

DPR REPORT

For

**Carrying Out Energy Audit of Street Lighting in Jabalpur
City under MP Urban Infrastructure Investment Program
(MPUIIP) under Project Utthan (Phase-II)**

PREPARED FOR

**Urban Administration & Development Department,
Government of Madhya Pradesh**



**Submitted To,
The Commissioner,
Urban Administration & Development Department,
Government of Madhya Pradesh.**

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Executive Summary

Jabalpur is one of the major cities of Madhya Pradesh state. It is the third largest urban agglomeration in Madhya Pradesh and the 38th largest urban agglomeration in India as per the 2011 census statistics. The Jabalpur Municipality was established way back in 1864

Jabalpur is known for its picturesque marble rock formations (Bhedaghat) on the banks of the river Narmada. Because it is the army headquarters of five states (Madhya Pradesh, Chhattisgarh, Odisha, Bihar and Jharkhand), one sixth of the city is occupied by the Ministry of Defence

JMC Street lighting system comprises of total 26126 fixtures, installed at 22699 no. street lights poles & 46 no. high masts.

Following table shows the details of the type of fixtures installed & their percentage contribution in total number & total load of fixtures:

Percentage Contribution of Different Type of Fixtures

Type of Fixtures	Total No. Fixtures	Percentage Contribution of specific Fixtures in Total no. of Fixtures
HPSV 150 W	10830	41.45
HPSV 250 W	2657	10.17
FTL 40 W	11101	42.49
2 x 36 W CFL	460	1.761
CFL 85 W	110	0.421
100 W Bulb	139	0.532
400 W MH	419	1.604
250 W MH	320	1.225
120 W LED	62	0.237
500 W Halogen	28	0.107
Total	26126	100

Category Wise Installed Load of Street Light in JMC

Type of Fixtures	Installed Load in kW	Percentage Contribution of specific Fixtures in Total Installed Load.
HPSV 150 W	1906	53.16
HPSV 250 W	749	20.90
FTL 40 W	577	16.10
2 x 36 W CFL	33	0.92
CFL 85 W	9	0.26
100 W Bulb	14	0.39
400 W MH	185	5.16
250 W MH	90	2.52
120 W LED	7	0.21
500 W Halogen	14	0.39
Total	3586	100

Details of average Expenses, on different head of Maintenance per annum, of Street Lighting System for JMC, considering last 3 years expenses, is tabulated as under:-

Details of Maintenance Expenses

Sr. No.	Particular	Average Amt. in Rs., For last 3 years
1	Street Lighting Labour Work Expenses	5334134
2	Street Lighting Material Expenses	7805015
3	Salary of Employees working on Zonal and Tower Lorries	3561067
4	Tower Lorry Driver & Diesel Expenses	432000
Total		1,71,32,216

☐ Observations on MPPKVCL Billing for JMC Street Lighting System

1. Annual unit consumption of JMC, according to MPEB Billing record, is approx. 2,67,99,813 kWh & costing approx. Rs. 11,91,82,289/- per annum.
2. There is a provision of 5 % incentive on provision of time switch with automatic On & Off of street light, but no incentive is received for switching point having time switch.
3. There is a provision of incentive and a penalty for high & low power factor but no incentive is found in bill having power factor above 0.85

4. In electricity bills for some of the metering point, power factor is found very low, in the range of 0.54 to 0.80 & penalty upto 10% has been charged.
5. Metering & Billing system for JMC street lighting switching points is reviewed and it is found that out of 323 switching points
 - ✓ Billing data is confirmed for 302 switching points
 - ✓ For 21 nos switching points, MPEB is not issuing electricity bills.
 - ✓ Energy meters are found at 221 nos of switching points
 - ✓ Energy meters are not found at 102 nos of switching points
 - ✓ Most of switching points are billed on average basis
 - ✓ At some switching points, sanctioned load less than the actual load
 - ✓ Sanctioned load of switching point is more than the actual load, at most of the switching point. Hence excess monthly fixed charges & energy charges are being paid by JMC.
6. As per MPPKVVCL tariff order, consumer can availed, 1% discount for advance bill payment, which is not being availed by JMC.
7. 265 switching points are operated manually by MPPKVVCL staff & remaining 58 switching points are operated by time switch.
8. Annual Unit Consumption as per Installed Load for **323** Switching Points is **1, 71, 01,834 kWh**.
9. Annual Unit Consumption as per corrected Measured Load Considering Total Fixtures are working, for **309** Switching Points is **1,53,21,977 kWh**
10. Annual Unit Consumption as per MPPKVVCL Billing Unit for **302** Switching Points is **2,67,99,813 kWh**

□ **Excess Billing units**

To analyze the unit consumption pattern 302 nos switching points for which billing data is available, annual unit consumption is estimated according to.

- 1) Installed load with additional consumption due to high voltage,
- 2) Annual unit consumption with measured load at switching point after applying proper corrections for burnt fixtures consumption

Higher value from these two consumptions is compared with billing units from MPPKVVCL passbook record and excess billing units are calculated. Zone wise energy consumption as per installed, Measured & MPPKVVCL billing unit & excess billing units details are tabulated as under

Energy Consumption Summary for 302 Switching Points

Summary of Installed, Measured & Billing Unit Consumption for 302 Nos of Switching Point						
Sr.No	Name of Zone	Annual Unit Consumption As per Installed Load in kWh for 302 Switching Points	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh for 302 Switching Points	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh for 302 Switching Points	Excess Billing Unit in kWh per annum	Excess Energy Charges in Rs. Per annum
1	Polipathar	821200	961459	3136085	2138890	8127784
2	Bilhari	221069	205924	723966	499124	1896670
3	Ranjhi	949126	761220	2813414	1881087	7148129
4	Garha	1626837	1674313	3582298	1780375	6765423
5	Indramarket	3580025	3333899	3782416	65641	249436
6	Mission Compound	2092193	1702944	1649374	-464324	-1764429
7	Gorakhpur	1636104	1435374	1183270	-500074	-1900281
8	Purva	1080072	1129565	1368525	124283	472275
9	Aadhartal	976147	741473	3450999	2394706	9099884
10	Vijaynagar	2345345	1985039	4012169	1611643	6124242
11	Highmast	1165898	808183	1097298	27471	104392
Total		16494016	14739395	26799813	9558822	36323524

From the above table, it is clear that billing unit consumption is found high compared to installed & corrected measured load consumption at most of the zones. For **302** switching points, excess billing units are **9558822 kWh** resulting into excess energy charges of **Rs.36323524**.

Power Measurements

Switching point wise power measurements for different power parameters like Voltage, KW, Current, PF are carried out. Zone wise measured load & corrected measured load in kW are summarized as under

Table- Zone wise Measured Load for 309 nos of switching points

Sr. no.	Name of Zone.	Total Measured Load in kW of Street Light & High Mast	Total Corrected Measured Load Considering Total fixtures are working in kW Street Light & High Mast
1	Polipathar Zone	228.60	253.2
2	Bilhari Zone	43.33	48.9
3	Ranjhi Zone	167.70	188.5
4	Garha Zone	358.99	394.8
5	Indramarket Zone	741.22	819.9
6	Mission Compound Zone	400.34	443.5
7	Gorakhpur Zone	324.08	346.1
8	Purva Zone	294.40	339.4
9	Adhartal Zone	150.80	180.2
10	Vijay Nagar Zone	425.81	492.9
Total		3135	3507

❖ Observations on Power Measurements

- Power measurements are carried out and correction is applied corresponding to burn out fixtures, to compare the same with installed load.
- Corrected measured power is found high, compared to installed load at 90 switching points at the time of field study and at 51 nos switching points it is found high by more than 20%. This indicates some misuse or theft of electricity; hence these switching points need attention. List of these switching point is given in annexure-I
- Three phase supply is given but load is given on only two phases at most of the switching points
- Single phase supply is given at some of the switching points
- Load is found unbalanced at most of the switching points
- Voltage is found on higher side at many of the switching points
- Power factor is found low at most of the switching points

❑ Study of Voltage Variation at Switching Points during Night Time

Voltage is found high at most of the switching points during late night hours & high voltage results into increase in power consumption & reduction in life of lamp & ballast. Hence data logging is carried out for measurement of different power

parameters like voltage, current, kW, power factor, THD & individual harmonics at 9 nos switching points in different zones for complete night The desired voltage at switching point is considered as 235 V in single phase and 407 V in three phases and deviation from this voltage for different switching point is tabulated as under:

Study of Voltage Variation at Switching Points during Night Time

Study of Voltage Variation at Switching Points During Night Time					
Sr. No.	Name of Switching Point	Study of Voltage Before Midnight		Study of Voltage After Midnight	
		Avg. Voltage	Percentage Deviation From Desired Lighting Voltage 407/235	Avg. Voltage	Percentage Deviation From Desired Lighting Voltage 407/235
1	Dr. Kumar	407.77	0.19	418.61	2.85
2	Golbazar	425.5	4.55	434.7	6.81
3	Labour Chowk	398	-2.21	411.21	1.03
4	Mastana Chowk	420.1	3.22	430.1	5.68
5	Near Hanumantal Police Station	402.44	-1.12	410.52	0.86
6	Bhawani Chowk	420.67	3.36	424.65	4.34
7	Aadhartal Tiraha	409.14	0.53	421.25	3.50
8	Kripal Chowk	431.55	6.03	438.06	7.63
9	Sagda Sai	444.1	9.12	453.2	11.35
AVERAGE		417.70	2.63	426.9	4.89
Total Average Deviation in %			3.76		

The deviation in voltage is found before midnight hours is 2.63% & after midnight hours is 4.89% above, from desired 235 V in single phase and 407 V in three phases at switching points. Hence the average deviation is 3.76%, on higher side.

High voltage affects life of lamps & control gears adversely & also results in increase in energy consumption. Hence it is proposed to set the voltage at 235 V through automatic voltage regulator provided in street lighting control panel, upto midnight hours.

Lux Measurements

Switching point wise, total 2775 sample lux measurements are carried out at different category of roads & estimation of average lux level has been carried out. Summary sheet of zone wise samples are taken and no. of samples with Satisfactory

Illumination, no. of samples with under illumination & no. of samples with over illumination are tabulated as under

Table –Zone Wise Lux Measurements

Number of Sample Lux Measurements					
Sr.No.	Switching Point Name	No. of Sample Lux Measurements	Number of Samples with Satisfactory Illumination	Number of Samples with Under illumination	Number of Samples with Over illumination
1	Polipathar Zone	202	2	87	113
2	Bilhari Zone	109	2	43	64
3	Ranjhi Zone	207	3	64	140
4	Garha Zone	217	6	94	117
5	Indramarket Zone	613	10	170	433
6	Mission Compound Zone	251	4	89	158
7	Gorakhpur Zone	249	7	67	175
8	Purva zone	222	4	103	115
9	Adhartal Zone	281	7	134	140
10	Vijay Nagar Zone	424	6	116	302
Total		2775	51	967	1757
Percentage			1.84	34.85	63.32

✓ From the above table it is clear that

- Over illumination level is found at majority of the places i.e. at 1757 points
- Under illumination level is found at some of the places i.e. at 967 points & satisfactory illumination is found at few places i.e. at 51 points

☐ **Observations, Energy Consumption & Cost Reduction Measures**

During field study following were the observation related to street light system. Some of them are affecting energy consumption or energy cost of street light system directly and others are affecting their life, performance, and safety.

