

BOQ FOR PROVIDING 11kV EXTERNAL,INTERNAL POWER DISTRIBUTION AND STREET LIGHTING SYSTEM IN DTA-II (PHASE-I) AT MAHINDRA WORLD CITY, JAIPUR					
S.No.	Description	Unit	Qty.	Basic Rate	Amount
A	11 kV External Power Distribution				
1	Laying of under ground cable one metre below ground level covered with sand and and R.C.C covers of 300mm(W)X100mm(T) (for covering 1no. cable) or 450mm(W)X100mm(T)(for covering more than 1no. cables) suitably as per requirement for mechanical protection to the cable,including necessary connections, digging in all classes of soil and refilling with primary compaction of trenches for following sizes XLPE(E) 11KV insulated ISI marked and of approved make.Aluminium conductor armoured cables suitable for working voltage upto 11000 volts including proper dressing of the cable in an approved manner complete as required and as per specifications.(cable free supply)				
a	11 kV 3C x 300 Sq.mm XLPE, Al, UG cable	Mtr	1706		
2	HV cable end termination				
a	Supply ,Erection and commissioning of uniterm type outdoor termination along with boots (SILCAB-T) to accommodate 3x300 sq. mm. 11 KV XLPE(E) aluminium cable complete with all kit content s including earth continuity connection along with 3 nos. crimping type aluminium lugs / thimbles of suitable capacity including making joints etc.	Set	4		
3	Supply ,Erection and commissioning of uniterm type indoor termination along with boots (SILCAB-T) to accommodate 3x300 sq. mm. 11 KV XLPE(E) aluminium cable complete with all kit content s including earth continuity connection along with 3 nos. crimping type aluminium lugs / thimbles of suitable capacity including making joints etc.	Set	5		
4	Supplying and making straight through joint with heat shrink type including lugs and other jointing materials, for following size of 3 core x 300 Sq.mm , XLPE aluminium conductor cable of 11KV (E) grade as required	Each	5		
5	Supplying and fixing cable route marker with 10 cm x 10 cm x 5 mm thick G.I. plate with inscription there on, bolted / welded to 35mmx35mmx6mm angle iron, 60cm long and fixing the same in ground as required.	Each	36		
	Total-A-11 kV External Power Distribution				
B	Internal Power Distribution Network				
1	11KV Ring Main Unit Outdoor type - 6 way				
	Erection,installation, testing and commissioning of outdoor type extendable type 11KV 630 amps 21 kA, 3 sec, RMU with 2 nos. incoming load break switch with earth switch and 4 nos. 11KV 630 amps VCB in SF6 enclosure as out going with earth switch, 630 Amps copper busbar including all accessories, civil foundation as per approved drawings, fastners, included etc. complete as required (RMU free supply)	Set	2		
2	11KV Ring Main Unit Outdoor type - 3 way				
	Erection,Installation, testing and commissioning of outdoor type extendable type 11kv 630 amps 21 kA, 3 sec, RMU with two nos. incoming load break switch with earth switch and 11kv 630 amps VCB in SF 6 enclosure - one no. as out going with earth switch, 630 Amps copper busbar including all accessories civil foundation as per approved drawings, fastners etc. complete as required.(RMU free supply)	Set	8		
3	Erection, installation, testing and commissioning of Transformer 160 KVA, LT panel & 2 way RMU outdoor type including civil foundation as per approved drawings as required with following:(Transformer,LT Panel,RMU Free Supply)	Set	1		
4	Erection, testing and commissioning of 11 kv 400 amps, 4way feeder outdoor pillar box complying to JVVNL specification including civil foundation as per approved drawings as required all inclusive.(11kv Feeder Box Free Supply)	Set	14		
