

Annexure C-BOQ and Unit rate of estimated Cost of Smart City Project DLF City, DHBVN, Gurgaon under original approach

Sr. NO.	Description	Unit	Qty.	Unit Supply Rates	Total Supply cost	(Total Supply Cost + 15 %) (A)	Unit Erection Cost	Total Erection Cost(B)	Total Cost (A+B)
1	HT Cables					0.00			0.00
a	3/C 400 mm ² 11 kV XLPE Armoured cable	Mtrs	264424	1692.96	447659255.04	514808143.30	84.65	22383491.60	537191634.90
b	3/C 300 mm ² 11 kV XLPE Armoured cable	Mtrs	8470	1206.04	10215158.80	11747432.62	60.3	510741.00	12258173.62
c	3/C 120 mm ² 11 kV XLPE Armoured cable	Mtrs	8529	743.16	6338411.64	7289173.39	37.16	316937.64	7606111.03
	Sub-Total		281423		464212825.48	533844749.30		23211170.24	5570,55,920
2	LT Cables					0.00			0.00
a	LT XLPE Cable S/C 630 MM. sq.	Mtr	27320	730.63	19960811.60	22954933.34	36.53	997999.60	23952932.94
b	LT XLPE Armoured 3.5 Core, 300 sq.mm. cable	Mtr	340000	940.42	319742800.00	367704220.00	47.02	15986800.00	383691020.00
c	LT XLPE Armoured 3.5 Core, 240 sq.mm. cable	Mtr	1500	835.34	1253010.00	1440961.50	41.77	62655.00	1503616.50
d	LT XLPE Armoured 3.5 Core, 120 sq.mm. cable	Mtr	153000	449.00	68697000.00	79001550.00	22.45	3434850.00	82436400.00
e	LT XLPE Armoured 3.5 Core, 95 sq.mm. cable	Mtr	1000	344.89	344890.00	396623.50	17.24	17240.00	413863.50
f	LT PVC Cable 2/C 10 MM. sq.	Mtr	92500	25.48	2356900.00	2710435.00	1.27	117475.00	2827910.00
g	LT PVC Cable 2/C 16 MM. sq.	Mtr	1000	38.71	38710.00	44516.50	1.94	1940.00	46456.50
h	LT PVC Cable 4/C 16 MM. sq.	Mtr	85000	64.70	5499500.00	6324425.00	3.24	275400.00	6599825.00
i	LT PVC Cable 4/C 25 MM. sq.	Mtr	97500	91.03	8875425.00	10206738.75	4.55	443625.00	10650363.75
j	LT PVC Cable 4/C 50 MM. sq.	Mtr	4250	145.64	618970.00	711815.50	7.28	30940.00	742755.50
k	LT PVC Cable 4/C 95 MM. sq.	Mtr	1000	258.69	258690.00	297493.50	12.93	12930.00	310423.50
l	LT XLPE Armoured Cable 2/C 10 MM. sq.	Mtr	370000	61.32	22688400.00	26091660.00	3.07	1135900.00	27227560.00
m	LT XLPE Armoured Cable 2/C 16 MM. sq.	Mtr	1000	59.37	59370.00	68275.50	2.97	2970.00	71245.50
n	LT XLPE Armoured Cable 4/C 16 MM. sq.	Mtr	340000	101.33	34452200.00	39620030.00	5.07	1723800.00	41343830.00
o	LT XLPE Armoured Cable 4/C 25 MM. sq.	Mtr	390000	138.93	54182700.00	62310105.00	6.95	2710500.00	65020605.00
p	LT XLPE Armoured Cable 4/C 50 MM. sq.	Mtr	17000	231.33	3932610.00	4522501.50	11.57	196690.00	4719191.50
q	LT XLPE Armoured Cable 4/C 95 MM. sq.	Mtr	1000	354.94	354940.00	408181.00	17.75	17750.00	425931.00
	Sub-Total		1923070		543316926.60	624814465.59		27169464.60	6519,83,930
3	LT Feeder Pillar					0.00			0.00
a	6- way Distribution feeder pillar with 1 no ACB , 4 pole, 3phase, 415 v , 1600 Amps for incoming and 5 nos outgoing MCCB 4 pole, 3phase, 415 v , 400 Amps rating type, metering arrangement on incomer suitable for outdoor installation, in accordance with Technical Specification	Nos	239	479648.34	114635953.26	131831346.25	9592.97	2292719.83	134124066.08
b	5- way Distribution feeder pillar with 1 no ACB , 4 pole, 3phase, 415 v , 1250 Amps for incoming and 4 nos outgoing MCCB 4 pole, 3phase, 415 v , 400 Amps rating type, metering arrangement on incomer suitable for outdoor installation , in accordance with Technical Specification	Nos	138	430776.50	59447157.00	68364230.55	8615.53	1188943.14	69553173.69
c	4- way Distribution feeder pillar with 1 no ACB , 4 pole, 3phase, 415 v , 800 Amps for incoming and 3 nos outgoing MCCB 4 pole, 3phase, 415 v , 400 Amps rating type, metering arrangement on incomer suitable for outdoor installation , in accordance with Technical Specification	Nos	27	366513.90	9895875.30	11380256.60	7330.28	197917.56	11578174.16
d	7- way Distribution feeder pillar with 2 no MCCB , 4 pole, 3phase, 415 v , 400 Amps for incoming and 5 nos outgoing MCCB 4 pole, 3phase, 415 v , 100 Amps rating type suitable for outdoor installation , in accordance with Technical Specification	Nos	4615	183960.24	848976507.60	976322983.74	3679.2	16979508.00	993302491.74