1. 265 no. of switching points are manually made on/off by MPKVCL staff.
2. Measured power factor is found low at many of switching points and there is no provision of pf improvement capacitor at switching points.

3. Voltage is found on higher side at many of the switching points before midnight and it is high after midnight at most of the switching points. It is very high at some of the switching points. Voltage is as high as 460 V in 3 phases and 266 V in 1 phase is noted. This lead to higher energy consumption and higher failure rate of street light components like lamps, ballast, switching devices etc.
4. Safety is issues at many switching point: At some switching points live conductors/terminals are exposed at easily approachable heights and may lead to fatal accidents.
5. Weather protection to switching point is an issue at many switching points. At some of the switching points MCB/Fuse grips are open and exposed to atmosphere, no weather protection is provided.
6. Billing units are much higher than units corresponding to installed load or measured load with correction for burnt out lamp. This indicates lapses in metering, reading system & higher sanctioned load.
7. Sanctioned load of switching point is much more than the required sanctioned load at most of the switching points. Hence excess monthly fixed charges are being paid by JMC and billing units are also more where average billing in done.
8. Protection to street light feeders is in very bad shapes. It is observed that no electrical protection devices i.e. fuse, MCB etc are provided at many switching points & many other switching points, they are not in healthy condition. Many switching points are having broken fuse kit-kat or not having fuse grips. Fuses are bypassed using thick conductors at many of the switching points.
9. Load is unbalanced in 3 phases at most of the switching point.
10. Overheating of switching components or connections are found at many of switching points.

To overcome many of above problems following cost effective measures are suggested

❖ **ECM 1: Potential Saving in Energy Cost by Rationalization & Enhancement of Existing Sanctioned Load**

It is recommended to rationalized existing sanctioned load where the sanctioned load is more & enhanced the existing sanctioned load where the sanctioned load is less with MPPKVCL. This can result into considerable saving in fixed monthly charges. Proposed Sanctioned Load is considered the 130% of Existing Installed Load for street lighting & same as installed load for high Mast. Zone wise potential saving details of this ECM for 302 nos of switching points for which billing data is received and it is tabulated as under:-

Sr No.	Zone Name	Installed Load in kW	Sanctioned Load with MPKVCL in kW	Proposed Sanctioned Load in kW	Potential Saving in Fixed Monthly Charges in Rs.
1	Polipathar	164.8	657.5	214	1249967
2	Bilhari	48.6	152.3	63.13	259704
3	Ranjhi	190.5	880.0	248	1549915
4	Garha	353.0	792.0	459	984088
5	Indramarket	784.0	1017.0	1019	120302
6	Mission Compound	461.5	438.5	600	-369978
7	Gorakhpur	343.0	551.0	446	297718
8	Purva	244.97	296.5	318	-61947
9	Aadhartal	210.4	301.3	273	74511
10	Vijaynagar	523.4	786.1	682	411442
11	Highmast	260.0	278.3	301	17248
Total		3584	6150	4623	4532971

From the above table it is clear that potential saving by rationalization & enhancement in existing sanctioned load with MPPKVCL is, **Rs. 45,32,971/-per annum for 302 switching points.**

❖ ECM 2: Potential Saving by Provision of Street Light Control Panel and Centralized Monitoring System for Existing Load

At present electrical arrangement for ON/OFF of street lighting at switching point is in very poor condition, at most of the switching points. It is proposed to provide Street Lighting Control Panel

Provision of this panel may leads to following savings in unit consumption & energy cost:-

- Saving due to reduction in operating hours by automatic on or off.
- Saving by avoiding high voltage and corresponding over consumption by voltage regulation.
- Saving by voltage dimming after mid-night when traffic is low.
- Saving due to power factor incentive.
- Saving due to 5% incentive by Installation of energy saving devices.

Potential Saving by Provision of Street Lighting Control Panel for Existing System

Sr. No.	Zone Name	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months
1	Polipathar	3484410	161481	629676	66
2	Bilhari	1157115	50677	185100	75
3	Ranjhi	2803130	198780	847720	40
4	Garha	5781505	362639	1490733	47
5	Indramarket	8682395	810619	3724788	28
6	Mission Compound	4511960	478498	2262395	24
7	Gorakhpur	3715675	353796	1628907	27
8	Purva	4311345	248190	1006606	51
9	Aadhartal	4020505	217828	856063	56
10	Vijaynagar	6940385	530432	2325988	36
11	High Mast	6656115	209344	688168	116
Total		52064540	3622284	15646145	40

By implementing this measure, there is potential of energy saving of **36, 22,284 kWh** per annum which will save **Rs.1,56,46,145/-** per annum.

❖ **ECM 3: Potential Saving in Energy Cost by Proper Monitoring of Energy Consumption**

By proper monitoring of energy consumption & billing unit JMC can save considerable amount of excess energy charges. Zone wise potential saving by proper monitoring of energy consumption and avoiding excess billing units as per MPPKVCL passbook record & charges is tabulated as under for 302 no of switching points for which billing data is received.

Summary of Installed, Measured & Billing Unit Consumption for 302 Nos of Switching Point						
Sr.No	Name of Zone	Annual Unit Consumption As per Installed Load in kWh for 302 Switching Points	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh for 302 Switching Points	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh for 302 Switching Points	Excess Billing Unit in kWh per annum	Excess Energy Charges in Rs. Per annum
1	Polipathar	821200	961459	3136085	2138890	8127784
2	Bilhari	221069	205924	723966	499124	1896670
3	Ranjhi	949126	761220	2813414	1881087	7148129
4	Garha	1626837	1674313	3582298	1780375	6765423
5	Indramarket	3580025	3333899	3782416	65641	249436
6	Mission Compound	2092193	1702944	1649374	-464324	-1764429
7	Gorakhpur	1636104	1435374	1183270	-500074	-1900281
8	Purva	1080072	1129565	1368525	124283	472275
9	Aadhartal	976147	741473	3450999	2394706	9099884
10	Vijaynagar	2345345	1985039	4012169	1611643	6124242
11	Highmast	1165898	808183	1097298	27471	104392
Total		16494016	14739395	26799813	9558822	36323524

From the above table it is clear that, By implementing above suggested measure, there is potential of avoiding billing units **95,58,822 kWh** per annum which will save **Rs. 3,63,23,524/-per annum for 302 switching points**

❖ **ECM 4: Provision of LED Fixtures for B1, B2 & C category roads**

It is proposed to replace all the fixtures at B2 & C category of Road with Energy Efficient 25 W LED fixtures & fixtures at B1 Category road with less than or equal to 6 meter road width, by 45 W LED fixture & fixtures at B1 Category road with greater than 6 meter road width, by 72 W LED fixture. Details of potential saving by these replacement is as under

Potential Saving by Replacement of Existing Fixtures with Energy Efficient LED Fixtures on B1, B2, & C Category of Roads

Sr. No.	Zone Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Net saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Polipathar	7241370	521242	2248263	39
2	Bilhari	2382545	139932	592661	48
3	Ranjhi	8301935	638979	2760365	36
4	Garha	13872795	1025227	4509026	37
5	Indramarket	26945970	2295550	9976876	32
6	Mission Compound	13349125	1153800	5015389	32
7	Gorakhpur	8144975	904079	3977962	25
8	Purva	8162275	410716	1720857	57
9	Aadhartal	8459595	601280	2592272	39
10	Vijaynagar	16412505	1392687	6058828	33
Total		113273090	9083493	39452500	34

From the above table it is clear that, By implementing above suggested measure, there is potential of **90,83,493 kWh** per annum which will save **Rs. 3,94,52,500/-** per annum with simple payback period of **34 months** only.

❖ **ECM 5: Centralized Street Lighting Monitoring & Control System through Automation Panel for Proposed System**

A) It is proposed to provide Street Lighting Control Panel with following features for switching points with B1, B2 & C Category of Roads.

Provision of this panel may leads to following savings in unit consumption & energy cost:-

- Saving due to reduction in operating hours by automatic on or off.
- Saving due to power factor incentive.
- Saving due to 5% incentive by installation of Energy Saving Device.

Potential Saving by Installation of Street Lighting Control Panel for Proposed Load for Switching Point with B1,B2 & C Category Roads

Sr No.	Zone Name	Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months
1	Polipathar	1351577	13178	134756	56404	288
2	Bilhari	393367	4004	41387	18880	250
3	Ranjhi	1094566	15102	154432	80121	164
4	Garha	2335180	25243	258131	58947	475
5	Indramarket	3532484	60704	620754	329264	129
6	Mission Compound	1931966	50279	521893	369254	63
7	Gorakhpur	1634657	35566	363696	240343	82
8	Purva	1444944	15005	153439	57380	302
9	Aadhartal	1461273	17057	174428	78203	224
10	Vijaynagar	4309628	40435	413486	160333	323
Total		19489642	276572	2836402	1449129	161

From the above tables it is clear that, By implementing above suggested measure, there is potential of **2,76,572 kWh per annum** which will save **Rs. 14,49,133/- per annum** with simple payback period of 161 months. Though the payback period is not attractive, it is recommend, to strengthen infrastructure of streetlight system

B) It is proposed to provide Street Lighting Control Panel with following features for exclusive switching points with A1& A2 Category of Roads, which are 31 in numbers.

Provision of this panel may leads to following savings in unit consumption & energy cost:-

- Saving due to reduction in operating hours by automatic on or off.
- Saving by avoiding high voltage and corresponding over consumption by voltage regulation.
- Saving by voltage dimming after mid-night when traffic is low.
- Saving due to power factor incentive.
- Saving due to 5% incentive by Installation of energy Saving Devices

Potential Saving by Installation of Street Lighting Control Panel for Proposed Load for Switching Point with exclusive A1 & A2 Category Roads & Highmast

Sr No.	Zone Name	Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months
1	Polipathar	159855	6233	32813	21976	87
2	Bilhari	121476	4533	23864	13835	105
3	Ranjhi	(No exclusive switching point with A1 & A2 Category Roads)				
4	Garha	626614	43151	236651	185999	40
5	Indramarket	840105	66838	364014	309272	33
6	Mission Compound	163855	18227	86546	75709	26
7	Gorakhpur	327710	21893	119091	97417	40
8	Purva	1252255	99681	524219	446254	34
9	Aadhartal	479565	19629	111816	79304	73
10	Vijaynagar	907000	71039	404666	348726	31
11	Highmast	6656115	209344	1173970	688168	116
Total		11534550	560568	3077650	2266659	61

From the above tables it is clear that, By implementing above suggested measure, there is potential of **5,60,568 kWh per annum** which will save **Rs. 22,66,659/-** per annum with simple payback period of **61 months** only.

Summary of Investment & Saving for Street Lighting Control Panel for Proposed Load at A1, A2, B1, B2, C Category roads & Highmast

Sr No.	Particular	Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Total Saving in kWh	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months
1	Provision of Street Light Control Panel For Switching Point with B1,B2 & C Category roads	19489642	276572	1449129	161
2	Provision of Street Light Control Panel For Switching Point exclusive A1, A2 Category Roads & Highmast	11534550	560568	2266659	61
	Total	31024192	837140	3715789	100

From the above tables it is clear that, By implementing above suggested measure, there is potential of **8,37,140 kWh per annum** which will save **Rs. 37,15,789/-** per annum with simple payback period of **100 months** only. Though payback period is not attractive. It is required to strengthen street light infrastructure.

