with fittings(up to 1" size)	MTRS	50		
104	GI pilica conduit with fittings(above 1" size)	MTRS	50		
105	GI Rigid conduit up to 1"	MTRS	50		
106	GI pipe 15 NB	MTRS	500		
107	Flexible conduiting /Rubber hoses/pipes	MTRS	500		
	JUNCTION BOXES/INDICATION BOXES/LOCAL CONTROL STATIONS				
108	JB up to 12 ways	No.	50		
109	JB 24 way 340x280x145	No.	80		
110	JB 48 way 480x280x145	No.	60		
111	FSSS oil gun maintenance switch box	No.	24		
	COMMISSIONING/CALIBRATION/TESTING of control valves, on/off valves, electrical/pneumatic valves, actuators, solenoid valves, power cylinders etc.				
112	Commissioning of Open/close type Electrical actuators	No.	47		
113	Commissioning of Pneumatic actuators/drives	No.	107		
114	Commissioning of Control Valves	No.	42		
115	Commissioning of motorised actuators	No.	10		
116	Commissioning of Power cylinders	No.	50		
GRAND TOTAL (IN RS.)					

Notes:

1. All dimensions are in mm unless otherwise specified.
2. 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.
3. In case of difference in rates between words and figures, the lesser of the two will be treated as valid rate.
4. 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 higher of the two shall be considered for evaluation and the lower of the two shall be considered for award.
5. 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 by the bidders. Despite this, if any calculation error is noticed in totalling after tender opening, the higher of the two (i.e. between total value worked out by BHEL and the total value indicated by bidder in their offer) shall be considered for evaluation and the lower of the two shall be considered.
6. Evaluation of the bids shall be done based on total price against this BOQ.
7. 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.

(Seal & Signature of Tenderer)