

TENDER SPECIFICATION

BHEL: PSSR: SCT: 2273

FOR

Package-A Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana.

and

Package-B Operation and Maintenance of the same.

VOLUME –II

PRICE BID

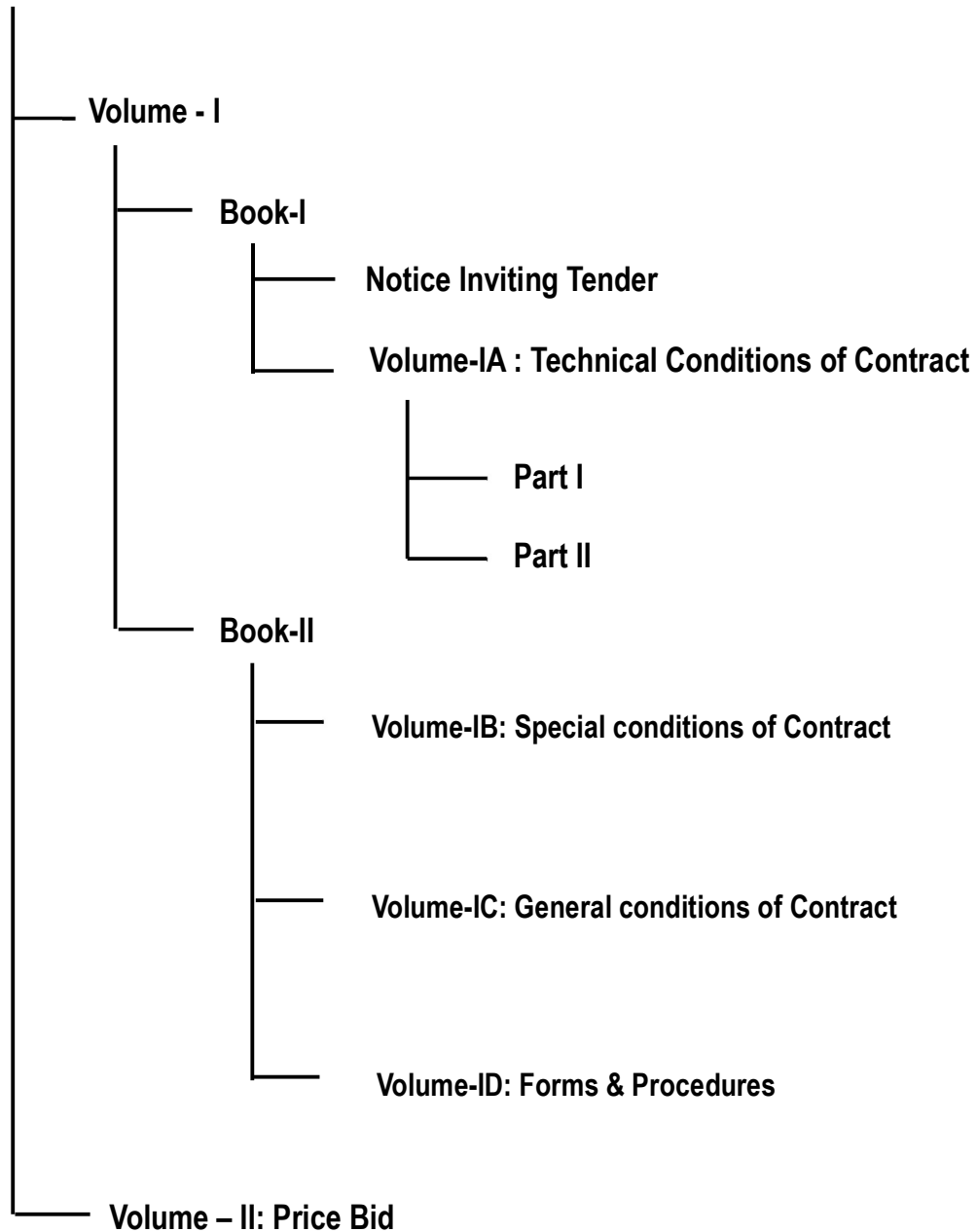


BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)

Power Sector – Southern Region
BHEL Integrated Office Complex, TNEB Road
Pallikaranai, Chennai - 600100

TENDER SPECIFICATION CONSISTS OF

Tender Specification



NOTICE INVITING TENDER

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NOTICE INVITING TENDER

PART A

Instruction to Bidders:

1. This scope of work in this tender is split into two Packages, Package A and Package B.
2. Package A broadly comprises of Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) and Package B broadly comprises of Operation and Maintenance of the same under Package A.
3. **Bidder shall submit Price for Package A only.**
4. The successful bidder (L1 Bidder) will be considered for award of both Package A and Package B.
5. Bidders shall only quote "Total Lumpsum amount" in the format given in the price bid. The "Total Lumpsum amount" is for the entire scope of work of Pkg A. Payment will be as per actual quantity executed as certified by BHEL Engineer.
6. Tenderers are requested to affix their company seal and authorized signature in all pages. 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.
7. The above mentioned 'Total amount' is for the entire Bill of Quantity (BOQ) given in Part -C (Pkg A) of the Price Bid.
8. BHEL has pre-fixed the weightages for the number of individual items of Bill of Quantity with respect to the 'Total Amount' in Part-C.
9. 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.
10. Based on the quantities of individual item and the amount arrived in SI No: 9 above, unit rate of individual items shall be derived. This unit rate shall be rounded off to four decimal places.
11. 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.10 above.
12. Bidders are also requested to refer Clause 37.0 of NIT for "Mode of Award of Work".

Part C : Bill of Quantities

Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana

at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
A	PREPARATION OF DRAWING & OBTAINING STATUTORY APPROVAL	--		
A.1	Route survey, preparation of route drawing, Detailed SLD, Detailed 11kV/433V substation drawing, RMU, 11kV distribution drawing, Two/Four/Six/Eight pole structure arrangement drawing, Earthing layout, sag calculation for OH line & any other document /drawing as required by Electrical inspectorate and getting approval of above from statutory authority and also includes liaison with electrical inspectorate for field inspection and obtaining clearance certificate for charging the entire system in a phased manner as per site requirement (any number of times till completion of entire scope under this contract.)	Lump sum	1	.0180865
B	SUPPLY PORTION OF BOM FOR 11kV OH Lines/Cable Interconnection.	0.0		
B.1	11kV Supply Handling Items	0.0		
B.1.A	Interconnection Through HT Cables	0.0		
B.1.A.1	Supply of Heat shrink type HT Indoor termination kits of reputed make suitable for 3CX 185 sqmm 11kV XLPE insulated Armoured Aluminium Cables	Nos.	2	.0002009
B.1.A.2	Supply of Heat shrink type HT Outdoor termination kits of reputed make suitable for 3CX 185 sqmm 11kV XLPE insulated Armoured Aluminium Cables	Nos.	2	.0002737
B.1.B	Interconnection Through 11kV OH Lines	0.0		
B.1.B.1	Supply of ACSR RACOON conductors as per IS:398/1961 (To meet 3 phases/lines)	Meters	7,755	.0169776