Options to implement above suggested ECM's

Above ECM's can be implemented in two options. ECM-2 & ECM-5 are for provision of street lighting control panel for existing load & proposed load respectively.

If LED fixtures are not being installed for switching points near in future, ECM-2 should be opted for existing load.

If LED fixtures are being provided then ECM-2 will not be valid & ECM-5 will be opted which provision of street lighting panel for proposed load with LED fixtures. These options are summarized as under

Option-I				
Sr.No.	Energy & Energy Cost Saving Measures	Total Investment in Rs.	Total Saving in Rs.	Simple Payback Period in Months
1	ECM 1: Potential Saving in Energy Cost by Rationalization & Enhancement of Existing Sanctioned Load		4532971	
2	ECM 2: Potential Saving by Provision of Street Light Control Panel and Centralized Monitoring System for Existing Load	52064540	15646145	40
3	ECM 3: Potential Saving in Energy Cost by Proper Monitoring of Energy Consumption (for 302 Switching points)		36323524	
Total		52064540	56502640	11.06

Option-II				
Sr.	Energy & Energy Cost Saving Measures	Total Investment in Rs.	Total Saving in Rs.	Simple Payback Period in Months
1	ECM 1: Potential Saving in Energy Cost by Rationalization & Enhancement of Existing Sanctioned Load		4532971	
2	ECM 3: Potential Saving in Energy Cost by Proper Monitoring of Energy Consumption (for 302 Switching points)		36323524	
3	ECM 4: Provision of LED Fixtures for B1, B2 & C category roads	113273090	39452500	34
4	ECM 5: Centralized Street Lighting Monitoring & Control System through Automation Panel for Proposed System	31024192	3715789	100
Total		144297282	84024784	20.61

Development & improvement in Street Lighting infrastructure

From the observation during filed study and discussion with JMC Officers, it is proposed to develop inadequate street lighting infrastructure at some of the roads in areas at the periphery/expansion zone of the city as under

- Shahanala to Tilwara Brigde
- Pisanhari to Dhanwantari Nagar
- St. agastin to Baypass
- Adhartal Tiraha to Maharajpur
- ITI Tiraha to Karmeta Bus Stop
- ITI Tiraha to Katangi Road (Rimjha)

Total estimated cost for development of street lighting infrastructure for above road is Rs.5, 75, 61,988.

From the observation during filed study and discussion with JMC Officers, it is proposed that street lighting infrastructure arrangement needs improvement in following important area of the city.

- Golbajar Road
- Ambedakar Chowk to Malgodawn
- Taiyab Ali Chowk to Chandanvan
- Chandanvan to Bridge No. 3
- Income Tax to Bridge No. 2
- Tinpatti to Writetaun Stadium
- Katanga Tiraha to Gavarighat
- Satpula Bridge to Chungi Chouki Ranjhi.
- Adhartal to Shobhapur bridge

Total estimated cost for improvement in street lighting infrastructure for above road is Rs. 8, 44, 59,108.

1. Introduction

1.1. Preamble

India's urban system is the second largest in the World with an urban population surging to 28% of the total population in recent years. According to the "Report on Seventh Electric Power Survey", Public Water Works in India consumes more than 12000 MUs and Public Lighting consumes 5000 MUs of electricity. Energy audits in India have determined that energy costs account for 40% to 60% of the operating expense of supplying water. By becoming energy efficient, each Urban Local Body (ULB) can reap energy savings of 25% to 40% at a minimum. This translates to at least 4000 MUs of energy savings that can avoid the need for an additional capacity of 600 MW. Thus there is big saving potential for energy efficiency in municipal sector.

1.2. Introduction of City

Jabalpur is one of the major cities of Madhya Pradesh state. It is the third largest urban agglomeration in Madhya Pradesh and the 38th largest urban agglomeration in India as per the 2011 census statistics.

The Jabalpur Municipality was established way back in 1864

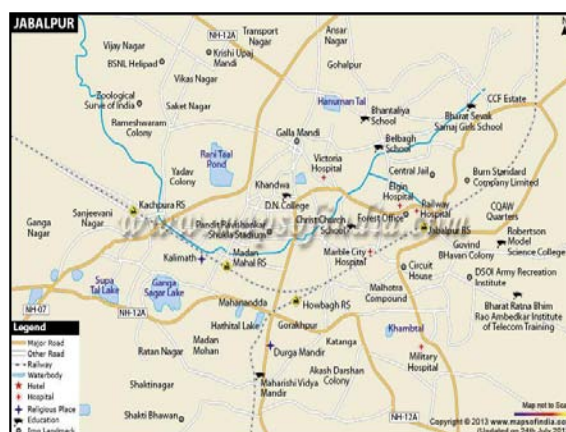
Jabalpur is known for its picturesque marble rock formations (Bhedaghat) on the banks of the river Narmada. Because it is the army headquarters of five states (Madhya Pradesh, Chhattisgarh, Odisha, Bihar and Jharkhand), one sixth of the city is occupied by the Ministry of Defence.

Important institutions and organizations such as the High Court; four Indian Ordnance Factories of the gigantic OFB; the Madhya Pradesh State Electricity Board; Tropical Forest Research Institute; and the zonal headquarters of the WCR are here.

1.3. Importance of Street Lighting

Street lighting has always been an effective tool for promoting a city. It is not only a functional requirement which provides safety and security to motorists and residents as well as pedestrians, but it helps in creating an identity and image.

Fixed lighting of public ways for both vehicles and pedestrians can create a night time environment in which people can see comfortably, and can quickly and accurately identify objects on the roadway being travelled. Roadway lighting can



improve traffic safety, achieve efficient traffic movement, and promote the general use of the facility during darkness and under a wide variety of weather conditions.

Street light system at Jabalpur comprises of more than 26,126 fixtures with annual energy consumption of 2.68 lac units.

1.4. Project Background

DFID and GoMP are supporting the implementation of Madhya Pradesh Urban Infrastructure Investment Project (MPUIIP), with an objective to provide better access to clean drinking water and sanitation; promote public-private partnership in proper urban infrastructure; raise more city revenues (e.g. property tax); and help poor people obtain security of tenure, better living conditions and a better deal from key public services.

MPUIIP will operate across 14 cities and will help the Urban Local Bodies (ULBs) to deliver services to poor communities more efficiently and accountably and help the state urban department meet reform conditions necessary for obtaining funds from national government's urban renewal and urban poverty reduction/low-income housing schemes. One of the key objectives of MPUIIP is to improve the energy efficiency at the city level

Street light is being one of the major energy consuming utility of city ULB, energy audit of street light system is being undertaken. Tender for the same is called & job for carrying out energy audit of street lighting system for Jabalpur Municipal Corporation is awarded to DRA Consultant Pvt Ltd. Nagpur.

1.5. Objective of Study

The IGEA of Street Lighting System will be conducted with the following Objectives:

- Detailed study of the Streetlights including historical and present energy performance trend.
- Creation of a database giving broad data on existing infrastructure and system maps
- Quantification of Energy Losses and Energy Saving Potential.
- Creation of a database for Baseline Energy Measurements for reference during post implementation measurements and verification.
- Presentation of Energy Efficiency Measures as Bankable Projects
- Identify suitable pilot area/areas for subsequent implementation

1.6. Scope of Work

The Investment Grade Energy Audit (IGEA) will document existing field conditions of street lighting fittings and infrastructure, recommend energy saving projects, and presents the technical description of the potential energy efficiency measures along with an assessment of the expected energy and cost savings. The technical scope of work in this IGEA includes the following:

- (i.) Citywide energy audit to determine baselines of electricity consumption and billing of existing street lighting system
- (ii.) Feeder-wise/Switching point-wise analysis of existing lamps, their energy consumption, lux levels and efficiency performance evaluation at all the categories of roads as per the IS standards
- (iii.) Study existing street light electricity distribution network and map it to roads/wards and respective switching points
- (iv.) Analyze the existing street lighting facilities and suggest appropriate modifications/changes required if any to implement successful energy efficiency project.
- (v.) Recommendations for replacing and retrofitting identified inefficient fixtures, and calculations of projected benefits.
- (vi.) Suggestions for improvements to operating and maintenance practices.
- (vii.) Financial details on the investment required, including materials and potential service providers, expected savings, and payback period.
- (viii.) A list of the energy efficiency measures prioritized according to the highest rate of return on investment and organized into short, medium and long term categories (Payback periods for long term measures should be three years or less.)
- (ix.) A review of any existing metering and billing system and suggestions for a new or improved one.
- (x.) A risk analysis, technical & financial, including the mechanisms that need to be put in place to manage and control risks.
- (xi.) A suggested Monitoring and Verification (M & V) plan
- (xii.) Conduct monitoring and evaluation of savings from pilot project implemented by ULB (covering around 350-400 lamps) based on investment grade energy audit report submitted by energy auditing firm.

1.7. Organization Structure for Lighting Department of JMC

At Jabalpur Municipal Corporation, street lighting & High Mast system is divided in total 5 divisions viz. East, West, Vijaynagar, North, South, which are further divided into 10 zones. These 10 zones are further divided into total 70 no of wards & 71 nos, MPKVCL feeders with approx. 323 no of switching points for Making Street lights & High mast ON & OFF.

At Jabalpur Municipal Corporation there is separate department for street lighting system. JMC street lighting department is headed by Executive Engineer who is assisted by a Assistant Engineer and a team of 7 Sub Engineers, 13 zone wise supervisors, 3 technicians & their administrative staff. The GMC street lighting is divided in five divisions which consist of 10 zones from maintenance point of view which is looked after by 13 supervisors under control of 5 Sub-engineer who controls and manages their respective division. Beside of this JMC has deputed private contractor for the maintenance of street lighting

Details of Division & Zone

Sr. No.	Name of Division	Name of Zone
1	East division	Indramarket
2	West division	Gorakhpur
		Mission Compound
3	Vijay Nagar Division	Vijay Nagar
4	South Division	Polipathar
		Purva
		Garha
		Bilhari
5	North Division	Ranjhi
		Adhartal

1.8. Approach And Methodology Adopted

As details of total number of switching points & there actual locations are not available with JMC, hence for identification of actual location of switching points, services of MPPKVCL personnel for their respective zones was availed & actual locations of switching points were identified.

After identification of switching point standard data collection sheet was prepared which includes pole no, Type of fixtures installed, type of pole, height of pole, mounting height of fixture, road width, name of road, traffic intensity, road category, etc.

Field trials for system mapping and measurements are carried out. Out of these trials different formats for data collections are finalized and same formats are shown to ULB Executive Engineer for their comments and approval. Methodology is also modified to incorporate field conditions like non availability of switching point wise pole/fixture record. Hence it is decided in consultation with ULB EE, that to confirm switching point wise poles, lights will be made ON during day time and switching point wise pole will be identified. Unique switching point no. will be marked on the poles.

Executive engineer has suggested to use the existing pole numbers while system mapping. According to him no new nomenclature should be done to street lighting poles as field staff is well acquainted with existing nomenclature.

