

TENDER SPECIFICATION BHEL PSSR SCT 2054

FOR

Erection, Testing & Commissioning including Handling of materials at site BHEL stores / storage yard, transporting to site of erection and application of final painting of Illumination works for Unit 3,4 & 5 of 5 x 800MW Yadadri Thermal Power Plant at Veerlapalem Village, Dameracherla Mandal, Nalgonda DT TSGENCO, Telangana.

**PRICE BID
VOLUME –II**



BHARAT HEAVY ELECTRICALS LIMITED

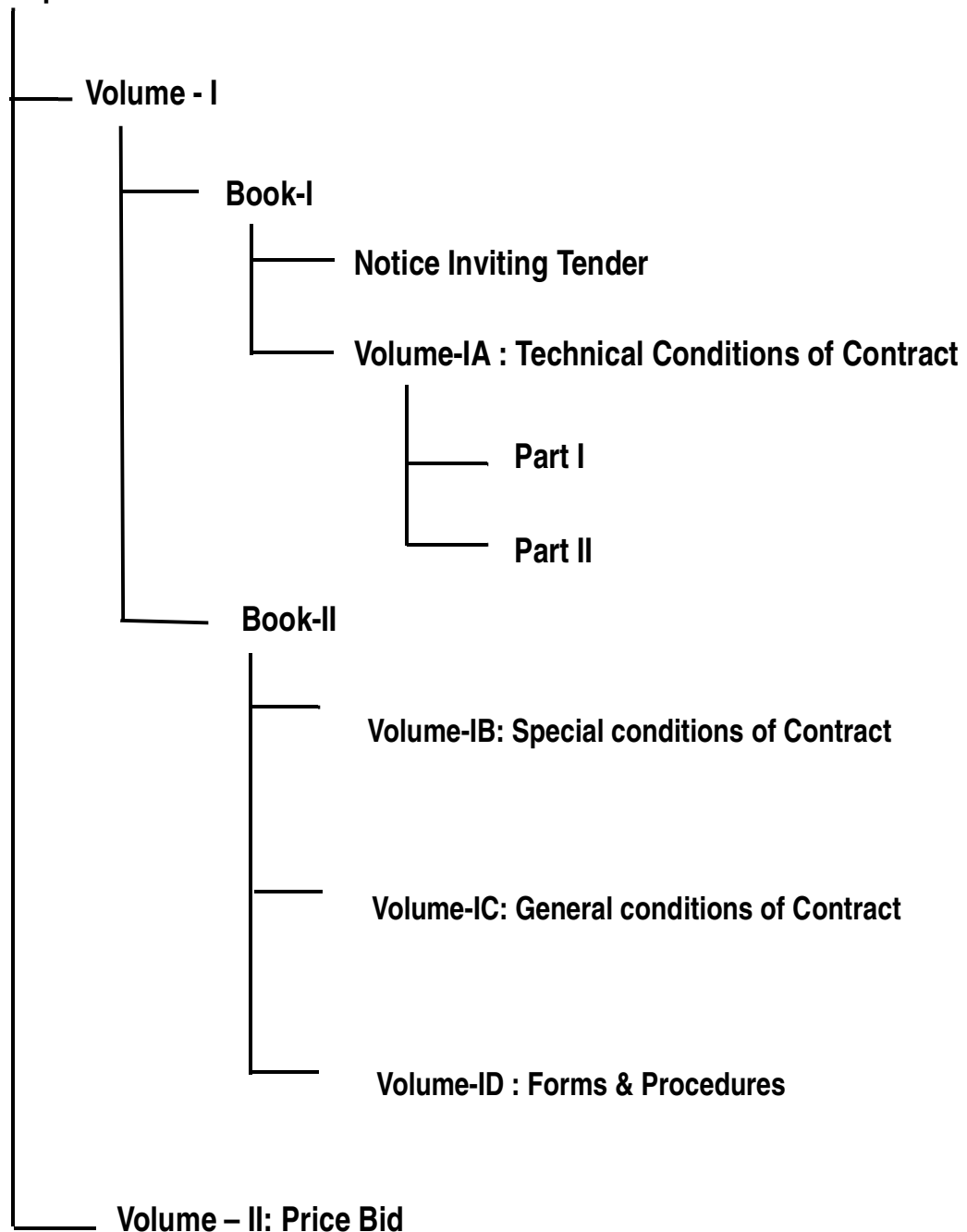
(A Government of India Undertaking)