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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
B.1.B.2	Supply of Hot-Dip Galvanized Swaged Steel Tubular Poles, Designation 410 SP-56 (Total Length: 11.0 Metres), conforming strictly to IS 2713:1980 (with latest amendments) and fabricated from steel as per IS 2062 Grade E250. The poles must be fully hot-dip galvanized (internally and externally) as per IS 2629 / IS 4759 with a minimum uniform zinc coating mass of 610 g/m ² (minimum thickness of 85 microns). The item must include a securely welded 300X300X10 mm MS base plate, an integrated top cap, and a welded earthing bolt/nut at 300 mm above the ground line,	Nos.	70	.0343288
B.1.B.3	Supply of Pole ISMB-250 11m (As Per IS 2062) for 11kV Height for Overhead line two/four/six/eight pole steel structure at Sub Station.	Nos.	16	.0079319
B.1.B.4	Supply of 11kV V Cross arms/Straight Arm with suitable back clamps including supply of necessary GI fasteners as per IE specification.	Nos.	70	.0025711
B.1.B.5	Supply of 11kV top fittings (I Clamp) with suitable back clamps including supply of necessary GI fasteners as per IE specification.	Nos.	70	.0008483
B.1.B.6	Supply of 11kV pin insulator with GI pin as per IS:731-1971 IS:2486 Part-II-1989. (Each set consist of all 3 Phases).	Sets	72	.0009219
B.1.B.7	Supply of 11kV disc insulator with fixing arrangements & conductor holding clamps as per relevant IS (IS: 731). (Each set consist of all 3 Phases).	Sets	18	.000615
B.1.B.8	Supply of 11kV GI stay (7/3.15 mm) sets with Guy, Bow, Stay Rod, wire etc. as per I.E. Specifications.	Nos.	70	.004325
B.1.B.9	Supply and fixing of anti climb device (barbed wire) roled on the poles at 2m height as per I.E. specification and numbering of poles.	Sets	86	.0028584
B.1.B.10	Supply of 11kV 400A Air break switch-double break-horizontal mounting rotating type as per ISS/IEC Spec No.4710/1968-265-C/1970/Latest.	Nos.	2	.0008615

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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
B.1.B.11	Supply of ISMC-100X50, 75X40, angle 50X50X6 (As Per IS 2062), for cross beam for Overhead line two/four/six/eight pole steel structure at Sub Station.	MT	1.5	.0028781
B.2	11kV/11.5kV Substation Related Items.	0.0		
B.2.1	Supply of Lightning arrestor set suitable for 11kV as per ISS/IEC Spec No.IEC 60099-4. (Each set consist of all 3 Phases).	Sets	4	.0007875
B.2.2	Supply of 11kV HG Fuse set as per IS (Each set consist of all 3 Phases).	Sets	4	.000767
B.2.3	Supply of 11kV pin insulator with GI pin as per IS:731-1971 IS:2486 Part-II-1989. (Each set consist of all 3 Phases).	Sets	8	.0001024
B.2.4	Supply of 11kV disc insulator with fixing arrangements & conductor holding clamps as per relevant IS (IS: 731). (Each set consist of all 3 Phases).	Sets	24	.0007382
B.2.5	Supply of 11kV 400A Air break switch-double break-horizontal mounting rotating type as per ISS/IEC Spec No.4710/1968-265-C/1970/Latest.	Nos.	6	.0025844
B.2.6	Supply of Pole ISMB-250 11m (As Per IS 2062) for 11kV Height for Overhead line two/four/six/eight pole steel structure at Sub Station.	Nos.	32	.0158637
B.2.7	Supply of 2kVA 230V 1 phase sine wave UPS of reputed make with 2 nos. of oxide make 150AH 12V tubuler lead acid batteries.	Sets	1	.0013274
B.2.8	Supply of 50kVA 3 phase 4 wire 11kV/433V copper wound DYN11 oil filled out door plinth mounted Distribution transformer of reputed make to provide power supply to 11/11.5kV sub station and illumination etc.	Nos.	1	.0052908
B.2.9	Supply of 75kVA (UPTO 100KVA) 3 phase 4 wire 11kV/433V copper wound DYN11 oil filled out door plinth mounted Distribution transformer of reputed make to provide power supply to Construction Wtaer Supply source	Nos.	1	.0061499

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at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
B.2.10	Supply of 125A out door type Floor mounted Power distribution board (PDB), IP 55 protection, Double Door type, Incomer-01 no. 125A TPN MCCB. Outgoing-02 nos. 63A TPN ELCBs with 30mA tripping, 03 nos. 40A TPN ELCBs with 30mA tripping, 02 nos. 32 A TPN ELCBs with 30mA tripping with Timer & contactors for auto on/off and 3 indicating lamps with fuse for indication bus supply ON, Digital voltmeter & VSS 0-500V, suitable bus bar arrangement for phase and neutral. Sufficient space should be provided in the removable cable gland plate to accommodate minimum 1R 3.5Cx185 sq. mm. incoming cable and outgoing cables of different sizes. All MCCB, MCBs and ELCBs shall be of reputed make.	Nos.	1	.0027682
B.2.11	Supply of Heat shrink type HT Outdoor termination kits of reputed make suitable for 3CX 185 sqmm 11kV XLPE insulated Armoured Aluminium Cables	Nos.	8	.0010947
B.2.12	Supply of ISMC-100X50, 75X40, angle 50X50X6 (As Per IS 2062), for cross beam for Overhead line two/four/six/eight pole steel structure at Sub Station.	MT	2.2	.0042212
B.2.13	Supply and fixing of anti climb device (barbed wire) roled on the poles at 2m height as per I.E. specification and numbering of poles.	Sets	12	.0003988
B.3	11kV Overhead Ring Main Line Related Items.	0.0		
B.3.1	Supply of ACSR RACOON conductors as per IS:398/1961 (Latest) along with IS 3835 (To meet 3 phases/lines)	Meters	9,405	.0205898
B.3.2	Supply of Hot-Dip Galvanized Swaged Steel Tubular Poles, Designation 410 SP-56 (Total Length: 11.0 Metres), conforming strictly to IS 2713:1980 (with latest amendments) and fabricated from steel as per IS 2062 Grade E250. The poles must be fully hot-dip galvanized (internally and externally) as per IS 2629 / IS 4759 with a minimum uniform zinc coating mass of 610 g/m ² (minimum thickness of 85 microns). The item must include a securely welded 300X300X10 mm MS base plate, an integrated top cap, and a welded earthing bolt/nut at 300 mm above the ground line,	Nos.	90	.0441371

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at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
B.3.3	Supply of Pole ISMB-250 11 m for 11kV Height for Overhead line two/four pole steel structure at Sub Station.	Nos.	48	.0237956
B.3.4	Supply of ISMC-100X50, 75X40, angle 50X50X6 (As Per IS 2062), for cross beam for Overhead line two/four/six/eight pole steel structure at Sub Station.	MT	4	.007675
B.3.5	Supply of 11kV V Cross arms/Straight Arm with suitable back clamps including supply of necessary fasteners as per IE specification.	Nos.	90	.0033058
B.3.6	Supply of 11kV GI stay (7/3.15mm) sets with Guy, Bow, Stay Rod, wire etc. as per I.E. Specifications. (Each set consist of all 3 Phases).	Sets	90	.0055607
B.3.7	Supply of 11kV top fittings (I Clamp) with suitable back clamps including supply of necessary fasteners as per IE specification.	Nos.	90	.0010906
B.3.8	Supply of 11kV disc insulator with fixing arrangements & conductor holding clamps as per relevant IS (IS: 731). (Each set consist of all 3 Phases).	Sets	40	.0013666
B.3.9	Supply of 11kV pin insulator with pins as per IS: 2544/1963 AMD 125 & IEC 168/1969 Latest. (Each set consist of all 3 Phases).	Sets	90	.0011523
B.3.10	Supply of 11kV 400A Air break switch-double break-horizontal mounting rotating type as per ISS/IEC Spec No.4710/1968-265-C/1970/Latest.	Nos.	26	.0111989
B.3.11	Supply of Heat shrink type HT Outdoor termination kits of reputed make suitable for 3CX 95 sqmm 11kV Armoured Aluminium XLPE insulated Cables	Nos.	32	.0026565
B.3.12	Supply of Heat shrink type HT straight through jointing kits of reputed make for 11kV 3Cx95 sqmm sqmm Cables.	Nos.	7	.0008506
B.3.13	Supply of Heat shrink type HT Outdoor termination kits of reputed make suitable for 3CX 185 sqmm 11kV Armoured Aluminium XLPE insulated Cables	Nos.	20	.0027368