e	3 phase ,415 v , Distribution service Pillar for LT, 100 Amps incoming ;2 nos . 32 TPN, 10 nos. 16 Amp SPN rating feeder type distribution service pillar suitable for outdoor installation , in accordance with Technical Specification	Nos	2432	47530.37	115593859.84	132932938.82	950.61	2311883.52	135244822.34
	Sub-Total		7451		1148549353.00	1320831755.95		22970972.05	13438,02,728
4	RMU (Ring Main Units)					0.00			0.00
a	Indoor type11 KV SF6 type extensible and motorized 5 way smart Ring Main Unit (RMU) complete with two VCB and three LBS with FRTU and FPI as per IS	Nos.	5	915131.00	4575655.00	5262003.25	18302.62	91513.10	5353516.35
b	Indoor type 11 KV SF6 type extensible and motorized 4 way smart Ring Main Unit (RMU) complete with two VCB and two LBS with FRTU and FPI as per IS	Nos.	5	803250.00	4016250.00	4618687.50	16065	80325.00	4699012.50
c	Indoor type 11 KV SF6 type extensible and motorized 3 way smart Ring Main Unit (RMU) complete with one VCB and two LBS with FRTU and FPI as per IS	Nos.	5	643174.00	3215870.00	3698250.50	12863.48	64317.40	3762567.90
d	Indoor type 11 KV SF6 type extensible and motorized 3 way smart Ring Main Unit (RMU) complete with all three VCB and with FRTU and FPI as per IS	Nos.	5	779726.00	3898630.00	4483424.50	15594.52	77972.60	4561397.10
e	Indoor type 11 KV SF6 type extensible and motorized one way smart Ring Main Unit (RMU) complete with LB and with FPI as per IS	Nos.	5	154339.00	771695.00	887449.25	3086.78	15433.90	902883.15
f	Indoor type 11 KV SF6 type extensible and motorized one way smart Ring Main Unit (RMU) complete with VCB and FPI as per IS	Nos.	5	220320.00	1101600.00	1266840.00	4406.4	22032.00	1288872.00
g	Outdoor type 11 KV SF6 type non extensible and motorized 5 way smart Ring Main Unit (RMU) complete with two VCB and three LBS with FRTU and FPI as per IS	Nos.	17	918000.00	15606000.00	17946900.00	18360	312120.00	18259020.00
h	Outdoor type11 KV SF6 type extensible and motorized 4 way smart Ring Main Unit (RMU) complete with two VCB and two LBS with FRTU and FPI as per IS	Nos.	83	805545.00	66860235.00	76889270.25	16110.9	1337204.70	78226474.95
i	Outdoor type 11 KV SF6 type extensible and motorized 3 way smart Ring Main Unit (RMU) complete with one VCB and two LBS with FRTU and FPI as per IS	Nos.	418	644895.00	269566110.00	310001026.50	12897.9	5391322.20	315392348.70
j	Outdoor type 11 KV SF6 type extensible and motorized 3 way smart Ring Main Unit (RMU) complete with all three VCB and with FRTU and FPI as per IS	Nos.	5	781448.00	3907240.00	4493326.00	15628.96	78144.80	4571470.80
k	Outdoor type 11 KV SF6 type extensible and motorized one way smart Ring Main Unit (RMU) complete with LB and with FPI as per IS	Nos.	5	154913.00	774565.00	890749.75	3098.26	15491.30	906241.05
l	Outdoor type 11 KV SF6 type extensible and motorized one way smart Ring Main Unit (RMU) complete with VCB and FPI as per IS	Nos.	5	220894.00	1104470.00	1270140.50	4417.88	22089.40	1292229.90
	Sub-Total		563		375398320.00	431708068.00		7507966.40	4392,16,034
5	Distribution T/Fs					0.00			0.00
a	1000 KVA 11/.433 KV T/F Oil Type	Nos.	77	984082.00	75774314.00	87140461.10	19681.64	1515486.28	88655947.38
b	630 KVA 11/.433 KV T/F Oil Type	Nos.	129	749658.00	96705882.00	111211764.30	14993.16	1934117.64	113145881.94
c	400 KVA 11/.433 KV T/F Oil Type	Nos.	4	593390.00	2373560.00	2729594.00	11867.8	47471.20	2777065.20
d	1000 KVA 11/.433 KV T/F Dry Type	Nos.	10	1611579.00	16115790.00	18533158.50	32231.58	322315.80	18855474.30
e	630 KVA 11/.433 KV T/F Dry Type	Nos.	10	1410220.00	14102200.00	16217530.00	28204.4	282044.00	16499574.00
f	400 KVA 11/.433 KV T/F Dry Type	Nos.	10	1114129.00	11141290.00	12812483.50	22282.58	222825.80	13035309.30
	Sub-Total		240		216213036.00	248644991.40		4324260.72	2529,69,252

