

TENDER DOCUMENT

TENDER SPECIFICATION NO.: BAP:ERN:RTPS:ESP:ELEC:C:224

NAME OF WORK :

ELECTRICAL WORKS OF ESP & ID FAN INVOLVING HANDLING AT SITE STORES / STORAGE YARD, TRANSPORTATION TO SITE OF WORK, ERECTION, TESTING AND COMMISSIONING OF ELECTRICAL COMPONENTS OF ESP & ID FAN IN B-STN (1X 62.5 MW), RAMAGUNDAM TPS, ANDHRA PRADESH, OF M/S APGENCO, USING CONTRACTOR'S OWN TOOLS AND PLANTS, CRANES , CONSUMABLES, MANPOWER ETC.

PART - II (PRICE BID)



ERECTION SERVICES DEPARTMENT

BHARAT HEAVY ELECTRICAL LTD

BOILER AUXILIARIES PLANT

RANIPET - 632 406

SCHEDULE OF RATES AND QUANTITY

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THE DETAILED SCOPE FOR THE VARIOUS ITEMS OF WORK SHALL BE AS PER THE TENDER SPECIFICATION, SPECIAL CONDITIONS OF CONTRACT (SECTION-III) AND COMMON CONDITIONS OF CONTRACT FOR ELECTRICAL WORKS (SECTION-IV)

S.No.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE / UNIT IN RS.	AMOUNT IN RS.
A-1	SERVICE TRANSFORMER 1250KVA , 3 phase, 3.3KV/415V, OUT DOOR, ONAN, Dyn11, OIL TYPE INCLUDING ALL ACCESSORIES, PIPING, NEUTRAL EARTHING RESISTOR ETC. REFER TO THE SPECN FOR DETAILS OF WORK. APPROX WT. 4000 KG	1.00	No		
B	ERECTION OF 415 V SWGR PANELS, CONTROL PANELS, SSPBs, JBs ETC. THE WEIGHTS & SIZES INDICATED ARE ONLY APPROXIMATE AND NO REVISION IN RATE WILL BE CONSIDERED ON ACCOUNT OF ANY VARIATION DURING ERECTION.				
B-1	ESP SWITCHGEAR PANEL APPROX. WEIGHING 7700 KGS SIZE APPROX. 9050MM(L) X 1700 / 1200 MM (W) X 2450 MM (H)	1.00	No.		
B-2	ELECTRONIC CONTROL PANEL (ECP). WEIGHING 300 KGS SIZE APPROX. 700MM(L) X 650 MM (W) X 2000 MM (H)	12.00	No		
B-3	DISCONNECTING SWITCH VAR.05 WEIGHING 180 KGS SIZE APPROX. 1200MM(L) X 1100 MM (W) X 750 MM (H)	12.00	No		
B-4	HEATING ELEMENTS FOR HOPPER HEATER, SUPPORT INSULATOR HEATER AND SHAFT INSULATOR HEATER.	348.00	No.		
B-5	THERMOSTAT FOR HOPPER AND SUPPORT INSULATOR HEATERS.	14.00	No.		