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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
B.3.14	Supply of Heat shrink type HT straight through jointing kits of reputed make for 11kV 3Cx185 sqmm Cables.	Nos.	7	.001226
B.3.15	Supply of out door type weather proof 630A capacity 11kV Pillar box IP 55 Protection as per IS with one no. Incoming and two nos. outgoing including supply of accessories.	Nos.	4	.0067715
B.3.16	Supply and fixing of anti climb device (barbed wire) roled on the poles at 2m height as per I.E. specification and numbering of poles.	Sets	90	.0029913
B.3.17	Supply of 11kV pin insulator with pins as per IS: 2544/1963 AMD 125 & IEC 168/1969 Latest. (Each set consist of all 3 Phases).	Sets	16	.0002049
B.4	Common Items for 11kV OH Lines and Substation Equipments.	0.0		
B.4.1	Supply of Termination of 3.5Cx185sqmm LT Power Cable along with double compression type brass cable glands and required number of termination lugs of reputed make suitable for interconnection of LTDB with Package Substation.	Set	2	.0000891
B.4.2	Supply of Termination of 3.5Cx70sqmm LT Power Cable along with supply of double compression type brass cable glands and required number of termination lugs of reputed make suitable for interconnection of LDB with Package Substation.	Set	8	.0001987
B.4.3	Supoply of Termination of 3.5Cx25sqmm LT Power Cable along with supply of double compression type brass cable glands and required number of termination lugs of reputed make suitable for High Mast.	Nos.	40	.0005953
B.4.4	Supply of 3Cx2.5sqmm PVC insulated armoured LT Power Cable	Meters	700	.0041021
B.4.5	Supply of 1Cx10sqmm LT Control Cable suitable for earthing of high mast lightning arrangements.	Meters	1,100	.0043542
B.4.6	Supply of 50x6 mm GI earth flat.	Meters	356	.0023145
B.4.7	Supply of 25x3 mm GI earth flat.	Meters	341	.0009275

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at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
B.4.8	Supply of 8SWG wire	Meters	3,100	.0010283
B.4.9	Supply of Required MS/GI/Nickel cadmium fasteners/anchor fasteners for erection of all supply materials and completion of entire works covered under this package (M6 to M16).	kg	100	.000701
B.4.10	Supply of 200mm dia RCC hume pipes for make use of cable crossing where ever required such as existing culverts, trenches and road etc for HT Cables.	Meters	270	.0076962
B.4.11	Supply of 150mm NB 4.8mm thick medium class GI pipes for make use of cable crossing where ever required such as existing culverts, trenches and road etc for for LT Cables.	Meters	210	.0052057
B.4.12	Supply and fixing of 11kV and 440 V danger board of standard size.	Nos.	60	.0006608
B.4.13	Supply and Fixing of Fire Buckets with stand floor mounted type of rigid & good quality-4 nos. 10 ltr capacity Fire buckets per stand-Type & make shall be approved by BHEL/ Engineer.	Sets	16	.0013569
B.4.14	Supply and fixing of Aluminium alloy 5kg CO2 fire extinguisher industrial type with ISI Mark of reputed make. Type & make shall be approved by BHEL/ engineer.	Nos.	16	.0026819
B.4.15	Supply and fixing of HT cable route markers standard size with 1m height angle support.	Nos.	295	.0033792
B.4.16	Supply and fixing of LT cable route markers standard size with 1m height angle support.	Nos.	278	.0028586
B.4.17	Supply and fixing of Griddle Guards of length 15m, with 8SWG GI Wire for Road crossing with necessary fixing arrangement etc, as per IS Specification.	Sets	8	.0018781
B.5	FOR AREA LIGHTING Related Items.	0.0		
B.5.1	For Contruction Power Supply Area & its Route	0.0		

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at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
B.5.1.1	Supply of steel tubular swaged poles, 9 mtr long made of sheet steel having ultimate tensile strength 42 kg F/sq. mm conforming to BIS: 2713 (part-II) complete with 300x300x6 mm thick MS base plate for welding at site and size as per configuration given in BIS for 410 SP-28 (113 kg- pole weight) . Suitable Electrical junction box PVC of good quality to suit the opening available in above lighting pole, one connector block for 3 Phase 4 wire incoming and outgoing cable to next street light pole with 01 no. 6A SP MCB for street light and earthing etc. also to be provided	Nos.	32	.0124862
B.5.1.2	Supply of 90W LED street light fitting of make Philips/CGL/Bajaj/Havells only.	Nos.	32	.0032523
B.5.1.3	Supply of 2Cx2.5sqmm size Armoured copper PVC insulated cable confirming to IS 1554 (Part-I) of reputed make.	Meters	2,300	.0089516
B.5.1.4	Supply of 50mm NB 3.6mm thick medium class standard GI pipe for incoming and outgoing cables.	Meters	64	.0008987
B.5.1.5	Supply of out door type metal clad Lighting distribution board (LDB) having IP-55 protection with double door type and one incomer with 100A TPN MCCB additionally with 3 nos. 32 A TPN ELCBs with 30mA tripping and timer & contactors for auto on/off street lights and 3 indicating lamps with fuse for indication bus supply ON, Digital Voltmeter & VSS 0-500V etc. Suitable busbar arrangement for Phase and Neutral. Sufficient space should be provided in the removable cable gland plate to accommodate incoming power cable and all outgoing cables.	Nos.	4	.0041886
B.5.2	For Open Storage Yard	0.0		

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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
B.5.2.1	Supply of steel tubular swaged poles, 9 mtr long made of sheet steel having ultimate tensile strength 42 kg F/sq. mm conforming to BIS: 2713 (part-II) complete with 300x300x6 mm thick MS base plate for welding at site and size as per configuration given in BIS for 410 SP-28 (113 kg- pole weight) . Suitable Electrical junction box PVC of good quality to suit the opening available in above lighting pole, one connector block for 3 Phase 4 wire incoming and outgoing cable to next street light pole with 01 no. 6A SP MCB for street light and earthing etc. also to be provided	Nos.	88	.0333951
B.5.2.2	Supply of weather proof LED street light fitting 150 watt of Bajaj, Crompton, Philips or equivalent make, complete with one piece of appropriate driver (integral/non-integral) and suitable for directly slipping over light mounting bracket made out of 40 mm OD pipe and suitable for lamps, JB, cabling & termination of items supplied (To be mounted on 9 mtr pole - Item No.B.5.2.1).	Nos.	88	.0196156