Power Sector – Southern Region

Integrated Office Complex, 26/4, Velachery-Tambaram Main Road,
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TENDER SPECIFICATION CONSISTS OF

Tender Specification



PRICE BID

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PART A

Instruction to Bidders:

1. The quantity indicated in the BOQ / Price bid (Part C) is approximate only and is liable for variation. Payment will be as per actual quantity executed as certified by BHEL Engineer.
2. Tenderers are requested to affix their company seal and authorized signature in all pages.
3. Bidders shall quote 'Total Amount' in the format enclosed as a separate Excel File in BHEL NIC e-Procurement portal for the subject tender and upload the same under 'Packet details - > Tender covers -> Finance '(Cover Type Description – Price Bid)" and same shall be taken into account for evaluation and awarding and hence, shall be complete in all respect for the full scope of work defined in specification and in accordance with terms & conditions of the tender. Any other entry elsewhere in the price bid shall be treated as Null and Void. Quoting of rates in any other form/ formats will not be entertained.
4. The above mentioned 'Total amount' is for the entire Bill of Quantity (BOQ) given in Part -C of the Price Bid.
5. BHEL has pre-fixed the weightages for the amount of individual items of Bill of Quantity with respect to the 'Total Amount' in Part-C.
6. Based on the pre-fixed weightages, the amount for the individual items of the Bill of Quantity shall be arrived at. This amount shall be rounded off to the nearest rupee.
7. Based on the quantities of individual item and the amount arrived in SI No: 6 above, unit rate of individual items shall be derived. This unit rate shall be rounded off to four decimal places.
8. Bidders to note that this is an item rate contract. Payment shall be made for the actual quantities of work executed at the unit rate arrived at as per SI No.7 above.

Part C : Bill of Quantities

**Tender Specification BHEL:PSSR:SCT:2054 for Erection, Testing & Commissioning including Handling of materials at site BHEL stores / storage yard, transporting to site of erection and application of final painting of Illumination works for Unit 3, 4 & 5 of
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at 5 X 800 MW Yadadri TPS**

Ref.No.	Description	Unit of Measurement	Qty.	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount
1.0	Erection and commissioning of following Lighting Distribution Boards (LDBs)	--		
1.1	AC LDB Type LDB-H (12) without transformer (including cubicle suitable for 2 no. 100 kVA transformer) app. Dimensions (lxbxh) in mm 2800 x 1200 x 2000 and app.wt. of 1200 kg.	Nos	27	.0070562
1.2	100kVA transformer app. Dimensions (lxbxh) in mm 920x450x850 and app.wt. of 610 kg.	Nos	55	.0045294
1.3	AC LDB Type LDB-F (8) without transformer (including cubicle suitable for 2 no. 50 kVA transformer) app. Dimensions (lxbxh) in mm 2350 x1200x2000 and app.wt. of 900 kg.	Nos	10	.0019007
1.4	50kVA transformer app. Dimensions (lxbxh) in mm 920x420x750 and app.wt. of 330 kg.	Nos	20	.0015333
1.5	AC WDB Type WDB-H (12) without transformer (including cubicle suitable for 2 no. 100 kVA transformer) app. Dimensions (lxbxh) in mm 2800 x1200x2000 and app.wt. of 1200 kg.	Nos	12	.0028423
1.6	100kVA transformer app. Dimensions (lxbxh) in mm 920x450x850 and app.wt. of 610 kg.	Nos	24	.002322
1.7	AC WDB Type WDB-F (8) without transformer (including cubicle suitable for 2 no. 50 kVA transformer) app. Dimensions (lxbxh) in mm 2350 x1200x2000 and app.wt. of 900 kg.	Nos	3	.0005832
1.8	50 kVA transformer app. Dimensions (lxbxh) in mm 920x420x750 and app.wt. of 330 kg.	Nos	6	.0005114
1.9	DC LDB Type LDB-D (6) app. Dimensions (lxbxh) in mm 70 x 1300 x 450 and app.wt. of 50 kg.	Nos	6	.0005484