6	Optical Fiber					0.00			0.00
a	Un- Armoured Optical Fiber (48 Fibers) along with the all accessories connectors, switches etc.	KM	222	48095.00	10677090.00	12278653.50	2404.75	533854.50	12812508.00
b	Armoured Optical Fiber (48 Fibers) along with the all accessories connectors, switches etc.	KM	37	42477.20	1571656.40	1807404.86	2123.86	78582.82	1885987.68
c	PLB-HDPE (Permanently Lubricated High Density Poly Ethylene) pipe 40 mm. dia pipe for laying optical Fiber Cable.	KM	259	61000.00	15799000.00	18168850.00	3050	789950.00	18958800.00
	Sub-Total		259		28047746.40	32254908.36		1402387.32	336,57,296
7	Street light					0.00			0.00
a	Supply and erection of 3 corePVC copper insulated and Sheathed Circular flexible wire of size 2.50sqmm(80/0.20mm)as per HSR No.31.9(II)e	Mtr	110000	0.00	0.00	0.00	35.88	3946800.00	3946800.00
b	Supply and erection of Galvanized Iron pipe 65 mm dia on flushed for wiring purposes including bends inspection boxes etc. where necessary and painting as required as per HSR No. 31.21(XIV)	Mtr	4000	0.00	0.00	0.00	405.45	1621800.00	1621800.00
c	Earthing with GI earth pipe 4.5 m long and 40 mm dia with masonry enclosure on the top etc. as required as per HSR item No.31.22(1)	Each	11000	0.00	0.00	0.00	1701	18711000.00	18711000.00
d	Extra item for using salt and charcoal / coke for pipe earth electrode as required as per HSR item No.31.12(II)	Each	11000	0.00	0.00	0.00	562.5	6187500.00	6187500.00
e	Supplying and laying of 25 mm x 5 mm G.I. Strip at 0.50 metre below ground level as strip earth electrode including soldering etc. as required as per HSR no. 31.22(VIII)	Mtr	55000	0.00	0.00	0.00	72.9	4009500.00	4009500.00
f	Supply and erection of 25 Sq. mm 4 Core Armoured under ground cable ,loose in existing pipe or trenches complete with necessary connections as per HSR 31.26(XII)	Mtr	341000	0.00	0.00	0.00	135.12	46075920.00	46075920.00
g	Supply and erection of copper lugs of 25sqmm size including crimping etc. up to entire satisfaction of Engineer-in-charge as per HSR No. 31.45(d)	Each	88000	0.00	0.00	0.00	15.95	1403600.00	1403600.00
h	Supply and erection of HDPE pipe 90/75 mm Outer dia/Inner dia laid 1 Mtr below ground level including digging or trenchless boring and refilling of earth including cost of suitable size socket/coupler for HDPE Pipe including cost of labour and material required to complete the job in all respects upto the entire satisfaction of the engineer-in-charge of the work.	Mtr	350000	0.00	0.00	0.00	135	47250000.00	47250000.00

i	Supply and erection of Hot Dip Galvanized octagonal pole of 3 mm thickness 7 Mtr. Long pole with top dia 70 mm and bottom dia 130 mm with base plate of size 220 x 220 x 12 mm, including cost of nut and bolts and all accessories(including provisions of camera, Wi-Fi unit, speaker etc.at later stage) as supplied by the manufacture including cost of foundation accessories etc. the foundation bolts as per manufacturer design should be hot dipped galvanized pole complete with door locking arrangement, Terminal plate consisting of 2 nos. 100 A, 4 pole natural links inclding connection etc. with suitable connecting arrangement for 2 nos. MCBs/ kit- kat including cost of RCC 1:1.5:3 for foundation of size 0.7 m x 0.7 m x 1.8 m with minimum 8 nos. 12 mm dia longitudinal MS reinforcement rods with rings of 8 mm dia not more than 200 mm C.C. for fixing the pole with all labour & material required to complete the job in all respect upto the entire satisfaction of Engineer - In - Charge of the work.as per HSR item no. 31.68(i)	nos.	9000	0.00	0.00	0.00	13940	125460000.00	125460000.00
j	Supply and erection of Hot Dip Galvanized octagonal pole of 3 mm thickness 8 Mtr. Long pole with top dia 70 mm and bottom dia 135 mm with base plate of size 225 x 225 x 16 mm, including cost of nut and bolts and all accessories (including provisions of camera, Wi-Fi unit, speaker etc.at later stage)as supplied by the manufacture including cost of foundation accessories etc. the foundation bolts as per manufacturer design should be hot dipped galvanized pole complete with door locking arrangement, Terminal plate consisting of 2 nos. 100 A, 4 pole natural links inclding connection etc. with suitable connecting arrangement for 2 nos. MCBs/ kit- kat including cost of RCC 1:1.5:3 for foundation of size 0.7 m x 0.7 m x 1.8 m with minimum 8 nos. 12 mm dia longitudinal MS reinforcement rods with rings of 8 mm dia not more than 200 mm C.C. for fixing the pole with all labour & material required to complete the job in all respect upto the entire satisfaction of Engineer - In - Charge of the work as per HSR item No.31.68(ii)	Nos	2000	0.00	0.00	0.00	15320	30640000.00	30640000.00
k	Supply, installation, Testing & commissioning of LED type IP-66 and above ,72W Street Light Fitting as per technical specification enclosed. With Free Replacement Guaranttee -- 5 years as per the specification.	Nos	2000	0.00	0.00	0.00	13930	27860000.00	27860000.00
l	Supply, installation, Testing & commissioning of LED type IP-66 and above 35W Street Light Fitting as per technical specification enclosed . With Free Replacement Guaranttee --- 5 years as per the specification.	Nos	9000	0.00	0.00	0.00	8168	73512000.00	73512000.00
m	Supply and erection of terminations for octogonal poles consisting of 1no 4 pole 40 A connector with brass/copper links,2 no 10A , SP MCB 10 KA mounted on 5 mm thick bakelite sheet duly fixed inside of the pole.	Nos	11000	0.00	0.00	0.00	440	4840000.00	4840000.00