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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
B.5.2.3	Supply of 3-Phase metering and power distribution board complete with CHANGE OVER SWITCH for EB supply & DG SET POWER SUPPLY: (1) Incoming MCB TPN 400 Amps - 1no, (2) Outgoing MCB TPN 200 Amps -1nos. (3) Outgoing MCB TPN 63 Amps -1nos. (4) Outgoing MCB TPN 32 Amps -7nos. 3 Phase Electronic Energy Meter - BHEL / L&T / GEC make. Ammeter, Voltmeter and Selector Switches for both - AE and Kaycee make. Phase indication lamps, HRC fuses for IC and OG feeders, cable glands, power terminals for cables termination, cable lugs and provision for doubly earthing the panel enclosure. Panel enclosure shall be made of sheet metal thichnness not less than 1.6 mm and suitable for out door installation, modular construction, hinged door with locking arrangement, base frame, should have slopped canopy, duly painted with first coat of primer and two coats of synthetic enamel paint (interior with white paint and exterior with light grey as per shade 5, is 630) internal power distribution to devices shall be with al busbars or copper flexible single core PVC cables of 1.1 kV grade, control wiring with 1.5 sqmm, suitable stool made out of MS structure of 1.2 meter high for mounting of panel with anchoring arrangement at foundation, suitable for bottom entry of cables.	Nos.	1	.0050327
B.5.2.4	Supply of out door type Metal clad Lighting distribution board (LDB) IP -55 protection Double door type with one incomer with 200A TPN MCCB and 03 nos 63A TPN MCB out going feeders,3Nos outgoing feeders with 40A 4pole ELCB 100 mA tripping, 6 No outgoing feeders with 32 A TPN MCBs and Timer & contactors for auto on /off street lights and 3 indicating lamps with fuse for indication bus supply ON, Digital Volt meter &VSS 0-500V etc. Suitable busbar arrangement for Phase and Neutral . Sufficient space should be provided in the removable cable gland plate to accommodate incoming power cable and all outgoing cables	Nos.	1	.0028724

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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
B.5.2.5	Supply of out door type metal clad Lighting distribution board (LDB) having IP-55 protection with double door type and one incomer with 100A TPN MCCB additionally with 3 nos. 32 A TPN ELCBs with 30mA tripping and timer & contactors for auto on/off street lights and 3 indicating lamps with fuse for indication bus supply ON, Digital Voltmeter & VSS 0-500V etc. Suitable busbar arrangement for Phase and Neutral. Sufficient space should be provided in the removable cable gland plate to accommodate incoming power cable and all outgoing cables.	Nos.	6	.0036016
B.5.2.6	Supply of 2Cx6 sqmm Aluminium Armoured PVC insulated cable confirming to IS 1554 (Part-I)	Meters	8,800	.041255
B.5.2.7	Supply of Termination of 3.5Cx35sqmm LT Power Cable along with supply of double compression type brass cable glands and required number of termination lugs of reputed make	Set	2	.0000321
B.5.2.8	Supply of Termination of 3.5Cx95sqmm XLPE insulated LT Power Cable along with supply of double compression type brass cable glands and required number of termination lugs of reputed make suitable for interconnection of LTDB with Package Substation.	Set	8	.0002222
B.5.2.9	Supply of Termination of 3.5Cx185sqmm XLPE Power Cable along with supply of double compression type brass cable glands and required number of termination lugs of reputed make	Set	2	.0000891

Part C : Bill of Quantities

Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana
at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
Bill of Quantities for Erection, Testing and Commissioning Package-C	0.0	--		
C	Erection, Testing and Commissioning BOQ Items.	0.0		
C.1	11kV Supply Handling Items	0.0		
C.1.A	Interconnection Through HT Cables	0.0		
C.1.A.1	Laying of 11kV 3Cx185 sqmm XLPE Armoured HT Cable as per project site requirement.	Meters	200	.00046
C.1.A.2	Erection of Heat shrink type HT Indoor termination kits of reputed make suitable for 3CX 185 sqmm 11kV XLPE insulated Armoured Aluminium Cables	Nos.	2	.0001616
C.1.A.3	Erection of Heat shrink type HT Outdoor termination kits of reputed make suitable for 3CX 185 sqmm 11kV XLPE insulated Armoured Aluminium Cables	Nos.	2	.0001725
C.1.B	Interconnection Through 11kV OH Lines	0.0		

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana

at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.1.B.1	Stringing of ACSR RACOON conductors as per IS:398/1961 (To meet 3 phases/lines)	Meters	7,755	.0049732
C.1.B.2	Erection of 11m tubular pole 410 SP-56 as per IS 2713. The erection includes excavation of earth, grouting with concrete of ratio 1:4:8 for a suitable size of upto 1x1x1.8m depth including supply of cement, sand, metal etc. for the foundation and coping of poles by 1 feet height.	Nos.	70	.0111205
C.1.B.3	Erection of Pole ISMB-250 11m (As Per IS 2062) for 11kV Height for Overhead line two/four/six/eight pole steel structure at Sub Station. The erection includes excavation of earth fasteners, foundation bolt, grouting with concrete of ratio 1:4:8 for suitable size of upto 1x1x1.8m depth including supply of cement, sand, metal etc for the foundation and coping of poles by 1 feet height.	Nos.	16	.0025418
C.1.B.4	Erection of 11kV V Cross arms/Straight Arm with suitable back clamps including necessary GI fasteners as per IE specification.	Nos.	70	.0008467
C.1.B.5	Erection of 11kV top fittings (I Clamp) with suitable back clamps including necessary GI fasteners as per IE specification.	Nos.	70	.0003251
C.1.B.6	Erection of 11kV pin insulator with GI pin as per IS:731-1971 IS:2486 Part-II-1989. (Each set consist of all 3 Phases).	Sets	72	.0007133
C.1.B.7	Erection of 11kV disc insulator with fixing arrangements & conductor holding clamps as per relevant IS (IS: 731). (Each set consist of all 3 Phases).	Sets	18	.0002993
C.1.B.8	Erection of 11kV GI stay (7/3.15 mm) sets with Guy, Bow, Stay Rod, wire etc. as per I.E. Specifications.	Nos.	70	.003777
C.1.B.9	Erection of 11kV 400A Air break switch-double break-horizontal mounting rotating type as per ISS/IEC Spec No.4710/1968-265-C/1970/Latest.	Nos.	2	.0006332