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Ref.No.	Description	Unit of Measurement	Qty.	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount
1.10	DC LDB Type LDB-D (12) app. Dimensions (lxbxh) in mm 850 x 1300x450 and app.wt. of 70 kg.	Nos	6	.0006186
2.0	Erection and Commissioning of Lighting Panels (LPs) - With timer	--		
2.1	LP A (06) Indoor type, AC Lighting Panel with Six outgoing circuits app. Dimensions (lxbxh) in mm 550 x 550 x 200 and app.wt. of 35 kg.	Nos	35	.0014927
2.2	LP A (06) [with timer] Outdoor type, AC Lighting Panel with Six outgoing circuits app. Dimensions (lxbxh) in mm 550x550x200 and app.wt. of 35 kg..	Nos	5	.0002132
2.3	LP A (12) Indoor type, AC Lighting Panel with Twelve outgoing circuits app. Dimensions (lxbxh) in mm 600x600x200 and app.wt. of 45 kg.	Nos	74	.0035675
2.4	LP A (12) [with timer] Outdoor type, AC Lighting Panel with Twelve outgoing circuits app. Dimensions (lxbxh) in mm 600x600x200 and app.wt. of 45 kg.	Nos	75	.0036177
2.5	LP A (18) Indoor type, AC Lighting Panel with 18 outgoing circuits app. Dimensions (lxbxh) in mm 750x750x250 and app.wt. of 75 kg.	Nos	44	.0023869
2.6	LP A (18) [with timer] Outdoor type, AC Lighting Panel with 18 outgoing circuits app. Dimensions (lxbxh) in mm 750x750x250 and app.wt. of 75 kg.	Nos	50	.0027196
2.7	Type LP A (12) (Decorative), AC Lighting Panel with 12 outgoing circuits app. Dimensions (lxbxh) in mm 600x600x200 and app.wt. of 45 kg.	Nos	9	.000446
2.8	Type LP A (18) (Decorative), AC Lighting Panel with 18 outgoing circuits app. Dimensions (lxbxh) in mm 750 x 750 x 250 and app.wt. of 75 kg.	Nos	5	.000272
2.9	DC indoor Type LP D (6), DC Lighting Panel with Six outgoing circuits app. Dimensions (lxbxh) in mm 550 x 550 x 200 and app.wt. of 25 kg.	Nos	30	.001246
2.10	DC (With Timer) Outdoor Type LP D (6), DC Lighting Panel with Six outgoing circuits app. Dimensions (lxbxh) in mm 550x550x200 and app.wt. of 25 kg.	Nos	18	.0007539

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Ref.No.	Description	Unit of Measurement	Qty.	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount
3.0	Erection and commissioning of Lighting Luminaires (complete with accessories)	--		
3.1	Luminaire Type (LED) FC06 (42 W) 240 V 1 Ph AC, Industrial type LED fixture suitable for conduit/surface/ suspended mounting with integral driver aesthetically designed for Switchgear/ Equipment room/ stair case/ corridors.	Nos	3,300	.0399138
3.2	Luminaire Type (LED) FC26, 42 W 240 V 1 Ph AC, Panel (approx. 1200mm x300mm) decorative LED fixture suitable for recess mounting in false ceiling with integral driver aesthetically designed for Control Room/ Office.	Nos	420	.0046566
3.3	Luminaire Type (LED) FC30, 240 V 1 Ph AC, Panel 600mm x600mm decorative LED fixture suitable for recess mounting in false ceiling with integral driver aesthetically designed for Control Room/ Office.	Nos	780	.0078618
3.4	Luminaire Type (LED) FC07, 220 V DC Industrial type LED fixture suitable for conduit/ surface/ suspended/ column mounting with integral driver. Fixture operates at 220 V DC supply. Necessary accessories like DC to AC convertor etc. also included in fixture, if required.	Nos	900	.0091037
3.5	Luminaire Type (LED) FC33, 220 V DC, Decorative, recessed type LED fixture (down lighter) with integral driver. Fixture operates at 220 V DC supply. Necessary accessories like DC to AC convertor etc. also included in fixture, if required.	Nos	240	.0024277
3.6	Luminaire Type (LED) FC34, 220 V DC, Well glass, dust proof type LED fixture having integral driver. Fixture operates on 220V DC input supply. Necessary accessories like DC to AC convertor etc. also included if required.	Nos	720	.0070691
3.7	Luminaire Type (LED) FC32, 240 V 1 Ph AC, decorative, surface mounted LED fixture having integral driver.	Nos	120	.001014
3.8	Luminaire Type (LED) FC81, 240 V 1 Ph AC, Corrosion proof, totally enclosed type LED fixture with integral driver.	Nos	540	.0054185