To ascertain no. of poles / fixtures on particular switching point, lamp was made ON during day time and survey was carried out with JMC concerned staff /supervisor. To get prior permission, daily information of this survey was given to concerned officers of MPPKVCL for respective zones & MPPKVCL 24x7 customer care centre by telephonically, as there may be any repair work going on at some of poles.

At some of the metering points wires are burning /overheating which were creating problem during power measurements, such problems were attended through concerned maintenance team & switching point wise power measurements are carried out. At some of switching points power measurements cannot be taken due to site conditions like non-availability of neutral conductor, direct connections, etc.

ULB insisted for GPS based street light pole mapping. As most of the street lights are installed on MPPKVCL poles and their LT and HT city network is available on GPS map. GPS LT/HT network diagram was collected from MPPKVCL.

Data from handheld GPS tracker for approx. 6000 poles for which numbering is not done from MPEB side, are given to JMC GPS expert. They are working to make street light GPS network diagram using GPS LT/HT network diagram received from MPEB.

Lux measurements are carried out by standard nine point method wherever possible. As per the nine point method any two poles of street lights are selected and measurements are carried out. At some of the places scattered lighting arrangements are found, pole span is found more & lux measurements are not possible by standard method. In this conditions lux measurement methodology is modified & lux measurements are carried out. In this method lux level is measured under light fittings, middle of the road and both edges of the road, while taking lux measurements for both the side point of pole, 1.25 times height of mounting fixture is taken

Switching point wise billing record & service connection details are not available with JMC. Hence to get switching point wise energy consumption & energy charges, consultation with zonal DE & RSM departments of respective zones has been carried out. Billing data was collected from MPPKVCL different division & zonal offices.

After collection of billing data matching of billing record with switching point has been carried out & following issues are found at many switching points; as there are problems like

- 1) Non availability of switching point wise service connection numbers
- 2) Not matching of address in bill, with actual switching point location
- 3) Absence of energy meters
- 4) Not matching of meter no in bill, with meters at site

Hence summary data sheet was prepared & submitted to JMC for clearance for East, West, North, South & Vijay Nagar divisions. Out of 323 switching points for which summary data sheet was prepared, billing data for 302 switching points are cleared.

As there is no list of road with specified category with JMC, road classification has been carried out as per IS Standard 1944 in consultation with ULB officers.

2. JMC Street Lighting System

2.1. Overview & Analysis of Existing Systems

❖ Types of Fixtures

Jabalpur Municipal Corporation, street lighting system divided in 5 divisions, which is further divided in 10 zones and 72 wards. JMC street lighting consist of following type of luminaries

- Fluorescent Tube light 1 x 40 W
- HPSV 150 W
- HPSV 250 W
- Metal Halide 250 W
- Metal Halide 400 W
- CFL 2 x 36 W
- CFL85 W
- Incandescent Bulb 100 W
- LED 120 W

Total 323 nos. of switching point are identified for street lighting. All the switching points are operated manually by MPPKVVCL and maintain by JMC, excluding the switching points with central verge poles & high mast.

In JMC total 26126 Street Lights are present on 22699 poles. Field Study, Data collection & Measurements were done for the same. Identification & tabulation of fixtures have been done according to Zones and Switching Points.

❖ Types of Poles

At Jabalpur Municipal Corporation, there are some of the streets & having dedicated poles for Street lighting fixtures which are centrally located. In other area of JMC lighting fixtures are installed on HT/LT line distribution poles. Details of type of poles installed & height of pole are tabulated as under:-

Sr. No.	Pole Type	Height in Mtr.
1	Steel Tubular Pole	7 to 9
2	Octagonal Poles	9 &10
3	Rail Pole (MPPKVVCL)	11
4	H Beam (MPPKVVCL)	11
5	R.S Joist (MPPKVVCL)	9.3
6	RCC	6 & 7

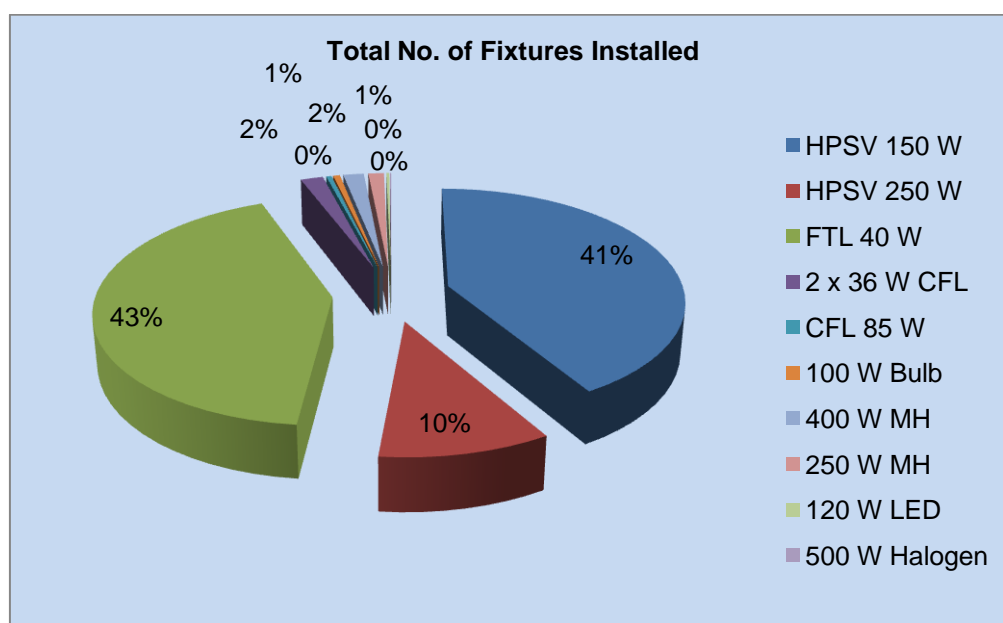
2.2. Street Lighting Inventory Survey

Switching point wise Field study, measurements & data collection has been carried out for type of fixtures installed, wattage of fixtures & number of fixtures installed. Total 26126 fixtures are installed at street lights & high mast. Switching point wise inventory data is given in Annexure-A. Following table shows the details of the type of fixtures installed & there percentage contribution in total number of fixtures for street lighting & highmast.

Type of Fixtures	Total No. Fixtures	Contribution of Type of Fixtures in Total no. of Fixtures in percentage
HPSV 150 W	10830	41.45
HPSV 250 W	2657	10.17
FTL 40 W	11101	42.49
2 x 36 W CFL	460	1.76
CFL 85 W	110	0.42
100 W Bulb	139	0.53
400 W MH	419	1.60
250 W MH	320	1.22
120 W LED	62	0.24
500 W Halogen	28	0.11
Total	26126	100

Following figure shows the percentage share of each type of lighting fixture in the total number of fixtures installed:

Figure: Total Number of Lighting Fixtures Installed



- **Observations:**

1. 40 W FTL's are the highest in number which is 11101 i.e. 42.49% of the total installed fixtures.
2. Second highest numbers are of 150 W HPSV which is 41.45% of the total i.e. 10830.

Following table shows the type of fixture installed & their wattage including ballast losses wherever applicable.

Type of Fixtures	Consumption with ballast losses in W
HPSV 150 W	176
HPSV 250 W	282
FTL 40 W	52
2 x 36 W CFL	72
CFL 85 W	85
100 W Bulb	100
400 W MH	442
250 W MH	282
120 W LED	120
500 W Halogen	500

Above wattage are considered for calculation of switching point wise installed load

2.3. Zone wise Installed Load kW

Field study is carried to get Zone wise installed numbers of poles, number of fixtures & installed load and status of fixtures whether working or not working and details are tabulated as under:-

Sr. No	Name of Zone	No of Poles	HPSV 150 W		Total HPSV 150 W Fittings Installed	HPSV 250 W		Total HPSV 250 W Fittings Installed	FTL 40 W		Total FTL 40 W Fittings Installed	2 x 36 W CFL		Total 2 x 36 W CFL Fittings Installed	CFL 85 W		Total 85 W CFL Fittings Installed	100 W Bulb		Total 100 W Bulb Installed	400 W MH		Total 400 W MH Installed	250 W MH		Total 250 W MH Installed	120 W LED		Total 120 W LED Installed	500 W Halogen		Total 500 W Halogen Installed	Installed Load in kW				
			W	NW		W	NW		W	NW		W	NW		W	NW		W	NW		W	NW		W	NW		W	NW		W	NW			W	NW	W	NW
1	Aadhartal	1871	615	50	665	80	7	87	909	265	1174	59	10	69	1	0	1	26	1	27			0			0										218.33	
	High Mast																					0	18	18			0										
2	Bilhari Zone	406	185	15	200	2	0	2	156	52	208	8	2	10	7	2	9	5	0	5			0			0										48.57	
	High Mast																					0	4	4			4										
3	Gorakhpur Zone	1866	965	72	1037	410	5	415	480	95	575	39	4	43	9	0	9	15	0	15	6	1	7			0	15	0	15	4	2	6			372.65		
	High Mast																				18	0	18	50	28	78											
4	Mission Compound Zone	2407	1457	150	1607	444	19	463	519	132	651	24	6	30	2	3	5	6	4	10	7	1	8			0	46	1	47	3	0	3			499.65		
	High Mast																				38	10	48	54	6	60											
5	Polypathar Zone	1607	520	73	593	11	0	11	818	120	938	62	8	70				15	1	16	3	0	3			0						1	0	1		208.03	
	High Mast																				82	16	98	18	0	18											
6	Ranjhi Zone	1502	730	45	775	14	0	14	678	178	856	23	2	25	28	3	31	11	1	12			0			0										215.83	
	High Mast																				38	4	42	16	8	24											
7	Vijay Nagar Zone	3523	1139	161	1300	641	33	674	1402	460	1862	40	12	52	19	3	22	9	0	9	4	0	4			0					4	0	4			557.11	
	High Mast																				16	20	36	30	24	54											
8	Puna Zone	1893	345	66	411	330	35	365	873	403	1276	33	4	37	1	0	1	5	1	6			0			0										274.89	
	High Mast																				36	10	46	34	0	34											
9	Indramarket Zone	4911	2790	189	2979	408	35	443	1636	517	2153	77	12	89	27	5	32	29	3	32	7	0	7			0						12	2	14		828.24	
	High Mast																				58	20	78	20	16	36											
10	Garha Zone	2664	1164	99	1263	171	12	183	1131	277	1408	31	4	35				7	0	7	6	0	6			0										356.37	
	High Mast																				0	0	0	10	2	12											
Total		22696	9910	920	10830	2511	146	2657	8602	2499	11101	396	64	460	94	16	110	128	11	139	319	100	419	236	84	320	61	1	62	24	4	28			3580		

Following table shows the details of working and non working fixtures and percentage of working fixtures for street lighting & high mast. At the time of field study

Type of lamps	Total No. Fixture	Working	Not Working	Percentage of fixture Working
HPSV 150 W	10830	9910	920	92
HPSV 250 W	2657	2511	146	95
FTL 40 W	11101	8602	2499	77
2 x 36 W CFL	460	396	64	86
CFL 85 W	110	94	16	85
100 W Bulb	139	128	11	92
400 W MH	419	319	100	76
250 W MH	320	236	84	74
120 W LED	62	61	1	98
500 W Halogen	28	24	4	86
Total	26126	22281	3845	85