5	Laying of under ground cable one metre below ground level covered with sand and and R.C.C covers of 300mm(W)X100mm(T) (for covering 1no. cable) or 450mm(W)X100mm(T)(for covering more than 1no. cables) suitably as per requirement for mechanical protection to the cable,including necessary connections, digging in all classes of soil and refilling with primary compaction of trenches for following sizes XLPE(E) 11KV insulated ISI marked and of approved make.Aluminium conductor armoured cables suitable for working voltage upto 11000 volts including proper dressing of the cable in an approved manner complete as required and as per specifications.(Cable free supply)				
a	11kV 3C x 300 Sq.mm XLPE, Al, UG cable	Mtr	9384		
b	11kV 3C x 185 Sq.mm XLPE, Al, UG cable	Mtr	150		
6	HV cable end termination				
a	Supply ,Erection and commissioning of uniterm type outdoor termination along with boots (SILCAB-T) to accommodate 3x300 sq. mm. 11 KV XLPE(E) aluminium cable complete with all kit content s including earth continuity connection along with 3 nos. crimping type aluminium lugs / thimbles of suitable capacity including making joints etc.	Set	10		
b	Supply ,Erection and commissioning of uniterm type outdoor termination along with boots (SILCAB-T) to accommodate 3x185 sq. mm. 11 KV XLPE(E) aluminium cable complete with all kit content s including earth continuity connection along with 3 nos. crimping type aluminium lugs / thimbles of suitable capacity including making joints etc.	Set	2		
c	Supply ,Erection and commissioning of uniterm type indoor termination along with boots (SILCAB-T) to accommodate 3x300 sq. mm. 11 KV XLPE(E) aluminium cable complete with all kit content s including earth continuity connection along with 3 nos. crimping type aluminium lugs / thimbles of suitable capacity including making joints etc.	Set	64		
d	Supply ,Erection and commissioning of uniterm type indoor termination along with boots (SILCAB-T) to accommodate 3x185 sq. mm. 11 KV XLPE(E) aluminium cable complete with all kit content s including earth continuity connection along with 3 nos. crimping type aluminium lugs / thimbles of suitable capacity including making joints etc.	Set	2		
e	Supply ,Erection and commissioning of HVS type Three Core H.T Cable straight through joints along with boots (SILCAB-T) to accommodate 3x300 sq. mm. 11 KV XLPE(E) aluminium cable complete with all kit content s including earth continuity connection along with 3 nos. crimping type aluminium lugs / thimbles of suitable capacity including making joints etc.	Set	38		
f	Supply ,Erection and commissioning of HVS type Three Core H.T Cable straight through joints along with boots (SILCAB-T) to accommodate 3x185 sq. mm. 11 KV XLPE(E) aluminium cable complete with all kit content s including earth continuity connection along with 3 nos. crimping type aluminium lugs / thimbles of suitable capacity including making joints etc.	Set	1		
7	Cable route marker				

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a	Supplying and fixing cable route marker with 10 cm x 10 cm x 5 mm thick G.I. plate with inscription there on, bolted / welded to 35mmx35mmx6mm angle iron, 60cm long and fixing the same in ground as required.	Each	191		
8	Earthing				
a	Chemical Earthing with G.I. pipe in pipe chemical earthing with 2.0 m long pipe in pie earth including accessories, back filling chemical of 50 kgs as required completing to JVVNL specification	Set	54		
b	Chemical Earthing with Copper pipe in pipe chemical earthing with 2.0 m long pipe in pie earth including accessories, back filling chemical of 50 kgs as required completing to JVVNL specification	Set	2		
c	Supplying and laying 50 mm X 5 mm copper strip at 0.50 meter below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	Mtr	50		
d	Supplying and laying 50 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50 mm)	Mtr	500		
12	Providing and erecting 1.5 metre high wire fencing with seven rows of barbed wire supported on M.S.Angles (50 mm x 50 mm x 6mm) at 2.5 Metres, center to center including excavating pits for foundation, fixing post in cement concrete 1:4:8 of size 45 x 45 x 45 cm. fastening the wire and painting the M.S.Angles with one coat of red lead primer and two coats of painting etc. complete.	R.Mt.	50		