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Ref.No.	Description	Unit of Measurement	Qty.	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount
3.9	Luminaire Type (LED) SF63, 240 V 1 Ph AC, Flood light, Heavy duty type LED fixture with integral driver.	Nos	180	.0027263
3.10	Luminaire Type (LED) SF64, 240 V 1 Ph AC, Flood light, Heavy duty type LED fixture with integral driver.	Nos	210	.0032902
3.11	Luminaire Type (LED) SF66, 240 V 1 Ph AC, Flood light, Heavy duty type LED fixture with integral driver.	Nos	120	.0019331
3.12	Luminaire Type (LED) SB11, 240 V 1 Ph AC, Medium Bay, Industrial type LED fixture with integral driver.	Nos	300	.0035853
3.13	Luminaire Type (LED) SB02, 240 V 1 Ph AC, High Bay, Industrial type LED fixture with integral driver.	Nos	900	.0116631
3.14	Luminaire Type (LED) SB03, 240 V 1 Ph AC, High Bay, Industrial type LED fixture with integral driver suitable for mounting height >10m.	Nos	312	.0039534
3.15	Luminaire Type (LED) SW41, 240 V 1 Ph AC, Well glass type, vapour proof LED fixture suitable for Boiler / ESP platforms.	Nos	12,000	.1123114
3.16	Luminaire Type (LED) SW42, 240 V 1 Ph AC, Well glass type, vapour proof LED fixture suitable for Boiler / ESP platforms.	Nos	3,600	.0368036
3.17	Luminaire Type (LED) MW96, 240 V 1 Ph AC, Well glass, flame proof increased safety LED fixture with integral driver suitable for division-2, Group IIA/IIB of hazardous areas.	Nos	540	.0066577
3.18	Downlighter 15-18W LED, 240 V 1 Ph AC, Recessed Mounted Downlighter with Integral driver aesthetically designed for Control Room/Office.	Nos	150	.0017603
3.19	COVE LIGHT (LED) of 5 MTR STRIP, 240 V 1 Ph AC with tap of Driver Input Voltage 220-240 V AC	Nos	300	.0045195

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Ref.No.	Description	Unit of Measurement	Qty.	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount
4.0	Switch boxes for individual control of circuits (Switchboards consisting of switch boxes, switches, switch plates and fixing accessories).	--		
4.1	Type SWB1- Switch board with 1 No. 6A switch, JB type SW1.	Nos	240	.0018402
4.2	Type SWB2- Switch board with 3 Nos. 6A switches and 1 No. 6A Socket, JB type SW2.	Nos	90	.0007484
4.3	Type SWB3- Switch board with 6 Nos. 6A switches and 1 No. 6A Socket, JB type SW3.	Nos	30	.0002624
5.0	Junction Boxes	--		
5.1	Type JB-F-Provided with four (4) way stud type terminals for terminating upto 2 nos. 10 mm ² stranded aluminium conductors on each terminal, suitable for outdoor installations.	Nos	25,200	.1358428
5.2	Type JB-FE- Same as above with an additional epoxy coating of 50 Micron thickness.	Nos	540	.0029498
5.3	Type JB-S- Provided with four (4) way stud type terminals, each terminal suitable for terminating upto two nos. of 3.5Cx50 mm ² stranded aluminium conductors & with one no. 6A HRC fuse and link.	Nos	480	.0028294
6.0	Receptacles	--		
6.1	Type RA-20 A, 240V, 1-Phase, 2 pole, 3-pin with third pin earthed, wall/ column mounted, metal clad gasketed construction, 20 mm conduit entry, screwed metal cover tied to it by a metal chain, weather proof suitable for indoor/outdoor installation.	Nos	1,500	.0098003
6.2	Type RA (Flame proof)-Same as above but with flame proof.	Nos	30	.0002184