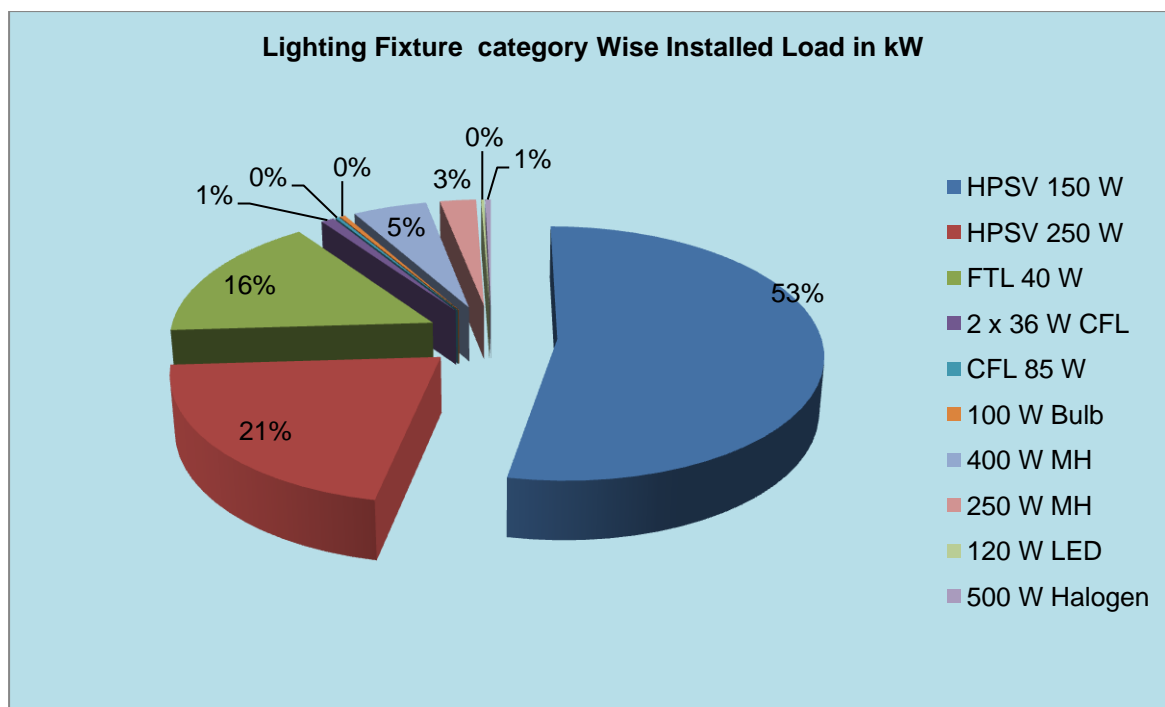
Total installed load of all the switching points at JMC is 3586 kW. Following table shows the fixture category wise installed kW.

Table: Category Wise Installed Load of Street Light in JMC

Type of Fixtures	Installed Load in kW	Percentage Contribution of Type of Fixtures in Total Installed Load.
HPSV 150 W	1906	53.156
HPSV 250 W	749	20.895
FTL 40 W	577	16.098
2 x 36 W CFL	33	0.9236
CFL 85 W	9	0.2607
100 W Bulb	14	0.3876
400 W MH	185	5.1647
250 W MH	90	2.5166
120 W LED	7	0.2075
500 W Halogen	14	0.3904
Total	3586	100

Following figure shows the percentage share of each type of fixture category in the total installed load:

Figure: Lighting Fixture Category wise Installed kW



Observations:

1. 150 W sodium vapour lamps have the highest installed load i.e. 1906 kW which is 53.15 % of the total installed load.
2. The second highest in the installed load is the 250 W sodium vapour lamps. It has an installed load of 749 kW i.e. 20.89% of the total installed load.
3. 120 W LED lamps have the lowest installed load i.e., 7 kW, which is 0.21% of the total installed load.

2.4. Maintenance and Replacement Trends

Maintenance and replacement trends for street lighting for last three years in terms of numbers of lamps, Starters, Igniters, Holders replaced, quantity of wires used & Maintenance Expenses, Labour Work Expenses, Salary of Employees, Driver & Diesel Expenses are provided.

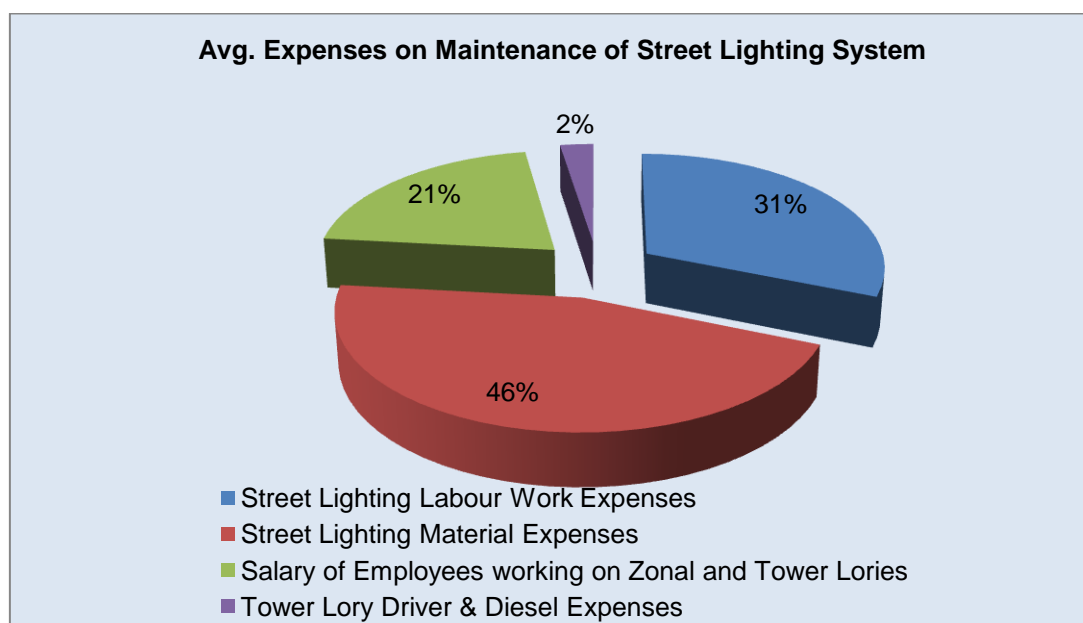
Maintenance & Replacement Cost:

Table: Maintenance & Replacement details

Details of Expenses on Maintenance of Street Lighting Work						
Sr. No.	Particular	Year			Amount In Rs.	Average Amt. in Rs.
		2010-2011	2011-2012	2012-2013		
1	Street Lighting Labour Work Expenses	4520351	5566861	5915190	16002402	5334134
2	Street Lighting Material Expenses	6646553	6295981	10472510	23415044	7805015
3	Salary of Employees working on Zonal and Tower Lorries	3161067	3566512	3955621	10683200	3561067
4	Tower Lorry Driver & Diesel Expenses	342651	426580	526769	1296000	432000
Total		14670622	15855934	20870090	51396646	

Percentage Break-up of Maintenance Cost of Street Light System.

Annual maintenance expenses on different head is shown in following pie diagram



Year wise Annual maintenance expenses on street light system is shown in following bar chart.

Year wise Expenses on Maintenance of Street Light work

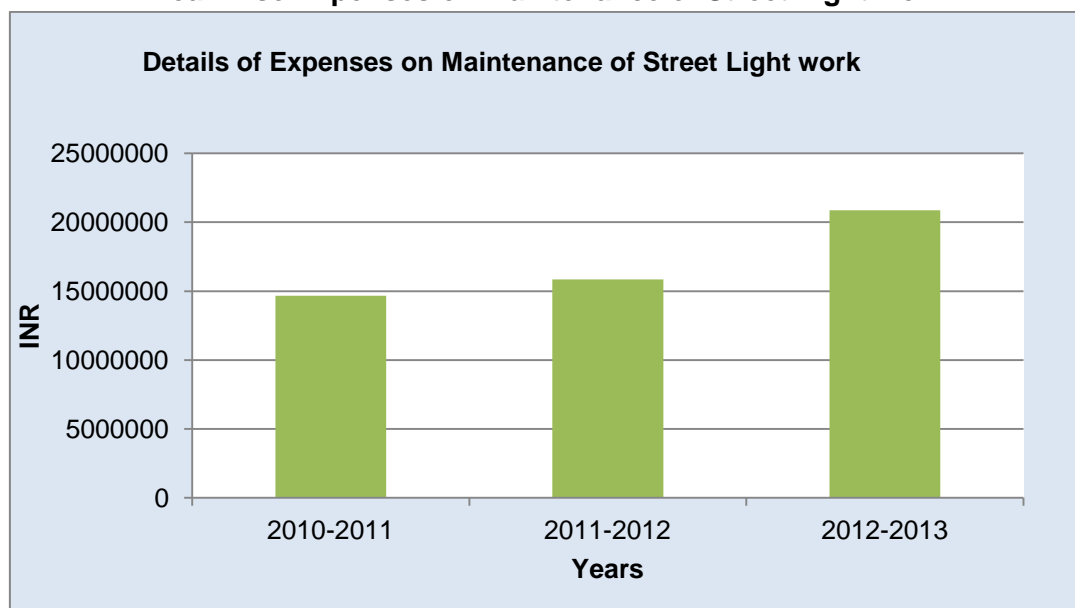


Table: Replacement Expenses details for street lighting maintenance

Sr. No	Particular	Year 2010-2011		Year 2011-2012		Year 2012-2013	
		Quantity	Amount in Rs.	Quantity	Amount in Rs.	Quantity	Amount in Rs.
1	Tube Light 40 W	37500	1425000	30000	1260000	32500	1355000
2	Starter	28000	193200	30000	270000	29000	261000
3	Tube Light Choke 40 W	6500	552500	5100	622200	5200	634400
4	Sodium Bulb 150 W	4650	1255500	1708	666120	4300	1612500
5	Sodium Bulb 250 W	650	204750	701	297925	1246	529550
6	Sodium Choke 150W	2000	1132000	1110	1276500	1990	2288500
7	Sodium Choke 250 W	525	457800	332	597600	690	1242000
8	Sodium Choke 400 W	100	129500	100	335000	60	186000
9	M.H. Bulb 250 W	375	243000	50	49500	354	350460
10	M.H. Bulb 400 W	325	219375	178	172660	300	291000
11	Igniter	4400	330000	2482	446760	4515	903000
12	Wire 2.5 sq.mm (Per Roll)	720	157680	289	69360	1100	264000
13	Wire 4 sq.mm (Per Roll)	490	129850	350	98000	920	257600
14	Wire 6 sq.mm (Per Roll)	235	75200	146	51100	470	164500
15	Tube Holder	12733	76398	10876	65256	10000	60000
16	Sodium Holder	900	64800	200	18000	700	63000
Total			6646553		6295981		10462510

Fixture wise Replacement Expenses for street light & high mast maintenance

Particular	Expenses in Rs. 2010-2011	Expenses in Rs. 2010-2012	Expenses in Rs. 2010-2013	Expenses in Rs. Avg.
Tube Light	2247098	2217456	2310400	2258318
HPSV 150W	2387500	1942620	3901000	2743707
HPSV/MH 250W	970350	963025	2185010	1372795
MH 400W	219375	172660	291000	227678
Other	692730	665220	1589100	982350