13	Providing and fixing mild steel grill gate with angle iron frame 65 mm x 65 mm x 10 mm with iron bars at 150mm.C/C and diagonal flats as per the detailed drawing including hinges, pivot blocks locking arrangement, welding riveting and oil painting of three coats of approved shade. Weight of gate 35 Kg/smt.	Sq.Mt.	4		
13	Civil Foundation work and Barricating Distribution for Feeder Pillars and Packaged Sub-Stations				
a)	Earth work in excavation in foundation trenches etc. in all kinds of soil not exceeding 2, depth including dressing of bottom and side of trenches stacking the excavated soil, clear from the edge of excavation and subsequent filling around masonry in 15cm layers with compaction including disposal of all surplus soil, as directed within a lead of 30M.	Per Cum.	100		
b)	Cement concrete 1:4:8 with brick ballast 20mm nominal size in foundation & plinth.	cum.	50		
c)	First class brick work laid in cement sand mortar 1:6 in 1st storey upto 4M above plinth level.	Cum.	100		
d)	Cement concrete 1:3:6 with stone agg. 20mm nominal size in foundation & plinth	Cum.	50		
e)	Cement concrete 1:2:4 with stone aggregate 20mm nominal size in foundation & plinth	Cum.	20		
f)	12mm thick cement plaster 1:5	Sqm.	200		
g)	Rough iron and mild steel (using flats square bars tees and channels ladders grills gratings framed window guards iron door openable or fixed staircase or parapet or any other type of railings gates and tree guards etc. including cost of screws and welding rods or bolts and nuts complete fixed in position.	Ton	2		
h)	Providing and fixing of wire mesh jali around the Feeder Panel / Packaged Sub-Station of size upto 8'x4' made out of wire mesh 1"x1"square including fixing in cement 1:2:4 including welding cutting etc. Complete in all respect upto the entire satisfaction of Engineer-in-charge of work.	RFT	60		
11	Liason works for statutory approvals including CTL of cables/ transformer etc, transportation, Electrical inspector approval, Electrical scheme approval, sanction letter, supervision, Handover etc. (excluding the statutory payments/fees, which will be paid or reimbursed saperatley by MWCJ)	Lot	1		
Total -B-Internal Power Distribution					
C Street Lighting					
1	Street light Feeder pillar - 1 & 4				
	Design, Supplying, Installation, testing and commissioning of 415 V street lighting feeder pillar panel compartmentalised, factory made Godrej Almira type suitable for outdoor installation, made up of CRCA sheet steel of thickness not less than 2 mm with a weather proof canopy of top, double door construction, IP 54 protection, anti corrosive chemical resistant paint with, automatic dawn and dusk with astronomical controller for street light outgoing, , complete with Aluminium bus bars, inter-connection with solid/ stranded copper conductor wires/ copper strips, glands neutral links, etc., and mounted with following switch gears, etc., complete as required with detailed specifications: , energy saver for automatic switching ON/OFF as per pre-sets time cycle, digital multifunctional meter with RS485 port and suitable CT etc., including concrete pedestal and associated civil works.	Nos	2		
	Incoming				
	1 Set Three Phase, 4 wire Energy Meter along with 1 No. 125 Amp Four pole MCCB, 25 KA breaking capacity with heavy duty solid neutral link with thermal release having O/L and short circuit protection along with 3 Nos.multifunctional digital Astronomical switches to control the road lighting Luminaires per phase basis with easy programming with PC,automatic ON and OFF time as per the uploaded programming, etc. as per approved make complete as required with detailed specifications.				