SIGNATURE OF TENDERER

S.No.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE / UNIT IN RS.	AMOUNT IN RS.
B-6	LOCAL START STOP PUSH BUTTON STATIONS (SSPB) FOR RAPPING MOTORS ETC.	27.00	No.		
B-7	ASH LEVEL INDICATOR (ALI) AND ITS ACCESSORIES CONSISTING OF PROBE, ELECTRONIC UNIT, INTERCONNECTING CABLES/ WIRES / FLEXIBLE CONDUITS ETC. APPROX. WT 8 KGS EACH.	24.00	SET		
B-8	JUNCTION BOXES FOR HEATERS, SSPB STATIONS, ALI, ID FAN ETC. APPROX. WT 12 KGS EACH.	12.00	No		
B-9	INTERLOCKING SYSTEM FOR ESP WITH ACCESSORIES WEIGHT APPROX. 262 KG PER SET	1.00	SET		
B-10	OPACITY MONITOR (OPM) WITH ACCESSORIES APPROX. 262 KG PER SET	1.00	SET		
C	ERECTION OF VFD PANELS AND ACCESSORIES FOR ID FAN				
C-1	DRBP PANEL FOR ID FAN MOTOR APPROX. WEIGHT 600 KGS SIZE APPROX. 1200MM(L) X 2500 MM (W) X 2400 MM (H)	1.00	No		
C-2	VACUUM CIRCUIT BREAKER (VCB) FOR ID FAN APPROX. WEIGHT 1500 KGS SIZE APPROX. 1700MM(L) X 1200 MM (W) X 2400 MM (H)	1.00	No		
C-3	RECTIFIER PANEL (RTP) FOR ID FAN APPROX. WEIGHT 3400 KGS SIZE APPROX. 3400MM(L) X 1200 MM (W) X 2500 MM (H)	1.00	No.		
C-4	VFD TRANSFORMER FOR ID FAN APPROX. WEIGHT 4000 KGS	1.00	No.		
D	INSTALLATION OF INTEGRATED OPERATYING SYSTEM (IOS) FOR ESP CONSISTING OF 02 Nos.. OF PC WITH MONITORS, 01 No.PRINTER, UPS, ETC.	1.00	SET		

SIGNATURE OF TENDERER

S.No.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE / UNIT IN RS.	AMOUNT IN RS.
E	TESTING AND COMMISSIONING OF THE FOLLOWING EQUIPMENTS/ COMPONENTS ERECTED BY OTHER BHEL VENDORS. THESE ITEMS OF WORK WILL BE SUBJECT TO REQUIREMENT OF BHEL . ALTERNATIVELY BHEL MAY EXECUTE WITH THEIR OWN RESOURCES.				
E-1	3.3 KV HT MOTOR OF ID FAN.	1.00	Nos.		
E-2	LT MOTORS IN THE COMPLETE SYSTEM	28.00	Nos.		
E-3	MOTORISED / PNEUMATIC ACTUATORS (OF DAMPERS AND GATES) .	2.00	Nos.		
E-4	ELECTRICAL HOISTS INCLUDING INSTALLATION OF TRAILING CABLING ETC . FOR DETAILS REFER SPECN.	1.00	Nos.		
E-5	HIGH VOLTAGE RECTIFIER TRANSFORMER (HVR) OF ESP INCLUDING OIL FILTRATION TO MEET THE SPECIFIED BREAK DOWN VALUE.	12.00	Nos.		
F	LAYING OF FOLLOWING HT CABLES (3.3 KV) IN CABLE TRAYS/ TRENCHES FOR ID FAN ETC., DRESSING / CLAMPING AS PER SPECIFICATION. CABLES SHALL BE SUPPLIED BY BHEL ON FREE ISSUE BASIS AT SITE STORE.				
F-1	3C X 185 / 240 SQ.MM COPPER/ AL XLPE HT POWER CABLE (3.3 KV)	300.00	MTR		
G	LAYING OF FOLLOWING LT POWER & CONTROL CABLES IN CABLE TRAYS/ TRENCHES FOR FGD PLANTS, DRESSING / CLAMPING AS PER SPECIFICATION. CABLES SHALL BE SUPPLIED BY BHEL ON FREE ISSUE BASIS AT SITE STORE.				
G-1	3 1/2 C X 400 SQ.MM. AL. ARMOURED CABLE	250.00	MTR		
G-2	2C X 120 SQ.MM. AL. ARMOURED CABLE	3000.00	MTR		
G-3	3C X 25 SQ.MM. AL. ARMOURED CABLE	400.00	MTR		
G-4	3C X 10 SQ.MM. AL. ARMOURED CABLE	1000.00	MTR		
G-5	3C X 2.5 SQ.MM. CU. ARMOURED CABLE	4500.00	MTR		
G-6	2C X 2.5 SQ.MM. CU. UNARMOURED CABLE	2500.00	MTR		
G-7	10C X 1.5 SQ.MM CU . ARMOURED CABLE	2500.00	MTR		