Luminaries wise Avg. Expenses on Material Cost of Street Lighting System Maintenance

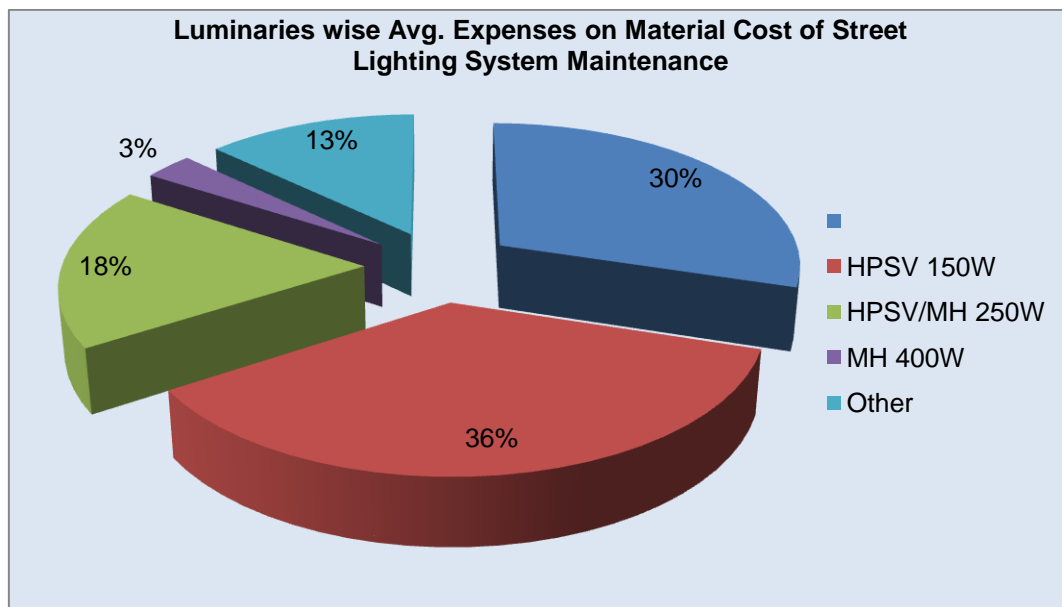


Table: Details of Percentage Failure of Lamps & Chokes

Sr. No	Particular	Year 2010-2011			Year 2011-2012			Year 2012-2013		
		Qty.	Total	Percentage Failure	Qty.	Total	Percentage Failure	Qty.	Total	Percentage Failure
1	Tube Light 40 W	37500	11101	337.81	30000	11101	270.25	32500	11101	292.77
2	Starter	28000	11101	252.23	30000	11101	270.25	29000	11101	261.24
3	Tube Light Choke 40 W	6500	11101	58.55	5100	11101	45.94	5200	11101	46.84
4	Sodium Bulb 150 W	4650	10830	42.94	1708	10830	15.77	4300	10830	39.70
5	Sodium Bulb 250 W	650	2657	24.46	701	2657	26.38	1246	2657	46.89
6	Sodium Choke 150W	2000	10830	18.47	1110	10830	10.25	1990	10830	18.37
7	HPSV/MH Choke 250 W	525	2657	19.76	332	2657	12.50	690	2657	25.97
8	HPSV/MH Choke 400 W	100	385	25.97	100	385	26.0	60	385	15.6
9	M.H. Bulb 250 W	375	300	125.00	50	300	16.67	354	300	118.00
10	M.H. Bulb 400 W	325	385	84.42	178	385	46.23	300	385	77.92
11	Igniter	4400	14172	31.05	2482	14172	17.51	4515	14172	31.86

From above table it is clear that failure rates of lighting fixtures component is more considering their standard life, this may be due to

1. Voltage variation and high voltage after midnight &
2. Improper switching & supply sources

In proposed automation panels these problems are addressed by providing arrangement for voltage regulation and proper switching devices.

2.5. O & M Practices at JMC:

At Jabalpur Municipal Corporation most of the street lights are operated manually by MPPKVCL. For manual operation of street lighting MPPKVCL has depute 2-3 tower vehicles per zone as per the requirement & size of the zone. Each tower vehicle consists of 2-3 people including driver. During operation of street lighting MPPKVCL staff has to solve the complaints for that area. Details of zone wise deputed vehicles & manpower their on are tabulated

Sr. No.	Zone Name	No of Vehicle for Street Lighting Operation	No of Manpower Deputed for Street Lighting Operation
1	Indramarket Zone	3	9
2	Mission Compound Zone & Damoh Naka Zone	1+1	2+2
3	Gorakhpur Zone	1	2
4	Ranjhi Zone	2	6
5	Aadhartal Zone	2	6
6	Garha Zone	3	9

7	Purva Zone	2	4
8	Polypathar Zone	2	6
9	Bilhari Zone	1	2
10	Vijay Nagar Zone	2	6
Total		20	54

JMC has 3 tower vehicles dedicated for maintenance purpose, out of which one is hydraulic tower vehicle & other two are simple tower vehicles. At JMC, Street lighting maintenance for central verge poles is being carried out by JMC technicians through 3 tower vehicles. Photographs of tower vehicles are given below.



At JMC, supervisors get complaints regarding street lighting problems from corporator or general public. The complaints are being attended by the private contractor under the supervision of the supervisor. Supervisors get required material for repair & replacement from JMC street lighting department and issue them to maintenance team of private contractor. The private maintenance team comprises of a line man and an assistant line man under each zone.

2.6. Electrical Distribution network

The connection for each street lighting switching point is tapped from overhead LT line which is running on distribution poles of MPPKVVCL. The MPPKVVCL has made provision of separate AAC conductors dedicated for street light distribution along with 3 phase 4 wire LT distribution network, individual phase runs with LT distribution network of 3 phase 4 wire along with different roads i.e. the LT distribution system is 3 Phase 5 wire with one wire for street light, neutral conductor is common for street light system and other LT distribution network.

The switching point for street light is located below pole mounted distribution transformer or on street lighting pole.

For central lighting power supply is given to street light using 4x16 sq. mm. aluminium conductor armoured cable. Supply is loop from one pole to another through street light junction box.

2.7. Observations & Modifications in Existing Street Lighting Facilities

At Jabalpur Municipal Corporation switching point wise field study & measurements are carried out. Following are the observations

1. No dedicated Street light poles are installed for street lighting at all the places excluding central verge poles. The fixtures are mounted on the HT/LT line poles of MPPKVVCL.
2. Meters were not found at 102 switching points out of 323 switching points.
3. At 17 switching points meters were found defective out of 323 switching points.
4. At 2 nos switching points (area with group of directly connected fixtures) fixtures were connected directly to service connection line
5. street lighting switching point electrical protection is in very bad condition i.e. No electrical protection devices i.e. fuse, MCB etc are provided at many switching points & many other switching points, they are not in healthy condition. Many switching points are having broken fuse kitkat or not having fuse grips. At some of the switching points, fuses are bypassed using thick conductors.
6. At some switching points live conductors/terminals are exposed at easily approachable heights and may lead to fatal accidents
7. Covers of the fixtures are not available at most of the fixtures.
8. Most of the switching points are manually operated.
9. At some switching points On & OFF for Street lights are made directly by clamping open wire / cable to defective Fuse switch unit contact or another wire /Cable & opened loose conductors. Such type of switching is very unsafe if some fault is there in connected circuit.
10. At some of the switching points MCB/Fuse grips are open and exposed to atmosphere, no weather protection is provided.

11. At some of the switching points, switch disconnectors or SFU are provided and at some of the switching points street lights are made ON & OFF by clamping/inserting loose flexible wires/ cables/bare conductor into fuse grips/terminals.
12. Switching point panel enclosures are found rusted & damaged at many of the places, wide openings & unplugged holes are there, hence there is possibility of entry of mice, lizards into panel.
13. At some the switching point's voltage was found on higher side compared to rated voltage.
14. At JMC main roads with central verge poles & high mast lamps are operated mostly by time switches & contactor arrangements. Rest of the street lights are operated manually by MPEB staff, they may not switch ON & OFF timely as they attend customer complaints during this period. Due to which operating hours of street lights are get prolonged.
15. Overheating is found in outgoing cables at many of the places.
16. At some places it is found that, street lights are operated directly for 24 hours Solah No. Quarter, Thakkargram Indramarket Zone & Bhawani Chowk, Indramarket zone.
17. At some the switching points, voltage is found on higher side compared to rated voltage upto 11%, Due to which there is increase in energy consumption & more failure of Lamps & ballasts.
18. There is wide variation in connected load at switching points some of the switching points are found with low connected load like 0.6 kW or too high connected load like 60 kW.
19. JMC not availing incentives provided by MPEB for Power Factor Correction i. e. upto 10% discount in Energy charges. And 5% incentive for automatic on & off arrangement for street lights and 1% discount of advance payment.
20. At some of the switching points, measured load is much more than connected load, pointing to some misuse of street light supply.
21. Single point switching is provided at some poles, which is switched ON & OFF by general public from that area. This may lead to 24 hours ON lamps.
22. Earthing connections are not provided at most of the switching points.

Field photographs showing the actual condition of switching point is given in Annexure-B

Hence to implement energy efficiency project successfully some modifications in existing street lighting facility can be done. Following are the modifications proposed to be done in existing street lighting system for proper implementation of energy efficiency project

- It is suggested to convert direct connected fixture to proper metering and switching point, to avoid wastage of energy and resolve the billing issue.
- It is suggested to combine the switching points with very less connected load and to divide switching points with more installed load into proper size , due to

this number of switching points will decrease and it will improve O & M of street light system.

- For safe & timely operation of street lighting, to reduce energy consumption due to high voltage, to improve operational efficiency it is suggested to install Centralized Street Lighting Monitoring & Control System through Automation Panel.
- Centralizing monitoring will help to avoid misuse, theft, improper billing issues at switching points.

2.8. Interaction with E-Governance

During energy audit, meeting with e-governance cell has been carried out. According to them, to prepare street lighting network diagram in GPS form, it is important to collect the co-ordinates of all the street lighting poles. As per JMC GPS expert, to maintain switching point wise street lighting record, switching point wise specific code should be given to link the further data. As most of the street lights are fixed on MPPKVVCL LT/HT poles, street lighting GPS network diagram available with MPPKVVCL in dwg format has been collected in co-ordination with JMC and handover to JMC e-governance cell. For other poles, which are not covered in MPEB network diagram, co-ordinates are taken through hand-held GPS tracker and data is handover to JMC GPS expert. They are working to make street light GPS network diagram. JMC e-governance cell has given a format to link pole wise data, like switching point name, pole no, type of pole, road width, height of pole, name of area, name of road, type of road, traffic on road, category of road. This data is being submitted to them in their required format.

3. Electricity Bill Analysis

3.1. Electricity Tariff

Following tariff is applicable for street lighting in Jabalpur Municipal Corporation

Tariff Schedule – LV-3 for Street Lighting (for the FY 2013-14)

he tariff **LV-3.2** is applicable to traffic signals and lighting of public streets or public places including parks, town halls, monuments and its institutions, museums, public toilets, public libraries, reading rooms run by the Government or Local Bodies, and Sulabh Shochalaya.