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6.3	Type RB- Combination of 6A & 16A, 240V, 1-phase, 2 pole, 3-pin, third pin grounded socket with integral piano key type 16A switch, flush mounted on decorative bakelite (6 mm thick)/ perspex (3 mm thick) sheet as cover of the boxes.	Nos	300	.0022786
6.4	Type RC-63A, 415V, 3-phase-neutral earth (4 pin) interlocked plug and switch with earthing contact, wall/column mounted, metal clad gasketed construction, weatherproof, suitable for entry and exit of upto 3.5C-95 sqmm XLPE cable and loop-in loop out terminals for the same. Not more than one core is terminated at one terminal. Removable, undrilled cable gland plate is provided.	Nos	300	.0032074
6.5	Type RC (Flame proof)-same as above with flameproof.	Nos	9	.0001332
7.0	Erection and commissioning of Ceiling fans with electronic regulators	--		
7.1	1200 mm sweep	Nos	12	.0000976
7.2	1400 mm sweep	Nos	24	.0001952
7.3	Pedestal Fan/ wall mounted fans	Nos	12	.0000907
8.0	Emergency lighting Units	--		
8.1	With Ni-Cd battery and 2 X 10W fluorescent lamp	Nos	24	.0001935
9.0	Erection of Flexible PVC coated conduit	--		
9.1	20 mm dia PVC coated conduit	Metre	33,000	.0196005
10.0	Erection and commissioning of 24V supply module & lamp unit complete with all accessories	--		

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Ref.No.	Description	Unit of Measurement	Qty.	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount
10.1	Fixed type 24V supply modules	Nos	90	.0006285
10.2	Portable type 24V supply modules	Nos	60	.000419
10.3	Portable halogen lamp unit	Nos	60	.0003818
10.4	5A, 24V industrial type sockets	Nos	360	.0019892
11.0	Installation of Ladders	--		
11.1	Free standing ladder (Adjustable from 5M to 10 M)	Nos	5	.0003348
11.2	Wheel mounted ladder	Nos	1	.0001549
12.0	Fixing of EXIT Signs	--		
12.1	Fixing of LED lamp (12 W) with battery backup EXIT SIGN at various locations	Nos	24	.0002022
13.0	Erection of CONDUITS with fittings.	--		
13.1	GI CONDUITS 1.6MM THK EPOXY 20MM DIA	Metre	3,600	.0040173
13.2	GI CONDUITS 1.6MM THK EPOXY 25MM DIA	Metre	900	.0010934
13.3	GI CONDUITS,1.6MM THICK, 20MM DIA	Metre	225,000	.2450063
13.4	GI CONDUITS,1.6MM THICK, 25MM DIA	Metre	52,500	.0637826
13.5	GI CONDUITS,2.0MM THICK, 40MM DIA	Metre	27,000	.0427647

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13.6	GI CONDUITS,2.0MM THICK, 50MM DIA	Metre	3,000	.0055616
14.0	LT XLPE CABLES	--		
14.1	Laying and Termination of LT XLPE Cables	--		
14.1.2	3Cx2.5 sqmm Cu	Metre	10,800	.0042765
14.2	Laying of LT XLPE Cables	--		
14.2.1	2Cx95 sqmm Cu	Metre	1,800	.0015551
14.2.2	3.5Cx50 sqmm AL	Metre	30,000	.0421168
14.2.3	3.5Cx95 sqmm AL	Metre	7,200	.0146437
14.2.4	3.5Cx185 sqmm AL	Metre	3,000	.0040497
14.3	Termination of LT XLPE Cables	--		
14.3.1	2Cx95 sqmm Cu	Nos	24	.0000881
14.3.2	3.5Cx50 sqmm AL	Nos	400	.0015155
14.3.3	3.5Cx95 sqmm AL	Nos	96	.0004199
14.3.4	3.5Cx185 sqmm AL	Nos	40	.0002844
15.0	EARTHING MATERIALS	--		

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Ref.No.	Description	Unit of Measurement	Qty.	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount
15.2	40 MM DIA MS Road, 3 mtr long Electrodes for Poles	Metre	500	.0086528
15.3	GI Flat 50x6 mm for LDBs, LPs earthing	Metre	6,500	.006142
15.4	GI Flat 25x6 mm for welding receptacles earthing	Metre	6,000	.0038877
16.0	J-POLE	--		
16.1	Fabrication of J-Pole from 4.5 mtr. 40mm Dia metal Conduit	Nos	6,000	.0443306
17.0	SUPPORT MATERIALS for Fabrication and Erection	--		
17.1	ISA 50X50X6/ISMC 100	MT	80	.0155825
TOTAL Weightage				1.0