	Bus Bar				
	1 set. of four Nos 125 Amps Aluminium Bus Bars of size 25mm x 5 mm shall be insulated by heat shrinkable sleeves & clip on shroud for joints				
	Outgoings				
	32 amp TPN MCCB 16 KA -- 6 nos				
	32 amp TPN contactor 16 KA -- 6 nos				
	63 amp TPN MCCB -- 6 nos				
	Suitable A.P.F.C system compartment with contactors, relays and M.C.B's etc. as required be made as integral part of Feeder Piller. 20 KVAR 9 stage APFC controller for power factor correction, with 10 KVAR - 1 no. , 5 KVAR -1 nos, 2 KVAR -2 nos, 1 KVAR -1 no. capacitor with capacitor rating contactor, and adequate plate to terminate suitable cable as incomer and suitable cable as outgoing. fixed type power factor capacitor				
1A	Street light Feeder pillar - 2 & 3				

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S.No.	Description	Unit	Qty.	Basic Rate	Amount
	Design, Supplying, Installation, testing and commissioning of 415 V street lighting feeder pillar panel compartmentalised, factory made Godrej Almira type suitable for outdoor installation, made up of CRCA sheet steel of thickness not less than 2 mm with a weather proof canopy of top, double door construction, IP 54 protection, anti corrosive chemical resistant paint with, automatic dawn and dusk with astronomical controller for street light outgoing, , complete with Aluminium bus bars, inter-connection with solid/ stranded copper conductor wires/ copper strips, glands neutral links, etc., and mounted with following switch gears, etc., complete as required with detailed specifications: , energy saver for automatic switching ON/OFF as per pre-sets time cycle, digital multifunctional meter with RS485 port and suitable CT etc., including concrete pedestal and associated civil works.	Nos	2		
	Incoming				
	1 Set Three Phase, 4 wire Energy Meter along with 1 No. 125 Amp Four pole MCCB, 25 KA breaking capacity with heavy duty solid neutral link with thermal release having O/L and short circuit protection along with 3 Nos.multifunctional digital Astronomical switches to control the road lighting Luminaires per phase basis with easy programming with PC,automatic ON and OFF time as per the uploaded programming,back up can be downloaded through data key, sealable cover even with inserted data key etc. as per approved make complete as required with detailed specifications.				
	Bus Bar				
	1 set. of four Nos 125 Amps Aluminium Bus Bars of size 25mm x 5 mm shall be insulated by heat shrinkable sleeves & clip on shroud for joints				
	Outgoings				
	32 amp TPN MCCB 16 KA -- 6 nos				
	32 amp TPN contactor 16 KA -- 6 nos				
	63 amp TPN MCCB -- 6 nos				
	Suitable A.P.F.C system compartment with contactors, relays and M.C.B's etc. as required be made as integral part of Feeder Piller,9 KVAR 8 stage APFC controller for power factor correction, with 2 KVAR - 2 no. , 1 KVAR - 5 no, capacitor with capacitor rating contactor, and adequate plate to terminate suitable cable as incomer and suitable cable as outgoing. fixed type power factor capacitor				
2	Street light (pole free supply by MWCJ)				
I	Twin arm				
a	Erection, Testing and commissioning Tapered Street Light Pole made of 4mm thick SS400, taper 1000:11.5,finish GV & PC, 9 metre to 11 metre height with brackets, welded with base plate of approximate size 400mmx400mmx20mm thick,control box, supply of suitable SPN MCB including erection of Pole above Ground Level on the existing RCC foundation (RCC foundation is payable saperately as per item rate) complete in all respects as per drawings and entire satisfaction of Engineer-in-charge. (Pole Free Supply by MWCJ)	Nos	67		
II	Single arm				
a	Erection, Testing and commissioning Tapered Street Light Pole made of 4mm thick SS400, taper 1000:11.5,finish GV & PC, 9 metre to 11 metre height with brackets, welded with base plate of approximate size 400mmx400mmx20mm thick,control box, supply of suitable SPN MCB including erection of Pole above Ground Level on the existing RCC foundation (RCC foundation is payable saperately as per item rate) complete in all respects as per drawings and entire satisfaction of Engineer-in-charge.	Nos	90		
3	Pole foundation				