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana

at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.1.B.10	Erection of ISMC-100X50, 75X40, angle 50X50X6 (As Per IS 2062), for cross beam for Overhead line two/four/six/eight pole steel structure at Sub Station.	MT	1.5	.0007241
C.2	11kV/11.5kV Substation Related Items.	0.0		
C.2.1	Erection of Lightning arrestor set suitable for 11kV as per ISS/IEC Spec No.IEC 60099-4. (Each set consist of all 3 Phases).	Sets	4	.0003637
C.2.2	Erection of 11kV HG Fuse set as per IS (Each set consist of all 3 Phases).	Sets	4	.0004955
C.2.3	erection of 11kV pin insulator with GI pin as per IS:731-1971 IS:2486 Part-II-1989. (Each set consist of all 3 Phases).	Sets	8	.0000793
C.2.4	Erection of 11kV disc insulator with fixing arrangements & conductor holding clamps as per relevant IS (IS: 731). (Each set consist of all 3 Phases).	Sets	24	.0003991
C.2.5	Erection of 11kV 400A Air break switch-double break-horizontal mounting rotating type as per ISS/IEC Spec No.4710/1968-265-C/1970/Latest.	Nos.	6	.0018995
C.2.6	Erection of Pole ISMB-250 11m (As Per IS 2062) for 11kV Height for Overhead line two/four/six/eight pole steel structure at Sub Station. The erection includes excavation of earth fasteners, foundation bolt, grouting with concrete of ratio 1:4:8 for suitable size of upto 1x1x1.8m depth including supply of cement, sand, metal etc for the foundation and coping of poles by 1 feet height.	Nos.	32	.0050836
C.2.7	Erection, testing and commisioning of 11kV Ring Main Unit Panel as applicable as per BHEL Technical Specifications including 230 V AC/220/110 V DC Power Pack/ SMPS Facility Power Supply for control circuit inside the panel. This also includes Supply and construction of RCC foundation as per scheme drawing for 11 KV RMUs. Approx size upto 3.0m x 1.5m x2.6m	Nos.	2	.0135289
C.2.8	Erection, testing and commisioning of 2kVA 230V 1 phase sine wave UPS of reputed make with 2 nos. of exide make 150AH 12V tubuler lead acid batteries.	Sets	1	.0001069

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana

at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.2.9	Erection, testing and commissioning of 50kVA 3 phase 4 wire 11kV/433V copper wound DYN11 oil filled out door plinth mounted Distribution transformer of reputed make to provide power supply to 11/11.5kV sub station and illumination etc.	Nos.	1	.0026929
C.2.10	Erection, testing and commissioning of 75kVA (UPTO 100KVA) 3 phase 4 wire 11kV/433V copper wound DYN11 oil filled out door plinth mounted Distribution transformer of reputed make to provide power supply to Construction Water Supply source	Nos.	1	.0030959
C.2.11	Erection, testing and commissioning of 125A out door type Floor mounted Power distribution board (PDB), IP 55 protection, Double Door type, Incomer-01 no. 125A TPN MCCB. Outgoing-02 nos. 63A TPN ELCBs with 30mA tripping, 03 nos. 40A TPN ELCBs with 30mA tripping, 02 nos. 32 A TPN ELCBs with 30mA tripping with Timer & contactors for auto on/off and 3 indicating lamps with fuse for indication bus supply ON, Digital voltmeter & VSS 0-500V, suitable bus bar arrangement for phase and neutral. Sufficient space should be provided in the removable cable gland plate to accommodate minimum 1R 3.5Cx185 sq. mm. incoming cable and outgoing cables of different sizes. All MCCB, MCBs and ELCBs shall be of reputed make.	Nos.	1	.0016047
C.2.12	Laying of 11kV 3Cx185 sqmm XLPE Armoured HT Cable as per project site requirement.	Meters	200	.00046
C.2.13	Laying of 11kV 3Cx185 sqmm XLPE Armoured HT Cable on existing cable trays	Meters	200	.000659
C.2.14	Laying and fixing of 11kV 3Cx185 sqmm XLPE Armoured HT Cable on boundary walls with suitable anchorage, clamping on the Boundary wall	Meters	1,400	.0073992
C.2.15	Erection of Heat shrink type HT Outdoor termination kits of reputed make suitable for 3CX 185 sqmm 11kV XLPE insulated Armoured Aluminium Cables	Nos.	8	.0006901
C.2.16	Erection of ISMC-100X50, 75X40, angle 50X50X6 (As Per IS 2062), for cross beam for Overhead line two/four/six/eight pole steel structure at Sub Station.	MT	2.2	.001062
C.3	11kV Overhead Ring Main Line Related Items.	0.0		

Part C : Bill of Quantities

Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana

at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.3.1	Stringing of ACSR RACOON conductors as per IS:398/1961 (Latest) along with IS 3835 (To meet 3 phases/lines)	Meters	9,405	.0060314
C.3.2	Erection of 11m tubular pole 410 SP-56 as per IS 2713. The erection includes excavation of earth, grouting with concrete of ratio 1:4:8 for a suitable size of upto 1x1x1.8m depth including supply of cement, sand, metal etc. for the foundation and coping of poles by 1 feet height.	Nos.	90	.0142977
C.3.3	Erection of Pole ISMB-250 11m (As Per IS 2062) for 11kV Height for Overhead line two/four/six/eight pole steel structure at Sub Station. The erection includes excavation of earth fasteners, foundation bolt, grouting with concrete of ratio 1:4:8 for size of 1x1x1.8m depth including supply of cement, sand, metal etc for the foundation and coping of poles by 1 feet height.	Nos.	48	.0076255
C.3.4	Erection of ISMC-100X50, 75X40, angle 50X50X6 (As Per IS 2062), for cross beam for Overhead line two/four/six/eight pole steel structure at Sub Station.	MT	4	.001931
C.3.5	Erection of 11kV V Cross arms/Straight Arm with suitable back clamps including supply of necessary fasteners as per IE specification.	Nos.	90	.0010886
C.3.6	Erection of 11kV GI stay (7/3.15mm) sets with Guy, Bow, Stay Rod, wire etc. as per I.E. Specifications. (Each set consist of all 3 Phases).	Sets	90	.0048561
C.3.7	Erection of 11kV top fittings (I Clamp) with suitable back clamps including supply of necessary fasteners as per IE specification.	Nos.	90	.0004179
C.3.8	Erection of 11kV disc insulator with fixing arrangements & conductor holding clamps as per relevant IS (IS: 731). (Each set consist of all 3 Phases).	Sets	40	.0006652
C.3.9	Erection of 11kV pin insulator with pins as per IS: 2544/1963 AMD 125 & IEC 168/1969 Latest. (Each set consist of all 3 Phases).	Sets	90	.0008916

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana

at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.3.10	Erection of 11kV 400A Air break switch-double break-horizontal mounting rotating type as per ISS/IEC Spec No.4710/1968-265-C/1970/Latest.	Nos.	26	.008231
C.3.11	Laying of 11kV 3Cx95sqmm XLPE insulated Armoured HT Cable	Meters	3,800	.0074788
C.3.12	Erection of Heat shrink type HT Outdoor termination kits of reputed make suitable for 3CX 95 sqmm 11kV Armoured Aluminium XLPE insulated Cables	Nos.	32	.0019934
C.3.13	Erection of Heat shrink type HT straight through jointing kits of reputed make for 11kV 3Cx95 sqmm sqmm Cables.	Nos.	7	.0005
C.3.14	Laying of 11kV 3Cx185sqmm XLPE insulated Armoured HT Cable	Meters	600	.0013799
C.3.15	Erection of Heat shrink type HT Outdoor termination kits of reputed make suitable for 3CX 185 sqmm 11kV Armoured Aluminium XLPE insulated Cables	Nos.	20	.0017253
C.3.16	Erection of Heat shrink type HT straight through jointing kits of reputed make for 11kV 3Cx185 sqmm Cables.	Nos.	7	.0006552