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S.No.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE / UNIT IN RS.	AMOUNT IN RS.
G-8	7C X 2.5 SQ.MM. CU.ARMoured CABLE	1,000.00	MTR		
G-9	4C X 1.5 SQMM CU. SCREENED ARMoured CABLE	3,000.00	MTR		
H	TERMINATION OF FOLLOWING HT CABLES (3.3 KV) AS PER STANDARD SPECIFICATIONS. CABLE GLANDS AND LUGS SHALL BE SUPPLIED BY BHEL ON FREE ISSUE BASIS AT SITE STORE.				
H-1	3C X 185 / 240 SQ.MM COPPER/ AL XLPE HT POWER CABLE (3.3 KV)	5.00	No.		
I	TERMINATION OF FOLLOWING LT POWER & CONTROL CABLES AS PER STANDARD SPECIFICATIONS. CABLE GLANDS AND LUGS SHALL BE SUPPLIED BY BHEL ON FREE ISSUE BASIS AT SITE STORE.				
I-1	3 1/2 C X 400 SQ.MM. AL. ARMoured CABLE	18	No.		
I-2	2C X 120 SQ.MM. AL. ARMoured CABLE	96	No.		
I-3	3C X 25 SQ.MM. AL. ARMoured CABLE	10	No.		
I-4	3C X 10 SQ.MM. AL. ARMoured CABLE	28	No.		
I-5	3C X 2.5 SQ.MM. CU. ARMoured CABLE	216	No.		
I-6	2C X 2.5 SQ.MM. CU. UNARMoured CABLE	684	No.		
I-7	10C /11C/12C X 1.5/2.5 SQ.MM CU . ARMoured CABLE	56	No.		
I-8	7C X 2.5 SQ.MM. CU.ARMoured CABLE	20	No.		
I-9	4C X 1.5 SQMM CU. SCREENED ARMoured CABLE	80	No.		

SIGNATURE OF TENDERER

S.No.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE / UNIT IN RS.	AMOUNT IN RS.
J	LAYING OF FOLLOWING EARTHING MATERIALS AS PER I.E. RULES. EARTHING MATERIALS WILL BE SUPPLIED BY BHEL ON FREE ISSUE BASIS.				
J-1	G.I. FLAT 50 X 6 MM	700.00	MTR		
J-2	G.I. FLAT 30 X 5 MM	900.00	MTR		
J-3	3.15 MM DIA G.I. WIRE (INCLUDING FOR ILLUMINATION SYSTEM)	6,500.00	MTR		
K	LAYING OF FOLLOWING SIZE OF CABLE TRAYS, COUPLERS INCLUDING FASTENING ETC. COMPLETE. CABLE TRAYS, COUPLERS & FASTENERS WILL BE SUPPLIED BY BHEL ON FREE ISSUE BASIS.				
K-1	600 MM LADDER TYPE CABLE TRAY (EACH OF 2.5 MTR LENGTH)	100	No		
K-2	300 MM LADDER TYPE CABLE TRAY (EACH OF 2.5 MTR LENGTH)	110	No.		
K-3	150 MM LADDER TYPE CABLE TRAY (EACH OF 2.5 MTR LENGTH)	280	No.		
L	FABRICATION AND ERECTION (INCLUDING PAINTING) OF SUPPORTS FOR PANELS, CABLE TRAYS, JUNCTION BOXES, PUSH BUTTON STATIONS, INSTRUMENT PANELS ETC. FROM RAW MATERIALS LIKE CHANNELS, ANGLES ETC. SUPPLIED BY BHEL ON FREE ISSUE BASIS .	4.463	MT		
M	INSTALLATION OF ILLUMUNATION , VENTILATION AND AIR CONDITIONING SYSTEM IN ESP AREA / ESP CONTROL ROOM. COLLECTION OF MATERIALS FROM BHEL / CUSTOMER STORES/ STORAGE YARD, LOADING, TRANSPORTING TO SITE OF ERECTION, UNLOADING, ERECTION AND COMMISSIONING OF THE FOLLOWING ILLUMINATION / A.C / VENTILATION EQUIPMENT ETC. COMPLETE AS PER SPECIFICATION & DRG.. ALL THE ELECTRICAL EQUIPMENT AND OTHER FIXING ITEMS WILL BE SUPPLIED BY BHEL ON FREE ISSUE BASIS AT SITE.				
M-1	MAIN LIGHTING DISTRIBUTION BOARD	2	No.		
M-2	SUB LIGHTING DISTRIBUTION BOARD	3	No.		
M-3	2 X 40 W FLOURESENT LAMP FITTING / FIXTURES WITH PENDANT, BALL & SOCKET ETC.	20	SET		
M-4	80 W MERCURY VAPOUR LAMP FITTING / FIXTURE FOR WALL, PLATFORM, COLUMN MOUNTING USING GI PIPES.	75	SET		
M-5	OUTDOOR TYPE LIGHTING JUNCTION BOX.(APPROX. 4"x4")	50	No.		
M-6	INDUSTRIAL TYPE 20 Amp AC 3 PIN SOCKET	14	No.		
M-7	FIXING OF 2.7 M GI 50 MM DIA 2 MM THICK TUBE GI TUBE ON STEEL RAILINGS /PLATFORMS ETC. PROPER CLAMPING / WELDING FOR LAMP	42	No.		
M-8	FIXING OF 800 MM LONG, 32 MM DIA BEND GI TUBE FOR LIGHTING FIXTURES.	75	No.		