n	Supply, Erection, Testing and Commissioning of Intelligent feeder pillar (Outdoor type) for smart lighting system having compatibility with optical fibre,GSM,Wi-Fi,Wi-max,Ethernet as per specifications attached including concentrator,convertor and other items required for successful operation as per entire satisfaction of Engineer-Incharge	Nos	75	1.00	75.00	86.25	295570	22167750.00	22167836.25
o	Supply , fabrication and erection of single arm bracket 1500 mm overhang made of 48.3mm OD Dia.MS pipe (3.5mm thick) as per IS 1161 welded to canopy 400 mm long with angle of inclination of 105 degree to the vertical.The canopy should be suitable for 70 mm top dia pole.The bracket should be hot dip galvanized alongwith 3 no. 10mm dia.SS bolts	Nos	11000	0.00	0.00	0.00	2350	25850000.00	25850000.00
Sub-Total			11000					439535870.00	4395,35,956
8	Civil Work including material required for civil work					0.00			0.00
a	Foundation for Package Substation (400,630 & 1000kVA)	No.	15	0.00	0.00	0.00	60000	900000.00	900000.00
b	Foundation for RMU	No.	538	0.00	0.00	0.00	18000	9684000.00	9684000.00
c	Foundation for Distribution Transformer(400,630 & 1000kVA)	No.	380	0.00	0.00	0.00	20000	7600000.00	7600000.00
d	Foundation for LT feeder Pillar					0.00			0.00
i	Type A	No.	239	0.00	0.00	0.00	14000	3346000.00	3346000.00
ii	Type B	No.	138	0.00	0.00	0.00	14000	1932000.00	1932000.00
iii	Type C	No.	27	0.00	0.00	0.00	11000	297000.00	297000.00
iv	Type D	No.	4615	0.00	0.00	0.00	14000	64610000.00	64610000.00
v	Type E	No.	2432	0.00	0.00	0.00	11000	26752000.00	26752000.00
g	Construction of room for providing Underground Distribution Transformer alongwith RMU and LT ACB	No.	5	0.00	0.00	0.00	400000	2000000.00	2000000.00
h	Construction of double-decker room for providing Distribution Transformer alongwith RMU and LT feeder pillar	No.	5	0.00	0.00	0.00	375000	1875000.00	1875000.00
Sub-Total			8394					118996000.00	1189,96,000
9	Civil Work for underground laying of Optical fibre/Cable								
e	Excavation for trenches upto 2m depth for size 1000mmX1200mmX700mm with supplying & laying 100mm jamuna sand below the 2 no. cables i/c refilling the excavated earth, watering, rolling compaction etc. complete in all respects alongwith laying of cables and all necessary installation of material including HDPE pipes & PLB-HDPE for road/rail crossing or as per site requirement , GI pipes (Heavy Gauge) for bridge crossings, cable protection cover RCC slabs, Yamuna Sand, end termination, supporting structure for crossing small bridges, culverts etc, cast riser for cable joint marker, route markers, earthing material and earthing cable etc, including testing and commissioning for Laying and restoration of excavated portion to original look as far as practical possible of 11 kV and LT , 3-core, 1 core cable of various sizes below the ground complete as per Drg./TS.	Mtr	611000	0.00	0.00	0.00	150	91650000.00	91650000.00