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana
at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.3.17	Erection, testing and commissioning of 500kVA, 11kV/433V Compact Package Substations (consisting of dry type transformers) as per BHEL Technical Specifications including all related civil works as described below: -Supply of materials as required and erection, testing & commissioning of 11KV/433V Mobile skid mounted type sub-station -Levelling of substation yard, supply and spreading of 40mm size stone aggregate of 75mm thick for an area of size 8m x 6m, supply and construction of Brick work with cement mortar 1:6 of 230 mm thick and 450 mm height all-round the substation yard, plastering the brick work in CM 1:6, white washing etc complete. This shall also include all related necessary civil works like excavation, backfilling (as required),brickwork, PCC M10(1:3:6), plastering the brick work 12mm thick, paint white wash, etc. -Supply and construction of foundation as per supplier foundation drawing for 500kVA. Package Substation. Appx size 4400 mm x 4400 mm x500 mm height (size may slightly vary as per new order of PSS) from ground level and including excavation of plinth pit and base concreting and plastering, white washing etc. as per the instruction of BHEL site engineer. This shall include all civil works including RCC M20(1:1.5:3), reinforcement, Shuttering, etc. -Supply and fixing of 3.15mm GI chain linked wire fencing height 2.5m for the substation of size 8m x 6m including grouting of 3m height ISA 75 fabricated posts at an interval of 1.5m (2.5m vertical 0.5m slanting, 0.5m grouting) and three runs of barbed wire along with the fencing on the slanting angle post, fixing of mesh with post by 50x6mm MS flat with fasteners (2 nos./post) and earthing of fencing by 8 SWG GI wire and providing finish aluminium painting of all steel materials etc. Supplied structural steel materials are used for fencing posts. (Per Sub Station) (Earthing flat supply and erection is paid separately). -Supply and installation of 1m x 2.5m height MS gate made of MS Angle, channel/rolled sections including supply and fixing of hinges, locking arrangement etc including providing finish aluminium painting etc. -Supply and Erection of 3m long 50mm dia 3.6 mm thick medium class GI funnel type	Nos.	13	.2049749

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana
at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
	earth electrode with filling of bentonite earthing powder as per standard, four side brick work chamber with cement plastering, white washing and removable type RCC/ cast iron cover plate. Scope includes supply of required bentonite earthing powder, cement, brick, sand, RCC/cast iron cover plate. Minimum 06 earthing pits per sub station. Sub station earthing shall be carried out by using supplied 50X6, 25X6 and 25x3 mm earth flats. (Supply and Erection rates of Earth Flats are provided separately) -Supply and erection 2 nos 5 Mtr height 3mm thick conical GI street light pole of reputed make with 90 W LED street light fitting of make Philips/CGL/Bajaj/Havells only with base plate, foundation bolts and single lighting GI arm bracket with fasteners including supply all civil materials like cement , metal & sand etc for making foundation. Supply and providing of necessary timer circuit for auto charging of lights. Make shall be approved by BHEL/ Engineer. -Supply and installation of Two Nos. vertical air terminations, 6m height 50 mm NB 3.6mm thick medium class GI Pipe with 1m height lightning spike on the top (total height-7m) with suitable Base plate & foundation bolts for Lightning protection of PSS. Vertical air terminal shall be grounded with earth pits. Required civil works for lightning pole erection and grouting including supply of grouting civil materials are in the scope of Contractor. Lumpsum rate to be quote for all the above works of each substation			

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana
at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.3.18	Erection, testing and commissioning, including oil filtration and submission of oil test report of 500kVA, 11kV/0.440kV Package Substations as per BHEL Technical Specifications including all related civil works as described below: -Supply of materials as required and erection, testing & commissioning of 11KV/433V Mobile skid mounted type sub-station -Levelling of substation yard, supply and spreading of 40mm size stone aggregate of 75mm thick for an area of size 8m x 6m, supply and construction of Brick work with cement mortar 1:6 of 230 mm thick and 450 mm height all-round the substation yard, plastering the brick work in CM 1:6, white washing etc complete. This shall also include all related necessary civil works like excavation, backfilling (as required),brickwork, PCC M10(1:3:6), plastering the brick work 12mm thick, paint white wash, etc. -Supply and construction of foundation as per supplier foundation drawing for 500kVA/250kVA. Package Substation. Appx size 4400 mm x 4400 mm x500 mm height (size may slightly vary as per new order of PSS) from ground level and including excavation of plinth pit and base concreting and plastering, white washing etc. as per the instruction of BHEL site engineer. This shall include all civil works including RCC M20(1:1.5:3), reinforcement, Shuttering, etc. -Supply and fixing of 3.15mm GI chain linked wire fencing height 2.5m for the substation of size 8m x 6m including grouting of 3m height ISA 75 fabricated posts at an interval of 1.5m (2.5m vertical 0.5m slanting, 0.5m grouting) and three runs of barbed wire along with the fencing on the slanting angle post, fixing of mesh with post by 50x6mm MS flat with fasteners (2 nos./post) and earthing of fencing by 8 SWG GI wire and providing finish aluminium painting of all steel materials etc. Supplied structural steel materials are used for fencing posts. (Per Sub Station) (Earthing flat supply and erection is paid separately). -Supply and installation of 1m x 2.5m height MS gate made of MS Angle, channel/rolled sections including supply and fixing of hinges, locking arrangement etc including providing finish aluminium painting etc. -Supply and Erection of 3m long 50mm dia 3.6 mm thick medium class GI funnel type	Nos.	1	.0169965

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana

at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
	earth electrode with filling of bentonite earthing powder as per standard, four side brick work chamber with cement plastering, white washing and removable type RCC/ cast iron cover plate. Scope includes supply of required bentonite earthing powder, cement, brick, sand, RCC/cast iron cover plate. Minimum 06 earthing pits per sub station. Sub station earthing shall be carried out by using supplied 50X6, 25X6 and 25x3 mm earth flats. (Supply and Erection rates of Earth Flats are provided separately) -Supply and erection 2 nos 5 Mtr height 3mm thick conical GI street light pole of reputed make with 90 W LED street light fitting of make Philips/CGL/Bajaj/Havells only with base plate, foundation bolts and single lighting GI arm bracket with fasteners including supply all civil materials like cement , metal & sand etc for making foundation. Supply and providing of necessary timer circuit for auto charging of lights. Make shall be approved by BHEL/ Engineer. -Supply and installation of Two Nos. vertical air terminations, 6m height 50 mm NB 3.6mm thick medium class GI Pipe with 1m height lightning spike on the top (total height-7m) with suitable Base plate & foundation bolts for Lightning protection of PSS. Vertical air terminal shall be grounded with earth pits. Required civil works for lightning pole erection and grouting including supply of grouting civil materials are in the scope of Contractor. Lumpsum rate to be quote for all the above works of each substation			
C.3.19	Erection, testing and Commissioning of out door type weather proof 630A capacity 11kV Pillar box IP 55 Protection as per IS with one no. Incoming and two nos. outgoing including supply of accessories with associated civil works	Nos.	4	.0014893
C.3.20	Erection of 11kV pin insulator with pins as per IS: 2544/1963 AMD 125 & IEC 168/1969 Latest. (Each set consist of all 3 Phases).	Sets	16	.0001585
C.4	Common Items for 11kV OH Lines and Substation Equipments.	0.0		
C.4.1	Laying of 3.5Cx185sqmm LT Power Cable	Meters	500	.0011388

