

**BOQ CUM RATE SCHEDULE FOR C AND I WORKS AT 3x 500 MW APCPL JHAJJAR UNIT 1TO 3**

**TENDER NO. BHEL/NR/SCT/JHAJJAR/CNI/662**

Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE ( IN Rs. )	TOTAL AMOUNT (Rs IN FIGURES AND WORDS)
<b><u>PANELS / CONSOLES / RACKS</u></b>					
1	CONTROL CABINETS FOR S.G. (750L X 2355H X 750W)	No.	164		
2	CONTROL CABINETS FOR T.G. (750L X 2355H X 750W)	No.	121		
3	CONTROL CABINETS FOR MMI (750L X 2355H X 750W)	No.	12		
4	24V/800 A DC BATTERY CHARGER CUM DCDB - SG ( 3100 X 850 X 2100 MM )	No.	6		
5	24V BATTERY BOX- SG ( 700 X 375 X 1250 MM )	No.	12		
6	24 V NI CD BATTERY - SG (515 AH , 20 CELLS ) ( 2000 X 600 X 1500 MM )	No.	12		
7	24V/800 A DC BATTERY CHARGER CUM DCDB - TG ( 3100 X 850 X 2100 MM )	No.	6		
8	24V BATTERY BOX- TG ( 700 X 375 X 1250 MM )	No.	12		
9	24 V NI CD BATTERY - TG (640 AH , 20 CELLS ) ( 2000 X 600 X 1550 MM )	No.	12		
10	24V DC BATTERY CHARGER +DCDB - FOPH (2400 X 850 X 2100 MM )	No.	1		
11	24 V BATTERY - FOPH (50AH , 20 CELLS ) ( 770 X 525 X 600 MM )	No.	2		
12	24V BATTERY BOX- FOPH ( 425 X200 X 500 MM )	No.	2		
13	24V DC BATTERY CHARGER + DCDB - AUX BLR ( 1500 X 750 X 2455 MM )	No.	1		
14	24V BATTERY - AUX BLR (50 AH , 20 CELLS ) ( 770 X 525 X 600 MM )	No.	2		

**BOQ CUM RATE SCHEDULE FOR C AND I WORKS AT 3x 500 MW APCPL JHAJJAR UNIT 1TO 3**

**TENDER NO. BHEL/NR/SCT/JHAJJAR/CNI/662**

Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE ( IN Rs. )	TOTAL AMOUNT (Rs IN FIGURES AND WORDS)
15	24V BATTERY BOX- AUX BLR ( 425 X200 X 500 MM MM )	No.	2		
16	SOOT BLOWER MCC (15200 L X2250 H X1000 W )	No.	3		
17	DC SCANNER FAN STARTER BOX (900L X 1120H X 375W)	No.	3		
18	EWLI ASSERTOR PANEL (INCLUDING MOUNTING OF LOOSE SUPPLIED ELECTRODES , REMOTE & LOCAL DISPLAY UNITS) ( 600X600X350MM ) , ( 99X234X78.6 MM )	No.	12		
19	GRAVEMETRIC FEEDER PANEL. ( 1400 L X2365 H X610 W)	No.	27		
20	GRAVEMETRIC FEEDER INTEGRAL CABINET (1000 L X 600 H X210 W )	No.	27		
21	Local starter box for Furnace temperature probe ( 650 LX1000 H X300 W )	No.	6		
22	FURNACE FLAME VIEWING SYSTEM PANEL ( 700 L X2100 H X700 W )	No.	1		
23	FURNACE FLAME VIEWING SYSTEM -LOCAL PANEL ( 1220 L X1470 H X610 W )	No.	12		
24	STEAM LEAK DETECTION SYSTEM PANEL ( 800 L X2315 H X800 W)	No.	6		
25	ACOUSTIC PYROMETER REMOTE CABINET ( 1400 L X2365 H X800 W )	No.	3		
26	DIGITAL AVR PANELS ( 3050L X 2300H X 750W)	No.	3		
27	VFD - Air Core DC Reactor, (2350X 2250 X 1975 MM)	No.	12		