f	Excavation for trenches upto 2m depth for size 1000mmX1200mmX1000 m with supplying & laying 100mm jamuna sand below the 3 no. cables i/c refilling the excavated earth, watering, rolling compaction etc. complete in all respects. alongwith laying of cables and all necessary installation of material including HDPE & PLB-HDPE pipes for road/rail crossing for road/rail crossing or as per site requirement , GI pipes (Heavy Gauge) for bridge crossings, cable protection cover RCC slabs, Yamuna Sand, end termination, supporting structure for crossing small bridges, culverts etc, cast riser for cable joint marker, route markers, earthing material and earthing cable etc, including testing and commissioning for Laying and restoration of excavated portion to original look as far as practical possible of 11 kV& LT 3-core, 1 core cable of various sizes below the ground complete as per Drg./TS.	Mtr	35000	0.00	0.00	0.00	190	6650000.00	6650000.00
i	Trenchless laying of Cable using HDD method with HDPE pipe or PLB-HDPE	km	397	0.00	0.00	0.00	650000	258050000.00	258050000.00
Sub-Total			1043000					356350000.00	3563,50,000
Fencing									
10	Fencing for DT, RMU and LT ACB feeder Panel. (Per Running meter) as per Nigam Specification including gate.	R/Mtr.	9711	3324.00	32279364.00	37121268.60	332.4	3227936.40	40349205.00
Sub-Total			9711		32279364.00	37121268.60		3227936.40	403,49,205
11 RCC Slabs and route markers									
1	HT cable & LT Cable protection cover RCC slabs	nos.	900499	205.00	184602295.00	212292639.25	4.1	3692045.90	215984685.15
2	HT & LT Cable RCC Route Marker and Straight Joint maker	nos.	4931	750.00	3698250.00	4252987.50	15	73965.00	4326952.50
Sub-Total			905430		188300545.00	216545626.75		3766010.90	2203,11,638
12 PSS (Package Sub-Station)									
Sub-Total			15		40998251.95	47147989.74		819965.00	479,67,955
a	1000 KVA 11/.433 KV T/F compact type containerized T/F unit with RMU with one VCB and two LBS with FRTU and FPI, 415 V 1600 Amps Air circuit Breaker as incomer, 5nos. 400 Amps MCCB's as outgoing along with separate DT meter compartment	Nos.	5	3039113.59	15195567.95	17474903.14	60782.27	303911.35	17778814.49
b	630 KVA 11/.433 KV T/F compact type containerized T/F unit with RMU with one VCB and two LBS with FRTU and FPI, 415 V 1600 Amps Air circuit Breaker as incomer, 5nos. 400 Amps MCCB's as outgoing along with separate DT meter compartment	Nos.	5	2750632.08	13753160.40	15816134.46	55012.64	275063.20	16091197.66
c	400 KVA 11/.433 KV T/F compact type containerized T/F unit with RMU with one VCB and two LBS with FRTU and FPI, 415 V 1600 Amps Air circuit Breaker as incomer, 5nos. 400 Amps MCCB's as outgoing along with separate DT meter compartment	Nos.	5	2409904.72	12049523.60	13856952.14	48198.09	240990.45	14097942.59
Sub-Total			15		40998251.95	47147989.74		819965.00	479,67,955
13 Jointing Kits									
1	Straight Jointing kit for 3/C 400 mm2 11 kV XLPE cable	No.	529	13158.43	6960809.47	8004930.89	1315.84	696079.36	87,01,010.25
2	Straight Jointing kit for 3/C 300 mm2 11 kV XLPE cable	No.	3	4477.00	13431.00	15445.65	447.7	1343.10	16,788.75
3	Straight Jointing kit for 3/C 120 mm2 11 kV XLPE cable	No.	53	3414.82	180985.46	208133.28	341.48	18098.44	2,26,231.72
4	ID Termination kit for 11KV 3/C 400 mm2 Cable	No.	134	3386.63	453808.42	521879.68	338.66	45380.44	5,67,260.12
5	ID Termination kit for 11KV 3/C 300 mm2 Cable	No.	6	1061.35	6368.10	7323.32	106.14	636.84	7,960.16
6	ID Termination kit for 11KV 3/C 120 mm2 Cable	No.	6	795.39	4772.34	5488.19	79.54	477.24	5,965.43