Tariff- LV 3.2 Street light:

Category of consumers/area of applicability	Energy Charge (Paise per unit)	Monthly Fixed Charge (Rs. per kW)	Minimum Charges (Rs.)
Municipal Corporation/ Cantonment board	380	235	No Minimum Charges
Municipality/ Nagar Panchayat	375	210	
Gram Panchayat	375	50	

Specific Terms and Conditions for LV-3 category:

(a) Incentives for adopting Demand Side Management:

An **incentive** equal to 5 % of Energy Charges shall be given on installation and use of energy saving devices (such as ISI energy efficient motors for pump sets and programmable on-off/ dimmer switch with automation for street lights). **Incentive** will be admissible only if full bill is paid within due dates failing which all consumed units will be charged at normal rates. Such incentive will be admissible from the month following the month in which energy saving devices are put to use and are verified by a person authorized by the Distribution Licensee. This incentive will continue to be allowed till such time these energy saving devices remain in service. The Distribution Licensee is required to arrange wide publicity of above incentive.

Power Factor Incentive:

If the average monthly power factor of the consumer is equal to or more than 85%, incentive shall be payable as follows:

Power Factor	Percentage incentive payable on billed energy charges
Above 85% up to 86%	0.5
Above 86% up to 87%	1.0
Above 87% up to 88%	1.5
Above 88% up to 89%	2.0
Above 89% up to 90%	2.5
Above 90% up to 91%	3.0
Above 91% up to 92%	3.5
Above 92% up to 93%	4.0
Above 93% up to 94%	4.5
Above 94% up to 95%	5.0
Above 95% up to 96%	6.0
Above 96% up to 97%	7.0
Above 97% up to 98%	8.0
Above 98% up to 99%	9.0
Above 99%	10.0

❑ **Power Factor Surcharge:**

- a. Surcharge @ 1 % of energy charges for every 1% fall in power factor below 80% up to 75 %.
- b. Surcharge of 5% plus 1.25% of energy charges for every 1% fall in power factor below 75% up to 70%.

The maximum limit of surcharge will be 10 % of the energy charges billed during the month

❑ **Other Incentive**

- (a) For **advance payment** made before commencement of consumption period for which bill is prepared, a rebate of 1 % per month on the amount (excluding security deposit) which remains with the Distribution Licensee at the end of calendar month shall be credited to the account of the consumer after adjusting any amount payable to the Distribution Licensee.
- (b) **Incentive for prompt payment:** An incentive for prompt payment @0.25% of the bill amount (excluding Electricity Duty and Cess) shall be given in case the payment is made at least 7 days in advance of the due date of payment where the current month billing amount is equal to or greater than Rs. One Lakh. The consumers in arrears shall not be entitled for this incentive.

Billing record from MPPKVVCL for unit consumption & billing amount for last 2 years for 302 number of switching points are collected. Switching point wise billing summary for last two years are given Annexure-C

3.2. Observations on MPPKVVCL Billing For JMC Street lighting System JMC

1. Annual unit consumption of JMC according to MPEB Billing record is approx. 2,67,99,813 kWh & costing approx. Rs. 11,91,82,289/- per annum.
2. There is a provision of 5 % incentive on provision of time switch with automatic On & Off of street light, according to the tariff of the year 2012-13 & 2013-14, but no incentive is received for switching point having time switch.
3. There is a provision of incentive and a penalty over power factor according to the tariff of the year 2013-14, but no incentive is found in bill having power factor above 0.85
4. In bill for some of the metering point, power factor is found very low, in the range of 0.54 to 0.80 & penalty upto 10% has been charged.
5. During bill analysis it found that average billing is done for some of the metering points.
6. Wide variation is found in monthly consumption for some of the metering points
 - ✓ All the switching points for which billing analysis is done, are reviewed for metering system and it is found that Billing data is confirmed for 302 switching points. Zone wise billing record summary sheets are given in Annexure-XII.
 - ✓ For 21 nos switching points, MPEB is not issuing electricity bills.
 - ✓ Energy meters are found at 221 nos of switching points
 - ✓ Energy meters are not found at 102 nos of switching points
7. Billing data for last two year for Energy Charges & consumption is collected from MPPKVVCL. They have provided switching point wise billing passbook record from RSM department. This data is analyzed for switching points for which service connection numbers are found clearly. During bill analysis it is found that,
 - Most of switching points are billed on average basis
 - At some switching points sanctioned load less than the actual load
 - Sanctioned load of switching point is more than the actual load at most of the switching point
Hence excess monthly fixed charges & energy charges are being paid by JMC.
8. As per MPPKVVCL tariff order consumer can availed 1% discount for advance bill payment, which is not being availed by JMC. Possibility to get 1% advanced payment discount should be explored

3.3. Baseline Period, Energy Consumption, and status of other Baseline Parameters

Switching point wise study is carried out in JMC and 323 nos of switching points were found for street light & highmast. 265 switching points are operated manually by MPPKVVL & remaining 58 switching points are operated by time switch.

The total 26126 lighting fixtures are installed on 22699 numbers of poles with connected load of 3586 kW.

To prepare the realistic baseline for Energy Consumption, Baseline consumption is considered from installed load and additional 9% consumption due to higher voltage, compared to rated voltage. Details for additional 9% consumption is given in chapter-4

- Estimate of operating hours

The normal desired operating hours of the street light switching point are

Summer working hours (7 PM to 5.30 PM) - 10.5 hours

Monsoon working hours (6.30 PM to 6 AM) – 11.5 hours

Winter working hours (6 AM to 6 PM) - 12hours

Average working hours - 11.33 hours

Hence the desired average operating hours of the street light switching point is 11.33 hours throughout the year. But due to the switching ON-OFF mechanism of the street lighting is manual. Also, they are operating by electricity board people, who are not of user department. They are also attending customer complaints during their round to switch ON the street lights hence on an average, there is near about 40 minutes extra operations of street lights. By taking this point in consideration the total operating hours per day is taken as the 12 hours per day for manual on/off of switching points. On that basis annual operating hours is taken as follows

Annual Operating_Hours_SL = 12 (hrs per day) * 365 (days per year) = 4380 hrs

To analyze the unit consumption pattern, annual unit consumption is estimated according to installed load with additional consumption due to high voltage, annual unit consumption with measured load at switching point after applying proper corrections for burnt fixtures consumption and this consumptions are compared with billing units from MPPKVVL passbook record. Switching point wise energy consumption as per installed Measured & MPPKVVL billing unit details are given in Annexure-I. Zone wise summary for above consumption is tabulated as under

Summary of Installed, Measured & Billing Unit Consumption				
Sr. No	Name of Zone	Annual Unit Consumption As per Installed Load in kWh for 323 Switching Points	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh for 309 Switching Points	Annual Unit Consumption as per MPPKVVCL Billing Unit in kWh for 302 Switching Points
1	Polipathar	786712	961687	3136085
2	Bilhari	231859	214297	723966
3	Ranjhi	911142	761220	2813414
4	Garha	1685207	1719909	3582298
5	Indramarket	3741101	3466483	3782416
6	Mission Compound	2203346	1824069	1649374
7	Gorakhpur	1636104	1435374	1183270
8	Purva	1161854	1224789	1368525
9	Aadhartal	1004372	771642	3450999
10	Vijaynagar	2498998	2087360	4012169
11	Highmast	1241139	855145	1097298
	Total	17101834	15321977	26799813

□ From the above table it is clear that,

- Annual Unit Consumption as per Installed Load for **323** Switching Points is **17101834 kWh**
- Annual Unit Consumption as per corrected Measured Load Considering Total Fixtures are working for **309** Switching Points is **15321977 kWh**
- Annual Unit Consumption as per MPPKVVCL Billing Unit for **302** Switching Points is **26799813 kWh**

To analyze the unit consumption pattern 302 nos switching points for which billing data is available, annual unit consumption is estimated according to installed load with additional consumption due to high voltage, annual unit consumption with measured load at switching point after applying proper corrections for burnt fixtures consumption and higher value from these two consumptions is compared with MPPKVCL billing units and excess billing units are calculated. Switching point wise energy consumption as per installed, Measured & MPPKVCL billing unit & excess billing units details are given in Annexure-II. Zone wise summary for above is tabulated as under

Energy Consumption Summary for 302 Switching Points

Summary of Installed, Measured & Billing Unit Consumption for 302 Nos of Switching Point							
Sr.No	Name of Zone	Annual Unit Consumption As per Installed Load in kWh for 302 Switching Points	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh for 302 Switching Points	Units Considered for calculating excess billing	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh for 302 Switching Points	Excess Billing Unit in kWh per annum	Excess Energy Charges in Rs. Per annum
1	Polipathar	821200	961459	997195	3136085	2138890	8127784
2	Bilhari	221069	205924	224842	723966	499124	1896670
3	Ranjhi	949126	761220	932327	2813414	1881087	7148129
4	Garha	1626837	1674313	1801923	3582298	1780375	6765423
5	Indramarket	3580025	3333899	3716775	3782416	65641	249436
6	Mission Compound	2092193	1702944	2113698	1649374	-464324	-1764429
7	Gorakhpur	1636104	1435374	1683344	1183270	-500074	-1900281
8	Purva	1080072	1129565	1244242	1368525	124283	472275
9	Aadhartal	976147	741473	978884	3450999	2394706	9099884
10	Vijaynagar	2345345	1985039	2400526	4012169	1611643	6124242
11	Highmast	1165898	808183	1149288	1097298	27471	302911
Total		16494016	14739395	17243045	26799813	9558822	36522044

From the above table it is clear that billing unit consumption is found high compared to installed & corrected measured load consumption for **302** switching points, excess billing units are **9558822 kWh** resulting into excess energy charges of **Rs.3,65,22,044/-**

3.4. Switching Point Wise Metering Status

Switching point wise metering system is reviewed and it is given in Annexure-III. Zone wise summary data for metering system is tabulated as under

Table – Summary of Metering System

Sr. no.	Zone Name	Meter Found (No.)	Meter Not Found (No.)	Total No of Switching Point	Meter Defective (No.)
1	Polypathar Zone	27	4	32	2
2	Bilhari Zone	4	7	11	1
3	Ranjhi	12	5	16	0
4	Garha	27	10	37	0
5	Indramarket	34	6	40	5
6	Mission Compound	15	1	16	0
7	Gorakhpur	18	1	19	0
8	Purva zone	19	14	31	3
9	Aadhartal Zone	11	21	31	3
10	Vijay Nagar	26	18	44	3
11	High Mast	28	15	46	
Total		221	102	323	17

- From above table it is clear that,
- Meters are available at 221 number of switching point out of 323 switching points
 - Meters are not available at 102 nos of switching points out of 323 switching points.