**BOQ CUM RATE SCHEDULE FOR C AND I WORKS AT 3x 500 MW APCPL JHAJJAR UNIT 1TO 3**

**TENDER NO. BHEL/NR/SCT/JHAJJAR/CNI/662**

Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE ( IN Rs. )	TOTAL AMOUNT (Rs IN FIGURES AND WORDS)
28	VFD -Vaccum Circuit Breaker Panel with adaptor, (1640 L X 2355 H X 2300 W MM)	No.	12		
29	VFD -Load Cummuted Inverter (LCI) Channel ( 3700 X 1450 X 2400 mm)	No.	12		
30	VFD -Adapter Panel ( 600 X 1450 X 2400 mm)	No.	12		
31	VFD - Control Panel ( 800 X 1450 X 2400 mm)	No.	6		
32	VFD - Operator & Monitoring Station For ID Fan A&B ( 600 X 600 X 1050 mm)	No.	3		
33	VFD - Cable Length Compensation (CLC) Panel ( 1000 X 1000 X 1450 mm)	No.	12		
34	VFD Transformers 3250 KVA, 11KV / 2.3KV,ONAN, Dyn1 (3700mm X 3000mm X 2725mm), Approx.9000kg	No.	6		
35	VFD Transformers 3250 KVA, 11KV / 2.3KV,ONAN, Dd0 (3750mm X 3000mm X 2775mm), Approx.10000kg	No.	6		
36	SEAL OIL STARTER PANELS ( 1000L X 2200H X 800W)	No.	3		
37	DC SEAL OIL PUMP SERIES RESISTANCE BOX - 600L X 500H X 600W)	No.	3		
38	GAS ANALYSER PANELS ( 1000L X 2200H X 800W)	No.	6		
39	DC EOP/JOP CONTROL PANELS ( 1000L X 2200H X 800W)	No.	6		
40	DC EOP / JOP SERIES RESISTANCE BOX - 1300L X 750H X 950W)	No.	6		

**BOQ CUM RATE SCHEDULE FOR C AND I WORKS AT 3x 500 MW APCPL JHAJJAR UNIT 1TO 3**

**TENDER NO. BHEL/NR/SCT/JHAJJAR/CNI/662**

Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE ( IN Rs. )	TOTAL AMOUNT (Rs IN FIGURES AND WORDS)
41	GENERATOR ANN / INST PANELS ( 1000L X 2200H X 800W)	No.	3		
42	GENERATOR END WINDING VIB PANELS ( 1000L X 2200H X 800W)	No.	3		
43	LOCAL INSTRUMENT ENCLOSURE ( LIE )	No.	138		
44	LOCAL INSTRUMENT RACK ( LIR )	No.	87		
<b><u>Cable tray erection including supports fabrication / erection</u></b>					
45	Ladder / perforated cable trays 300 mm wide including 250 mm wide cable duct with cover	Mtr.	300		
46	Ladder / perforated cable trays 150 mm wide including 180 mm wide cable duct with cover	Mtr.	15375		
47	Ladder / perforated cable trays 100 mm wide	Mtr.	10850		
48	Ladder / perforated cable trays 50 mm wide including 60 mm wide cable duct with cover	Mtr.	6840		
<b><u>Junction boxes / Indication boxes / Local control stations.</u></b>					
49	Junction boxes upto 12 ways / Local gun maintenace switch / local push buttons / shear pin failure indication box	No.	168		
50	Junction boxes upto 24 ways	No.	618		

**BOQ CUM RATE SCHEDULE FOR C AND I WORKS AT 3x 500 MW APCPL JHAJJAR UNIT 1TO 3**

**TENDER NO. BHEL/NR/SCT/JHAJJAR/CNI/662**

Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE ( IN Rs. )	TOTAL AMOUNT (Rs IN FIGURES AND WORDS)
51	Junction boxes 25 - 64 ways	No.	448		
52	Junction boxes with cold junction compensation ( SUV -13)	No.	90		
<b><u>Power / Control / Signal cables laying, dressing, clamping &amp; termination.</u></b>					
53	2 Core / 1 Pair Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	29100		
54	3 Core / 1 Triad Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	230900		
55	4 Core / 2 Pair Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	453150		
56	5 Core Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	70050		
57	7 / 8 Core / 4 Pair / 2 Triad Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	583650		
58	10 - 16 Core / 8 Pair Cable / 4 Traid ( armoured / un- armoured) Core size upto 2.5 Sq. mm	Mtr	323950		
59	17 - 24 Core / 12 Pair Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	62000		
60	25 - 48 Core / 16-24 Pair Cable ( armoured / un-armoured) Core size upto 2.5 Sq. mm	Mtr	1800		
61	Pre-fabricated cable ( upto 50 M length)	No.	150		
62	4P UTP E-CAT CABLE	Mtr	18000		

**BOQ CUM RATE SCHEDULE FOR C AND I WORKS AT 3x 500 MW APCPL JHAJJAR UNIT 1TO 3**

**TENDER NO. BHEL/NR/SCT/JHAJJAR/CNI/662**

Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE ( IN Rs. )	TOTAL AMOUNT (Rs IN FIGURES AND WORDS)
63	FIBRE OPTIC CABLE	Mtr	12000		
64	1C x 630 Sq.mm LT Cable ( armoured / un-armoured)	Mtr	1800		
65	1C x 120 Sq.mm LT Cable ( armoured / un-armoured)	Mtr	40000		
66	1C x 35 Sq.mm LT Cable ( armoured / un-armoured)	Mtr	77000		
67	2C x 6-16 Sq.mm Cable ( armoured / un-armoured)	Mtr	23400		
<b><u>Impulse pipe / tubing</u></b>					
68	6mm / 8 mm Copper Tube	Mtr	10000		
69	6mm SS Tube	Mtr	200		
70	1/2 , 3/4 " CS impulse Pipe	Mtr	10300		
71	1/2 , 3/4 " AS impulse Pipe	Mtr	3300		
72	1/2 , 3/4 " SS impulse Pipe	Mtr	1950		