7	OD Termination kit for 11KV 3/C 400mm ² Cable	No.	1027	4097.61	4208245.47	4839482.29	409.76	420823.52	52,60,305.81
8	OD Termination kit for 11KV 3/C 300mm ² Cable	No.	148	1214.21	179703.08	206658.54	121.42	17970.16	2,24,628.70
9	OD Termination kit for 11KV 3/C 120 mm ² Cable	No.	718	845.10	606781.80	697799.07	84.51	60678.18	7,58,477.25
	Sub-Total		2624		12614905.14	14507140.91		1261487.28	157,68,628.19
14	HDPE Pipes								
1	HDPE pipe 125 mm dia	Mtrs	2000	169.00	338000.00	388700.00	8.45	16900.00	405600.00
2	HDPE pipe 160 mm dia	Mtrs	81450	216.00	17593200.00	20232180.00	10.8	879660.00	21111840.00
	Sub-Total		83450		17931200.00	20620880.00		896560.00	21517440.00
15	PVC Pipes								
1	PVC pipe of Dia 160 MM, Class-1, ISI mark along with elbow and other joint.	Mtr.	1000	182.00	182000.00	209300.00	9.1	9100.00	218400.00
2	PVC pipe of Dia 110 MM, Class-1, ISI mark along with elbow and other joint.	Mtr.	153000	87.00	13311000.00	15307650.00	4.35	665550.00	15973200.00
3	PVC pipe of Dia 50 MM, Class-1, ISI mark along with elbow and other joint.	Mtr.	747000	40.00	29880000.00	34362000.00	2	1494000.00	35856000.00
4	PVC pipe of Dia 25 MM, Class-1, ISI mark along with elbow and other joint.	Mtr.	370000	16.00	5920000.00	6808000.00	0.8	296000.00	7104000.00
5	CI pipe 250mm dia, 14mm thick for crossing	Mtr	500	1342.00	671000.00	771650.00	67.1	33550.00	805200.00
	Sub-Total		1271500		49964000.00	57458600.00		2498200.00	59956800.00
16	Earthing and allied material								
2	G.I. Pipe 40 mm dia 6 mtr. Long for earthing set. B-class	Nos	2562	1540.00	3945480.00	4537302.00	154	394548.00	4931850.00
3	Earthing Rod Wt. 6.175 Kg.	Nos	2562	294.00	753228.00	866212.20	29.4	75322.80	941535.00
4	Earthing with G.I. Strip 25x6 mm 9 mtr. as per Drawing	Nos	2562	661.00	1693482.00	1947504.30	66.1	169348.20	2116852.50
5	Maintanance free Earthing with all the allied Materialas per Nigam Specifiaction	Nos.	1165	4280.00	4986200.00	5734130.00	820	955300.00	6689430.00
	Sub-Total		8851		11378390.00	13085148.50		1594519.00	14679667.50
17	Fabrication of steel items								
1	Fabrication and Supply of M.S. Galvanized items- Pole Top Bracket/hamper, V/straight-Cross arm, Guarding cross arm, Back Clamps for V/straight-Cross arm and Guard cross arm, D P Channel/angle, D P Channel clamp, Stay clamps angle, Stay clamps side, D P cross bracing & clamps, half clamp, full clamp, D-Strap, structure for mounting of isolator MS flat	MT	50	56000.00	2800000.00	3220000.00	5600	280000.00	3500000.00
	Sub-Total		50		2800000.00	3220000.00		280000.00	3500000.00
18	Cost of other minor items								
1	PCC Pole 11.0M Long (400kg working load).	Nos	140	4775.00	668500.00	768775.00	716.25	100275.00	869050.00
2	PCC Poles 9 M Long (400kg working Load)	Nos	140	2100.00	294000.00	338100.00	315	44100.00	382200.00
3	100mm ² ACSR Conductor	Mtrs	40350	55.64	2245074.00	2581835.10	5.56	224346.00	2806181.10
4	100mm ² insulated Conductor	Mtrs	2000	64.88	129760.00	149224.00	6.49	12980.00	162204.00
5	11 KV Polymeric insulators with pin, nuts and washers complete suitable for insulator assembly	Set	375	152.00	57000.00	65550.00	15.2	5700.00	71250.00
6	45 KN Disc Insulator (T&C type) along with Hardwares & Accessories all complete as per Technical Specification.	Set	90	267.00	24030.00	27634.50	26.7	2403.00	30037.50
7	LT Insulator	Nos.	90	10.00	900.00	1035.00	1	90.00	1125.00
8	Egg Insulator	Nos.	90	10.00	900.00	1035.00	1	90.00	1125.00
9	GI Nuts & Bolts with Washers (plain and spring)	Kgs	1000	53.00	53000.00	60950.00	5.3	5300.00	66250.00
10	Stay wire (7/8 SWG)	Kgs	1800	62.09	111762.00	128526.30	6.21	11178.00	139704.30
11	Hardware Fittings (8' long complete with X-Plat 460mm of Angle 65x65x6 Elbow & rod with Discs etc) to complete 11kV stay set	Set	180	656.00	118080.00	135792.00	65.6	11808.00	147600.00
12	GSL 8 SWG	Kgs	2440	58.60	142984.00	164431.60	5.86	14298.40	178730.00

13	11 KV 400 Amps. GO Switch complete with handle, pipe & Supporting Channel. As per Nigam's Tech. Spec., relevant ISS and latest amendments	Nos	10	5200.00	52000.00	59800.00	520	5200.00	65000.00
14	11kV LA	Nos	160	2500.00	400000.00	460000.00	250	40000.00	500000.00
15	Barbed wire	Kg.	160	50.00	8000.00	9200.00	5	800.00	10000.00
16	Danger Plate Enameled	No.	630	66.00	41580.00	47817.00	6.6	4158.00	51975.00
17	Number Plate Enameled	No.	140	66.00	9240.00	10626.00	6.6	924.00	11550.00
18	Phase Plate for each phase set of 3 (On H-pole & 4 pole)	Set	10	55.00	550.00	632.50	5.5	55.00	687.50
19	LT Line Spacers	Nos	625	10.00	6250.00	7187.50	1	625.00	7812.50
20	LT Distribution box (Sealable with lock facility) Suitable for 10 nos. Consumers ,2mm CRCA sheet box, bus bar for load as per DT/Fs only with holes for incoming cable and O/G cable with rubber glands and cleats	nos.	125	500.00	62500.00	71875.00	50	6250.00	78125.00
Sub-Total					4426110.00	5090026.50		490580.40	5580606.90
Total =					3136430973.57	3606895619.61	0.00	1016303350.31	4623199056.17