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana

at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.4.2	Making of Termination of 3.5Cx185sqmm LT Power Cable along with double compression type brass cable glands and required number of termination lugs of reputed make suitable for interconnection of LTDB with Package Substation.	Set	2	.000035
C.4.3	Laying of 3.5Cx70sqmm LT Power Cable	Meters	1,450	.0018918
C.4.4	Erection of Termination of 3.5Cx70sqmm LT Power Cable along with supply of double compression type brass cable glands and required number of termination lugs of reputed make suitable for interconnection of LDB with Package Substation.	Set	8	.0000741
C.4.5	Laying of 3.5Cx25sqmm LT Power Cable suitable for High Mast.	Meters	7,150	.0064826
C.4.6	Termination of 3.5Cx25sqmm LT Power Cable along with supply of double compression type brass cable glands and required number of termination lugs of reputed make suitable for High Mast.	Nos.	40	.0002459
C.4.7	Laying and Termination of 3Cx2.5sqmm PVC insulated armoured LT Power Cable with all necessary lugs, glands,etc.	Meters	700	.0004025
C.4.8	Laying and Termination of 1Cx10sqmm LT Control Cable suitable for earthing of high mast lightning arrangements with all necessary lugs, glands,etc.	Meters	1,100	.0007297
C.4.9	Erection of 50x6 mm GI earth flat.	Meters	356	.0012832
C.4.10	Erection of 25x3 mm GI earth flat.	Meters	341	.0011085
C.4.11	Erection of 8SWG wire	Meters	3,100	.0009597
C.4.12	Erection of 200mm dia RCC hume pipes for make use of cable crossing where ever required such as existing culverts, trenches and road etc for HT Cables.	Meters	270	.0020718
C.4.13	Erection of 150mm NB 4.8mm thick medium class GI pipes for make use of cable crossing where ever required such as existing culverts, trenches and road etc for for LT Cables.	Meters	210	.0014721

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana
at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.5	FOR AREA LIGHTING Related Items.	0.0		
C.5.1	For Contruction Power Supply Area & its Route	0.0		
C.5.1.1	Installation/Erection of steel tubular swaged poles, 9 mtr long made of sheet steel having ultimate tensile strength 42 kg F/sq. mm conforming to BIS: 2713 (part-II) complete with 300x300x6 mm thick MS base plate for welding at site and size as per configuration given in BIS for 410 SP-28 (113 kg- pole weight) with 1.5 mtr deep exacavation, concreting in 1:4:8 ratio size 45 cms x 45 cms x 150 cms and pole plinth in 1:3:6 cement concreting having 300 mm height and 300 mm dia including double earthing of pole with suitable arrangement, duly painted with two coats of red oxide paint and one coat of aluminium paint to be applied after erection; the length of pole below ground to be painted with two coats of black bituminus paint. the pole shall be complete with Junction Box, GI Pipe for incoming and outgoing cables fuse and minor fabrication as below : i) Driling 20 mm dia hole at about 2.5 mtr from ground level for wire leads from junction box to light fixture. ii) Driling 15mm dia holes at about 0.7 and at 2.5 mtr from ground level and welding 12 mm nuts for using a 12 mm GI bolt for fastening earth conducters. iii) Welding required holes for fixing pole cap of street light bracket. iv) Welding diametrally 10 mm MS round 30 mm below pole top edge for clipping wire leads .	Nos.	32	.006939
C.5.1.2	Installation/Erection & Commissioning of 90W LED street light fitting of make Philips/CGL/Bajaj/Havells only.	Nos.	32	.0003602
C.5.1.3	Laying and Termination of 2Cx2.5sqmm size Armoured copper PVC insulated cable confirming to IS 1554 (Part-I) of reputed make with supply of double compression type brass cable glands and required number of termination lugs of reputed make.	Meters	2,300	.0016276

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Tender Specification for Package-A for Erection and Commissioning of Construction Power Supply, Area Lighting and Yard Lighting (including supply of materials as specified in the tender specification) for Main Plant Package of Telangana Super Thermal Power Project (TnSTPP), Stage II (3X800MW), Pedapalli dist., Telangana

at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.5.1.4	Erection, testing and commissioning of out door type metal clad Lighting distribution board (LDB) having IP-55 protection with double door type and one incomer with 100A TPN MCCB additionally with 3 nos. 32 A TPN ELCBs with 30mA tripping and timer & contactors for auto on/off street lights and 3 indicating lamps with fuse for indication bus supply ON, Digital Voltmeter & VSS 0-500V etc. Suitable busbar arrangement for Phase and Neutral. Sufficient space should be provided in the removable cable gland plate to accommodate incoming power cable and all outgoing cables.	Nos.	4	.0006122
C.5.1.5	Erection, Earthing and Charging of High Mast (30 Meters) along with its Accessories.(High Masts Lights consisting of Mast shaft in multiple sections, head frame, steel wire rope, double drum winch, galvanized lantern carriage, luminaires and their control gear boxes, aviation obstruction lights, control/feeder panel etc. complete with all other accessories and interconnecting cables) (Excluding Civil Works)	Sets	22	.0562834
C.5.2	For Open Storage Yard	0.0		

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at Main Plant Package for Telangana STPP Stage-II (3X800 MW)

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
C.5.2.1	Installation/Erection of steel tubular swaged poles, 9 mtr long made of sheet steel having ultimate tensile strength 42 kg F/sq. mm conforming to BIS: 2713 (part-II) complete with 300x300x6 mm thick MS base plate for welding at site and size as per configuration given in BIS for 410 SP-28 (113 kg- pole weight) with 1.5 mtr deep excavation, concreting in 1:4:8 ratio size 45 cms x 45 cms x 150 cms and pole plinth in 1:3:6 cement concreting having 300 mm height and 300 mm dia including double earthing of pole with suitable arrangement, duly painted with two coats of red oxide paint and one coat of aluminium paint to be applied after erection; the length of pole below ground to be painted with two coats of black bituminous paint. the pole shall be complete with Junction Box, GI Pipe for incoming and outgoing cables fuse and minor fabrication as below : i) Drilling 20 mm dia hole at about 2.5 mtr from ground level for wire leads from junction box to light fixture. ii) Drilling 15mm dia holes at about 0.7 and at 2.5 mtr from ground level and welding 12 mm nuts for using a 12 mm GI bolt for fastening earth conducters. iii) Welding required holes for fixing pole cap of street light bracket. iv) Welding diametrally 10 mm MS round 30 mm below pole top edge for clipping wire leads .	Nos.	88	.0190824
C.5.2.2	Installation/Erection & Commissioning of weather proof LED street light fitting 150 watt of Bajaj, Crompton, Philips or equivalent make, complete with one piece of appropriate driver (integral/non-integral) and suitable for directly slipping over light mounting bracket made out of 40 mm OD pipe and suitable for lamps, JB, cabling & termination of items supplied (To be mounted on 9 mtr pole - Item No.B.5.2.1).	Nos.	88	.0016736

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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
C.5.2.3	Providing suitable foundation for mounting AC distribution board as specified and Installation/Erection and Commissioning of 3-Phase metering and power distribution board complete with CHANGE OVER SWITCH for EB supply & DG SET POWER SUPPLY: (1) Incoming MCB TPN 400 Amps - 1no, (2) Outgoing MCB TPN 200 Amps -1nos. (3) Outgoing MCB TPN 63 Amps -1nos. (4) Outgoing MCB TPN 32 Amps -7nos. 3 Phase Electronic Energy Meter - BHEL / L&T / GEC make. Ammeter, Voltmeter and Selector Switches for both - AE and Kaycee make. Phase indication lamps, HRC fuses for IC and OG feeders, cable glands, power terminals for cables termination, cable lugs and provision for doubly earthing the panel enclosure. Panel enclosure shall be made of sheet metal thichnnness not less than 1.6 mm and suitable for out door installation, modular construction, hinged door with locking arrangement, base frame, should have slopped canopy, duly painted with first coat of primer and two coats of synthetic enamel paint (interior with white paint and exterior with light grey as per shade 5, is 630) internal power distribution to devices shall be with al busbars or copper flexible single core PVC cables of 1.1 kV grade, control wiring with 1.5 sqmm, suitable stool made out of MS structure of 1.2 meter high for mounting of panel with anchoring arragement at foundation, suitable for bottom entry of cables.	Nos.	1	.0010429