**BOQ CUM RATE SCHEDULE FOR C AND I WORKS AT 3x 500 MW APCPL JHAJJAR UNIT 1 TO 3**

**TENDER NO. BHEL/NR/SCT/JHAJJAR/CNI/662**

Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE ( IN Rs. )	TOTAL AMOUNT (Rs IN FIGURES AND WORDS)
73	GI Pilica conduit with fittings ( upto 1" size)	Mtr	500		
74	GI Pilica conduit with fittings ( above 1" size)	Mtr	500		
75	GI rigid conduit upto 1"	Mtr	500		
76	GI Pipe 15 NB	Mtr	500		
<b><u>Local / Field mounted Instruments / Equipment</u></b>					
77	Flame Scanner head assembly, including cable upto local JB	No.	120		
78	Electromagnetic relief valve controller box and Control Station and Remote Indicaror (350 L X290 H)	No.	27		
79	Hardwired Consoles with push buttons and indicating lamps for SG / EAST / GEN.systems	No	50		
80	UCB mounted instrument / indicator / recorder / control station	No.	50		
81	Temperature controller	No.	50		
82	Pneumatic indicating controller	No.	50		
83	Limit Switches	No.	50		
84	Heavy duty Limit Switches (for BTPS)	No.	50		

**BOQ CUM RATE SCHEDULE FOR C AND I WORKS AT 3x 500 MW APCPL JHAJJAR UNIT 1TO 3**

**TENDER NO. BHEL/NR/SCT/JHAJJAR/CNI/662**

Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE ( IN Rs. )	TOTAL AMOUNT (Rs IN FIGURES AND WORDS)
85	Air Filter Regulators	No.	50		
86	I / P Convertor	No.	50		
86	Flexible hose 1 / 4 " ( 2 meter long)	No.	50		
87	Flexible hose 1" ( 3 meter long)	No.	50		
88	Erection, commissioning of Pneumatic Power cylinders				
a	On/Off type with sol. & limit switches	No.	423		
b	Regulating type with positioner, PFT etc (Bore x Stroke - 6"x8"/ 8"x8" / 8"x6" )	No.	318		
c	Regulating type with positioner, PFT etc (Bore x Stroke - 12x6"/ 14"x16" )	No.	12		
89	Callibration / commissioning of Power cylinder (erected by other agency or equipment mounted)	No.	400		
90	Temp. elements ie.RTDs & Thermocouples (Simplex / Duplex / Triplex, with thermowell)	No.	1483		
91	Metal Temperature Measuring Thermocouples (Simplex / Duplex)	No.	1673		
92	Pressure / diff. Pressure / temperature/ level gauge	No.	1849		
93	Pressure / diff. Pressure / temperature / level switch (level switch can be flange type or welded type / with or without electronic unit)	No.	422		

**BOQ CUM RATE SCHEDULE FOR C AND I WORKS AT 3x 500 MW APCPL JHAJJAR UNIT 1TO 3**

**TENDER NO. BHEL/NR/SCT/JHAJJAR/CNI/662**

Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE ( IN Rs. )	TOTAL AMOUNT (Rs IN FIGURES AND WORDS)
94	Pressure / diff. Pressure / level / position transmitter	No.	1044		
95	OPACITY MONITOR	No.	12		
95	Analysers	No.	16		
96	TEMP TRANSMITTER MODULES	No.	855		
97	SENSORS / PICKUPS WITH CABLES				
a	Relative / Absolute Vibration	No	150		
b	Relative / Absolute Expansion	No	30		
c	Axial Shift	No	27		
d	Speed pick up	No	30		
98	Printers	No	15		
99	PC set with monitor / keyboard / power supply unit	No	39		
100	Computer /Printer Table+Chair	No	24		
101	Reverse rotation monitor including respective probes / interconnecting leads	No	3		

**BOQ CUM RATE SCHEDULE FOR C AND I WORKS AT 3x 500 MW APCPL JHAJJAR UNIT 1TO 3**

**TENDER NO. BHEL/NR/SCT/JHAJJAR/CNI/662**

Sl. No	ITEM DESCRIPTION	UNIT	QTY	UNIT RATE ( IN Rs. )	TOTAL AMOUNT (Rs IN FIGURES AND WORDS)
102	Callibration of SOV operated pneumatic trip Valves	No	600		
103	Callibration / commissioning of regulating Control Valves with positioners / LS / PFT	No	50		
104	Commissioning of motorised actuators	No	300		
105	Fabrication / Erection of structural steel	MT	25		

**TOTAL**

---

---

**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 higher of the two shall be considered for evaluation and the lower of the two shall be considered for award.
- 7) Evaluation of the bids shall be done based on total price against BOQ.