Dismantling estimated Rates of existing HT and LT line and cartage to nearest store

Sr. No.	Description	Unit	Dismantling Unit Rates	Qty	Total Cost of Dismantling
A	Pole (PCC, Rail, Tubler etc) - Supply Unit rates taken of 9 mtr. Pole	Nos.	157.50	11914	1876455
B	ACSR Conductor with allied Material - Supply Unit rates taken of 80 mm. sq. Conductor	KM	2163.35	1136	2457565.6
C	Distribution T/F with allied Material - Supply Unit rates taken of 200 kVA DT	nos.	2232.53	234	522412.02
D	HT AB Cable of various sizes along with allied material - Supply Unit rates taken of 3CX185 mm.sq.+ 150 mm.sq.messenger	KM	19296.13	39	752548.875
C	Overhead HT XLPE Cable of various sizes along with allied material - Supply Unit rates taken of 3CX185 mm.sq.	KM	16428.03	11	180708.275
Total					5789689.77

Abstract of Estimated cost of Smart Grids Project, Gurgaon

Sr. No.	Description	Cost (in Cr.)
A	Total Supply Cost	3136430973.57
B	Total Erection Cost	1016303350.31
C	Total Cost	4152734323.88
D	15% overhead charges on supply	470464646.04
E	O&M cost for five years after completion of project (@10% of total cost i.e. C)	415273432.39
F	Dismantling estimated Cost	5789689.77
G	Grand Total (C+D+E+F)	5044262092.07
Note :-	In the above estimated cost Rs. 43.95 Cr. against street light has been taken in the erection portion (as mentioned at sr. no. B).	

A-MAIN CONTROL CENTER HARDWARE FOR SCADA/DMS/OMS - GURGAON						
A1	Server/Workstation Hardware	Unit	Qty	Unit Price	Total Price	Backup Control Center
1.00	SCADA,ADMS,OMS,EMS Server	Nos.	2.00	10,50,000	21,00,000.00	21,00,000.00
2.00	DMS Simulation Server	Nos.	1.00	5,00,000	5,00,000.00	5,00,000.00
3.00	DMS Realtime Historian Server	Nos.	2.00	5,00,000	10,00,000.00	10,00,000.00
4.00	FEP,Communication,ICCP Integration Server	Nos.	2.00	7,50,000	15,00,000.00	15,00,000.00
5.00	ISR Server {Data Server}	Nos.	2.00	5,00,000	10,00,000.00	10,00,000.00
6.00	NMS Server	Nos.	2.00	5,00,000	10,00,000.00	10,00,000.00
7.00	Developmental Server	Nos.	3.00	5,00,000	15,00,000.00	15,00,000.00
8.00	Web/Directory Server	Nos.	2.00	5,00,000	10,00,000.00	10,00,000.00
9.00	Asset Management Server	Nos.	2.00	5,00,000	10,00,000.00	10,00,000.00
10.00	Visual Monitoring Server	Nos.	4.00	5,00,000	20,00,000.00	20,00,000.00
11.00	Weather Forecast System	Nos.	1.00	5,00,000	5,00,000.00	5,00,000.00
12.00	LV Automation.Monitoring (Non Technical Losses) Server	Nos.	4.00	5,00,000	20,00,000.00	20,00,000.00
13.00	Workstation with dual TFT Monitors	Nos.	4.00	5,00,000	20,00,000.00	20,00,000.00
14.00	Remote VDUs with one TFT Monitor	Nos.	8.00	1,00,000	8,00,000.00	8,00,000.00
15.00	Developmental console with one TFT (Engg. Stations)	Nos.	2.00	1,00,000	2,00,000.00	2,00,000.00
16.00	DTS/Workstation Console with dual TFTs	No.	2.00	1,00,000	2,00,000.00	2,00,000.00
17.00	LED based Video Projection system with 2X3 Module configuration with each module at least 67" diagonal with common projector	Set	1.00	55,00,000	55,00,000.00	55,00,000.00
Total					238,00,000.00	238,00,000.00
A2	Storage & Backup Devices	Unit	Qty	Unit Price	Total Price	
25.00	STORAGE ACCESS NETWORK-5TB	Nos.	6.00	12,00,000	72,00,000.00	72,00,000.00
Total					72,00,000.00	72,00,000.00
A3	Switches	Unit	Qty	Unit Price	Total Price	
26.00	Layer II Switch (SCADA/DMS LAN) (48 Ports)	Nos.	2.00	1,00,000	2,00,000.00	2,00,000.00
27.00	Layer Switch (Planning & Development system LAN) (24 Ports)	Nos.	4.00	65,000	2,60,000.00	2,60,000.00
28.00	Router (1+1) (2 Nos.) - DMZ	Nos.	2.00	1,75,000	3,50,000.00	3,50,000.00
29.00	Firewall & Network IDS/IPS in pair (2 Nos.)	Nos.	2.00	3,50,000	6,00,000.00	6,00,000.00
Total					14,10,000.00	14,10,000.00
A4	Other Active Devices	Unit	Qty	Unit Price	Total Price	
30.00	GPS Time synchronization system	Set	2.00	3,50,000	7,00,000.00	7,00,000.00
31.00	Time, day & date digital displays	Set	1.00	50,000	50,000.00	50,000.00
Total					7,50,000.00	7,50,000.00
A5	Printers	Unit	Qty	Unit Price	Total Price	