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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
C.5.2.4	Erection, testing and commissioning (including related civil works) of out door type Metal clad Lighting distribution board (LDB) IP -55 protection Double door type with one incomer with 200A TPN MCCB and 03 nos 63A TPN MCB out going feeders,3Nos outgoing feeders with 40A 4pole ELCB 100 mA tripping, 6 No outgoing feeders with 32 A TPN MCBs and Timer & contactors for auto on /off street lights and 3 indicating lamps with fuse for indication bus supply ON, Digital Volt meter &VSS 0-500V etc. Suitable busbar arrangement for Phase and Neutral . Sufficient space should be provided in the removable cable gland plate to accommodate incoming power cable and all outgoing cables	Nos.	1	.0004525
C.5.2.5	Erection, testing and commissioning (including related civil works) of out door type metal clad Lighting distribution board (LDB) having IP-55 protection with double door type and one incomer with 100A TPN MCCB additionally with 3 nos. 32 A TPN ELCBs with 30mA tripping and timer & contactors for auto on/off street lights and 3 indicating lamps with fuse for indication bus supply ON, Digital Voltmeter & VSS 0-500V etc. Suitable busbar arrangement for Phase and Neutral. Sufficient space should be provided in the removable cable gland plate to accommodate incoming power cable and all outgoing cables.	Nos.	6	.0012438
C.5.2.6	Cable Laying and Termination of 2Cx6 sqmm Aluminium Armoured PVC insulated cable including supply of cable glands, lugs, etc.	Meters	8,800	.0079786
C.5.2.7	Laying of 3.5Cx35 sqmm Al armoured PVC insulated cable confirming to IS 1554 (Part-I)	Meters	500	.0004976
C.5.2.8	Making of Termination of 3.5Cx35sqmm LT Power Cable along with supply of double compression type brass cable glands and required number of termination lugs of reputed make	Set	2	.0000097
C.5.2.9	Cable Laying of 3.5Cx95 sqmm Aluminium Cable Armoured XLPE insulated cable confirming to IS 7098 (part-I)	Meters	3,100	.0054156

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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
C.5.2.10	Making of Termination of 3.5Cx95sqmm XLPE insulated LT Power Cable along with supply of double compression type brass cable glands and required number of termination lugs of reputed make suitable for interconnection of LTDB with Package Substation.	Set	8	.0000996
C.5.2.11	Calbe Laying of 3.5Cx185 sqmm aluminium armoured XLPE insulated cable confirming to IS 7098 (part-I)	Meters	500	.0011388
C.5.2.12	Making of Termination of 3.5Cx185sqmm XLPE Power Cable along with supply of double compression type brass cable glands and required number of termination lugs of reputed make	Set	2	.000035
D	SUPPLY & ERECTION PORTION OF BOM FOR CIVIL RELATED WORKS.	0.0		
D.1	For Incoming Yard Related Civil Works	0.0		

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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
D.1.1	-Leveling of substation yard, supply and spreading of 40mm size stone aggregate of 100 mm thick for an area of size approx 25x10m, supply and construction of brick work with cement mortar 1:6 of 230 mm thick and 450 mm height all around the substation yard, plastering the brick work in CM 1:6 etc. Tentative detail as specified under and may vary as per site conditions. -Supply and fixing of 3.15mm GI chain linked wire fencing height 2.5 m for the substation of appx size 25X10m. Grouting of 3m height ISA 75 fabricated posts at an interval of 1.5m (2m vertical 0.5m slanting, 0.5m grouting). Three runs of barbed wire along with the fencing on the slanting angle post, fixing of mesh with post by 50x6mm MS flat with fasteners (2 nos./post) and earthing of fencing by 8SWG wire and providing finish aluminum painting of all steel materials etc. (Earthing flat supply and erection is paid separately). -Supply and installation of 1 no. of approx 4m in width x 2.5m height of the fence double door type MS gate made of Angle, channel/rolled sections including supply and fixing of hinges, fasteners, locking arrangement etc, including providing of finish aluminum painting. Supply and installation of Two Nos. vertical air terminations, 6m height 50 mm NB 3.6mm thick medium class GI Pipe with 1m height lightning spike on the top (total height-7m) with suitable Base plate & foundation bolts for Lightning protection of PSS. Vertical air terminal shall be grounded with earth pits. Required civil works for lightning pole erection and grouting including supply of grouting civil materials are in the scope of Contractor. -Supply and erection 4 nos 5 Mtr height 3mm thick conical GI street light pole of reputed make with 90 W LED street light fitting of make Philips/CGL/Bajaj/Havells only with base plate, foundation bolts and single lighting GI arm bracket with fasteners including supply all civil materials like cement , metal & sand etc for making foundation. Supply and providing of necessary timer circuit for auto charging of lights -Supply and Erection of 3m long 50mm dia 3.6 mm thick medium class GI funnel type earth electrode with filling of bentonite earthing powder as per standard, four side brick work chamber with cement plastering, white washing and removable type RCC/ cast	SET	1	.0161327

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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
	iron cover plate. Scope includes supply of required betonite eathing powder, cement, brick, sand, RCC/cast iron cover plate. Minimum 02 nos. for LA earthing, 2nos. for RMUs (Supply and erection of earth flats are covered separately) Lumpsum rate to be quote for all the above works of each substation			
D.1.2	Construction of 3mx4m size 3m high Control room, including supply of required civil materials like cement, sand, bricks, metal, reinforcement rods etc. The control room is concrete roof, brick wall room with inside & out site plastering, cement flooring with necessary trench arrangements for UPS and two nos 0.9M X0.9M glass alu. slide type windows, one wooden door of normal size (2.1x1.2m) with lock & key arrangement including painting of control room. Supply & providing of control room lighting with minimum 4 nos. of 40 W LED fitting, 2 nos. 1200 sweep ceiling fans and 4 nos of 40 W LED street light fitting for out side area lighting, necessary electrical wiring for fans & lights with 02 nos 5A switched socket & 2 nos 15 A switched socket in lighting board, incoming main switch, earthing, incoming power connection etc. complete(Light fittings & fans are reputed make only). Tentative detail as specified under and may vary as per site conditions..	LUMPSUM	1	.0084067
D.2	Excavation of cable trench size 0.4x1.0 m depth in hard rock for HT cable and 0.4x0.8 m depth for LT cable. After cable laying, the trench will be back filled with excavated earth materials / other outside earth materials with compaction.	CUM	5,000	.0246566
D.3	Supply & Erection and spreading of river sand in cable trench of 300 mm thick for protection of HT Power cable.	CUM	432	.0240832
D.4	Supply and laying of red/ ash bricks in the cable trench for protection of HT Power cable.	No.s	28,000	.0055726
TOTAL Weightage				1.0