a	Pole foundation as per approved tender drawing including but not limited to excavation, PCC,RCC, PVC sleeves, foundation bolts/fastners refilling etc. all inclusive including excavation and refilling etc. as required as per approved foundation drawing	Nos	157		
4	Street light fitting - Conventional				
a	Erection, Installation, testing & commissioning of external 180 watt light fixtures complete as required with all accessories including Wiring and connection with 3x2.5sq.mm. PVC insulated copper stranded conductor (P+N+PE) double sheathed wire from Control Box to Luminaires including terminations complete as required as per specifications of 180 watt (luminaiae free supply)	Nos	134		
c	Installation, testing & commissioning of external 72 watt light fixtures complete as required with all accessories including Wiring and connection with 3x2.5sq.mm. PVC insulated copper stranded conductor (P+N+PE) double sheathed wire from Control Box to Luminaires including terminations complete as required as per specifications of 72 watt (luminaiae free supply)	Nos	90		
5	LV cable				
	Laying,Testing and Commissioning of under ground cable one metre below ground level covered with river sand (100mmbelow+ 200mm above) and first class brick (across width single brick) for mechanical protection to the cable,including necessary straight through joint connections (up to 25 sq mm), digging in all classes of soil and refilling with primary compaction of trenches for following sizes XLPE (E) insulated ISI marked and of approved make Aluminium conductor armoured cables suitable for working voltage upto 1100 volts including proper dressing of the cable in an approved manner complete as required and as per specifications.(cable free supply MWCJ)				
a	4 x 6 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	1640		
b	4 x 10 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	2835		
c	4 x 25 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	1675		
d	3.5 x 50 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	525		
e	3.5 x 70 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	2285		
f	3½ x 185 Sq.mm. AYFY, XLPE, Al, UG cable	Mtr	915		
6	LV cable end termination				
	Supplying and making end termination with brass compression gland and aluminum lugs for following sizes of armoured XLPE insulated heavy duty aluminium conductor armoured cable of 1.1 KV grade as required.				
a	4 x 6 Sq.mm. AYFY, XLPE, Al, UG cable	Set	108		
b	4 x 10 Sq.mm. AYFY, XLPE, Al, UG cable	Set	189		
c	4x25 sq. mm	Set	112		
c	3.5x50 sq. mm	Set	2		
d	3.5x70 sq. mm	Set	8		
e	3.5x185 sq. mm	Set	2		
7	Straight through joint				

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S.No.	Description	Unit	Qty.	Basic Rate	Amount
	Supplying and making straight through joint with heat shrink type including lugs and other jointing materials, for following size of 3.5 Core, XLPE aluminium conductor cable of 1100 V grade as required				
a	3.5C X 70 sq. mm	Set	7		
b	3.5C X 50 sq. mm	Set	2		
8	3.5C X 185 sq. mm	Set	7		
a	Supplying and fixing cable route marker with 10 cm X 10 cm X 5 mm thick G.I. plate with inscription there on, bolted /welded to 35 mm X 35 mm X 6 mm angle iron, 60 cm long and fixing the same in ground as required.	Each	132		
9	Earthing				
a	Earthing with G.I. pipe in pipe chemical earthing with 2.0 m long pipe in pie earth including accessories, back filling chemical of 50 kgs as required completing to JVVNL specification	Set	4		
b	Supplying and laying 25 mm X 6 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	Mtr	200		
c	Supply, Installation, Testing and Commissioning of Earth pits for pipe Earthing with G.I earth Pipe 4.5mtr. Longx40mm dia. including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc.including salt and charcoal (details as specified in the drawing)as per IS: 3043, complete as required as per Specification and Drawing.	set	54		
d	Providing & laying earth connection from earth electrode with 4.0 mm dia G.I. wire	Mtrs	5338		
	Total -C-Street Light				
	Grand Total (A+B+C)				

Note:-

- 1.Basic Rate should be inclusive of cess, all charges except taxes which shall be extra as applicable.
- 2.Service Tax shall be payable extra as applicable post GST implementation.
- 3.Contractor should submit valid reg. copy conforming to GST as applicable.