32.00	A3 Color Inkjet Printer	Set	1.00	60,000	60,000.00	60,000.00
33.00	B/W Laser printer	Set	1.00	25,000.00	25,000.00	25,000.00
34.00	Color Laser printer A4	Set	1.00	50,000.00	50,000.00	50,000.00
Total					1,35,000.00	1,35,000.00
A6	Routers	Unit	Qty	Unit Price	Total Price	
35.00	(1+1) Routers (2 Nos.) One set each for interfacing SCADA/DR, IT system, IT DR System and CCS	Nos.	2.00	1,50,000	3,00,000.00	3,00,000.00
Total					3,00,000.00	3,00,000.00
A7	Cabling System	Unit	Qty	Unit Price	Total Price	
36.00	Cable, Jacks, Hubs, etc.	Lot	1.00	4,50,000.00	4,50,000.00	4,50,000.00
37.00	KVM Switch	Nos.	6.00	2,50,000	15,00,000.00	15,00,000.00
38.00	Server/Networking Racks	Nos.	6.00	1,50,000	9,00,000.00	9,00,000.00
Total					28,50,000.00	28,50,000.00
A8	Others	Unit	Qty	Unit Price	Total Price	
39.00	Hardware for BMS	Lot	1.00	20,00,000	20,00,000.00	20,00,000.00
40.00	Sensors	Nos.	1000.00	30,000	300,00,000.00	
41.00	Cameras for VMS	Lot	50.00	1,50,000	75,00,000.00	
Total					395,00,000	20,00,000.00
Sub- Total (Hardware) A1-A8					831,45,000	456,45,000.00
B-MAIN CONTROL CENTER SOFTWARE FOR SCADA/DMS/OMS - GURGAON						
B1	Software for Control Centre	Unit	Qty	Unit Price	Total Price	
42.00	SCADA software	Lot	1.00			
43.00	ISR Software	Lot	1.00			
44.00	DMS software	Lot	1.00			
45.00	OMS Software (HV, MV & LV System)	Lot	1.00			
46.00	DTS software	Lot	1.00			
47.00	Developmental software	Lot	1.00			
48.00	Network Management Software	Lot	1.00			
49.00	WEB/Network security software (Included in IT Package)	Lot	1.00			
50.00	RDBMS package (Included in ISR)	Lot	0.00			
51.00	GIS Adaptor/Engine for importing data from GIS system under IT system	Lot	1.00			
52.00	Field Client / Web Client Licences for ADMS System	Lot	15.00			
53.00	Inbuilt Web Call Centre for Vip Consumers (Upto 1 Lakh)	Lot	1.00			
3.00	Sub-Total (SW) -B1				3080,00,000.00	1848,00,000

B1	Software for Sub Systems in Control Centre	Unit	Qty	Unit Price	Total Price	
54.00	Asset Management	Lot	1.00		800,00,000	480,00,000
55.00	AVTL (Automatic Vehicle Tracking System)	Lot	1.00		75,00,000	45,00,000
56.00	Renewable Integration & Weather Forecasting	Lot	1.00		300,00,000	180,00,000
57.00	Building Management system + Access Control + Fire Management System	Lot	1.00		70,00,000	70,00,000
58.00	UPS of Control Centre (20 kVA Redundant UPS)	Lot	1.00		50,00,000	30,00,000
59.00	Visual Monitoring Software	Lot	1.00		100,00,000	60,00,000
	Sub-Total				1395,00,000.00	865,00,000
Integration Cost						
B3	Integration Cost	Unit	Qty	Unit Price	Total Price	
60.00	Integration with SLDC Panipat (ICCP Integration)	Lot	1.00	125,00,000	125,00,000	-
61.00	Integration with DMS Faridabad (ICCP Integration)	Lot	1.00	125,00,000	125,00,000	0
62.00	Integration with Other IT Systems on Enterprise Bus (Metering, Billing, Collection)	Lot	1.00	300,00,000	300,00,000	0
	Sub-Total				550,00,000	-
63.00	Civil Work of Control Centre	Lot	2.00	500,00,000	500,00,000	450,00,000
64.00	ADSS Cable between Substations and Control Centers including associated jointed kits, hardware fittings and accessories	KM	30.00	65,000	19,50,000	
65.00	SDH Equipment and associated hardware	Lot			20,00,000	
66.00	FODB (fiber splicing), Indoor type, rack/wall mounted including pigtailed, associated patch cords	Nos.			10,00,000	
67.00	RTUs and associated equipment at each Substation	Nos.	10.00	3,00,000	30,00,000	
					79,50,000	
					6435,95,000.00	3619,45,000.00
Total CCC Cost (Including Main & Backup)					10055,40,000.00	

Note:

- Prices are excluding Taxes & Duties