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S.No.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE / UNIT IN RS.	AMOUNT IN RS.
M-9	FIXING OF 19 MM DIA MS RIGID CONDUIT WITH RIGID BENDS , COUPLINGS AND FIXTURES USING PROPER CLAMPS FROM CABLE TRAYS TO LAMP FITTING CONTROLS AND TO INDIVIDUAL FITTINGS.	400	MTR		
M-10	LAYING OF FOLLOWING CABLES ON CABLE RACK / TRAY, WALL , CONDUITS, STEEL STRUCTURE ETC WITH NECESSARY DRESSING / CLAMPING AS PER SPECIFICATION. CABLES SHALL BE SUPPLIED BY BHEL ON FREE ISSUE BASIS.				
a.	1 C X 2.5 SQMM INSULATED UNARMoured COPPER CABLE/ WIRE.	500	MTR		
b.	2C X 2.5 SQMM PVC INSULATED UNARMoured COPPER CABLE.	2000	MTR		
c.	31/2 C X 25 SQMM PVC INSULATED UNARMoured AL. CABLE.	150	MTR		
d.	3 C X 4 SQMM PVC INSULATED UNARMoured COPPER CABLE	300	MTR		
M-11	TERMINATION OF FOLLOWING CABLES AS PER STANDARD SPECIFICATION. CABLE GLANDS AND LUGS SHALL BE SUPPLIED BY BHEL ON FREE ISSUE BASIS AT SITE STORE.				
a.	1 C X 2.5 SQMM INSULATED UNARMoured COPPER CABLE/ WIRE.	88	No.		
b.	2C X 2.5 SQMM PVC INSULATED UNARMoured COPPER CABLE.	150	No.		
c.	31/2 C X 25 SQMM PVC INSULATED UNARMoured AL. CABLE.	14	No.		
d.	3 C X 4 SQMM PVC INSULATED UNARMoured COPPER CABLE	28	No.		
M-12	INSTALLATION OF 2T WINDOW AIR CONDITIONING SYSTEM WITH VOLTAGE STABILISER AND OTHER ACCESSORIES IN ESP CONTROL ROOM.	4	SET		
M-13	INSTALLATION OF 380MM SWEEP EXHAUST FAN WITH ACCESSORIES, FIXTURES etc. IN ESP CONTROL ROOM.	2	Nos.		
N	CONSULTANCY CHARGES TOWARDS PREPARATION OF DRAWINGS, OBTAINING DRAWING APPROVAL AND SAFETY CLEARANCE FROM CIEG ETC. COMPLETE FOR THE TOTAL SCOPE OF WORK.	1.00	LUMPSUM		
TOTAL					
TOTAL AMOUNT IN WORDS :					

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