4. Field Measurements & Analysis

4.1. Power Measurements

Switching point wise power measurements for different power parameters like Voltage, KW, Current, PF are carried out. Switching point wise power measurements are given in Annexure-E. Results for zone wise total measured kW is tabulated as under

Table- Zone wise Measured Load for 309 nos Switching Points

Sr. no.	Name of Zone.	Total Measured Load in kW of Street Light & High Mast	Total Corrected Measured Load Considering Total fixtures are working in kW Street Light & High Mast
1	Polipathar Zone	228.60	253.2
2	Bilhari Zone	43.33	48.9
3	Ranjhi Zone	167.70	188.5
4	Garha Zone	358.99	394.8
5	Indramarket Zone	741.22	819.9
6	Mission Compound Zone	400.34	443.5
7	Gorakhpur Zone	324.08	346.1
8	Purva Zone	294.40	339.4
9	Adhartal Zone	150.80	180.2
10	Vijay Nagar Zone	425.81	492.9
Total		3135	3507

❖ Observations on Power Measurements

- Power measurements are carried out and correction is applied corresponding to burn out fixtures, to compare the same with installed load.
- Corrected measured power is found high, compared to installed load at 90 switching points at the time of field study and at 51 nos switching points it is found high by more than 20%. This indicates some misuse or theft of electricity; hence these switching points need attention. List of these switching point is given in annexure-I
- Three phase supply is given but load is given on only two phases at most of the switching points
- Single phase supply is given at some of the switching points
- Load is found unbalanced at most of the switching points

- Voltage is found on higher side at some of the switching points
- Power factor is found low at most of the switching points

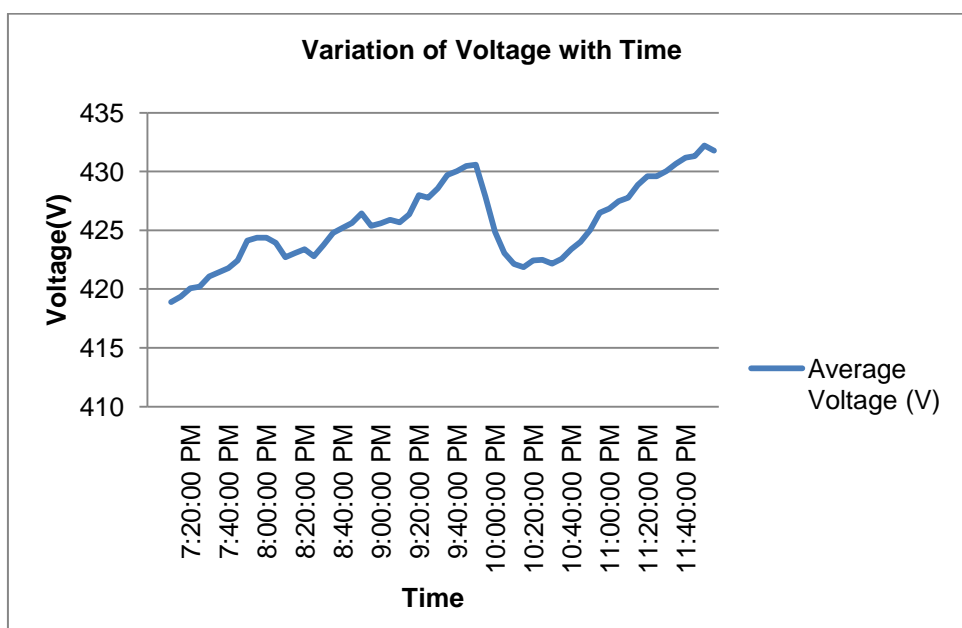
4.2 Voltage Measurements

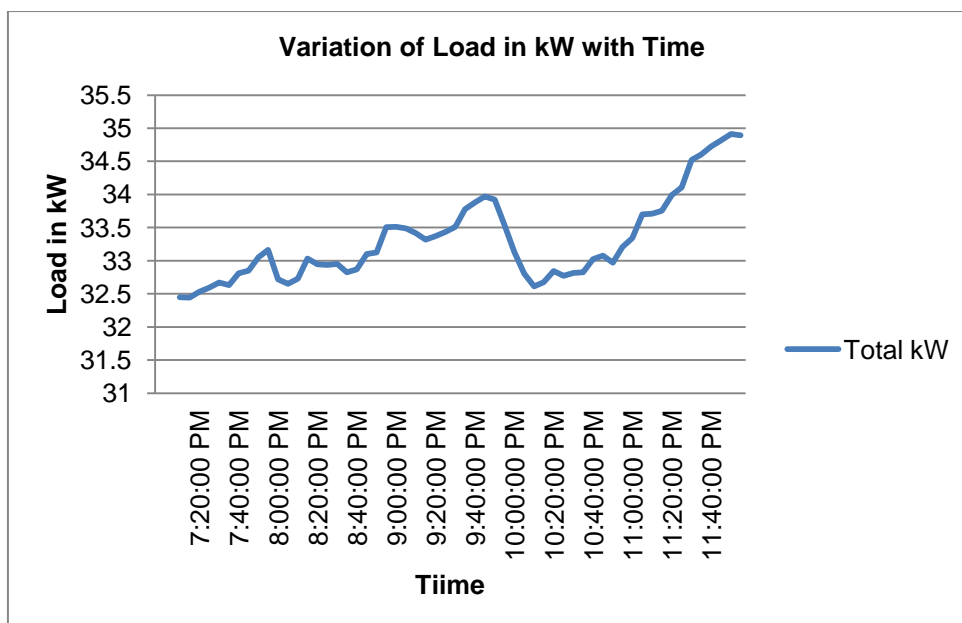
Voltage is found high at most of the switching points & high voltage results into increase in power consumption & failures of lamp & ballast. Hence data logging is carried out for measurement of different power parameters like voltage, current, kW, power factor, THD & individual harmonics at 9 nos switching points in different zones for complete night details of this measurements are given Annexure-IV. The desired voltage at switching point is considered as 235V in single phase and 407V in three phases and deviation from this voltage for different switching point is tabulated as under:

1. Study of Voltage Variation at Night for Golbazar Switching Point (Till Midnight)

Study for Voltage During Night Time							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
12/4/2013	7:10:00 PM	417.8	421.5	417.4	418.9	2.9	32.4
12/4/2013	7:15:00 PM	418.4	422	417.7	419.4	3.0	32.4
12/4/2013	7:20:00 PM	419.4	422.6	418.2	420.1	3.2	32.5
12/4/2013	7:25:00 PM	419.2	423	418.4	420.2	3.2	32.6
12/4/2013	7:30:00 PM	420.2	423.9	419.1	421.1	3.5	32.7
12/4/2013	7:35:00 PM	420.4	424.2	419.7	421.4	3.5	32.6
12/4/2013	7:40:00 PM	420.8	424.5	420	421.8	3.6	32.8
12/4/2013	7:45:00 PM	421.4	425.1	420.8	422.4	3.8	32.8
12/4/2013	7:50:00 PM	423.2	426.7	422.5	424.1	4.2	33.1
12/4/2013	7:55:00 PM	423.2	427.1	422.8	424.4	4.3	33.2
12/4/2013	8:00:00 PM	423.2	427.2	422.7	424.4	4.3	32.7
12/4/2013	8:05:00 PM	422.8	426.8	422.2	423.9	4.2	32.7
12/4/2013	8:10:00 PM	421.5	425.5	421.1	422.7	3.9	32.7
12/4/2013	8:15:00 PM	421.9	425.9	421.4	423.1	3.9	33.0
12/4/2013	8:20:00 PM	422.4	426.2	421.6	423.4	4.0	32.9
12/4/2013	8:25:00 PM	422	425.4	421	422.8	3.9	32.9
12/4/2013	8:30:00 PM	423.2	426.1	421.9	423.7	4.1	32.9
12/4/2013	8:35:00 PM	424	427.4	422.9	424.8	4.4	32.8
12/4/2013	8:40:00 PM	424.1	428	423.5	425.2	4.5	32.9
12/4/2013	8:45:00 PM	424.9	428.1	423.9	425.6	4.6	33.1
12/4/2013	8:50:00 PM	425.6	428.8	424.9	426.4	4.8	33.1
12/4/2013	8:55:00 PM	424.7	427.7	423.7	425.4	4.5	33.5
12/4/2013	9:00:00 PM	424.8	428.1	423.9	425.6	4.6	33.5
12/4/2013	9:05:00 PM	424.9	428.5	424.3	425.9	4.6	33.5
12/4/2013	9:10:00 PM	424.5	428.5	424	425.7	4.6	33.4
12/4/2013	9:15:00 PM	425.2	429.1	424.8	426.4	4.8	33.3
12/4/2013	9:20:00 PM	426.7	430.6	426.7	428.0	5.2	33.4
12/4/2013	9:25:00 PM	426.6	430.3	426.4	427.8	5.1	33.4

Study for Voltage During Night Time							
12/4/2013	9:30:00 PM	427.5	430.8	427.4	428.6	5.3	33.5
12/4/2013	9:35:00 PM	428.7	432	428.4	429.7	5.6	33.8
12/4/2013	9:40:00 PM	428.9	432.4	428.8	430.0	5.7	33.9
12/4/2013	9:45:00 PM	429.3	432.9	429.2	430.5	5.8	34.0
12/4/2013	9:50:00 PM	429.3	433.2	429.2	430.6	5.8	33.9
12/4/2013	9:55:00 PM	426.8	430.4	426.4	427.9	5.1	33.5
12/4/2013	10:00:00 PM	423.9	427.2	423.5	424.9	4.4	33.1
12/4/2013	10:05:00 PM	421.9	425.4	421.9	423.1	3.9	32.8
12/4/2013	10:10:00 PM	421.1	424.4	420.9	422.1	3.7	32.6
12/4/2013	10:15:00 PM	421.1	423.9	420.6	421.9	3.7	32.7
12/4/2013	10:20:00 PM	421.6	424.6	421.1	422.4	3.8	32.8
12/4/2013	10:25:00 PM	421.6	424.7	421.2	422.5	3.8	32.8
12/4/2013	10:30:00 PM	421	424.5	421	422.2	3.7	32.8
12/4/2013	10:35:00 PM	421.5	424.8	421.4	422.6	3.8	32.8
12/4/2013	10:40:00 PM	422.3	425.6	422.3	423.4	4.0	33.0
12/4/2013	10:45:00 PM	422.8	426.1	423.1	424.0	4.2	33.1
12/4/2013	10:50:00 PM	423.7	427	424.4	425.0	4.4	33.0
12/4/2013	10:55:00 PM	425.2	428.5	425.8	426.5	4.8	33.2
12/4/2013	11:00:00 PM	425.5	428.9	426.1	426.8	4.9	33.3
12/4/2013	11:05:00 PM	426.3	429.5	426.6	427.5	5.0	33.7
12/4/2013	11:10:00 PM	426.6	429.8	426.9	427.8	5.1	33.7
12/4/2013	11:15:00 PM	427.8	430.8	428	428.9	5.4	33.8
12/4/2013	11:20:00 PM	428.4	431.5	428.9	429.6	5.6	34.0
12/4/2013	11:25:00 PM	428.8	431.4	428.6	429.6	5.6	34.1
12/4/2013	11:30:00 PM	429.1	431.8	429.2	430.0	5.7	34.5
12/4/2013	11:35:00 PM	429.7	432.6	429.7	430.7	5.8	34.6
12/4/2013	11:40:00 PM	430.3	433	430.2	431.2	5.9	34.7
12/4/2013	11:45:00 PM	430.5	433	430.4	431.3	6.0	34.8
12/4/2013	11:50:00 PM	431.4	434	431.2	432.2	6.2	34.9
12/4/2013	11:55:00 PM	431	433.6	430.7	431.8	6.1	34.9
		424.4931	427.881	424.1483			
Average					425.5	4.5	33.3

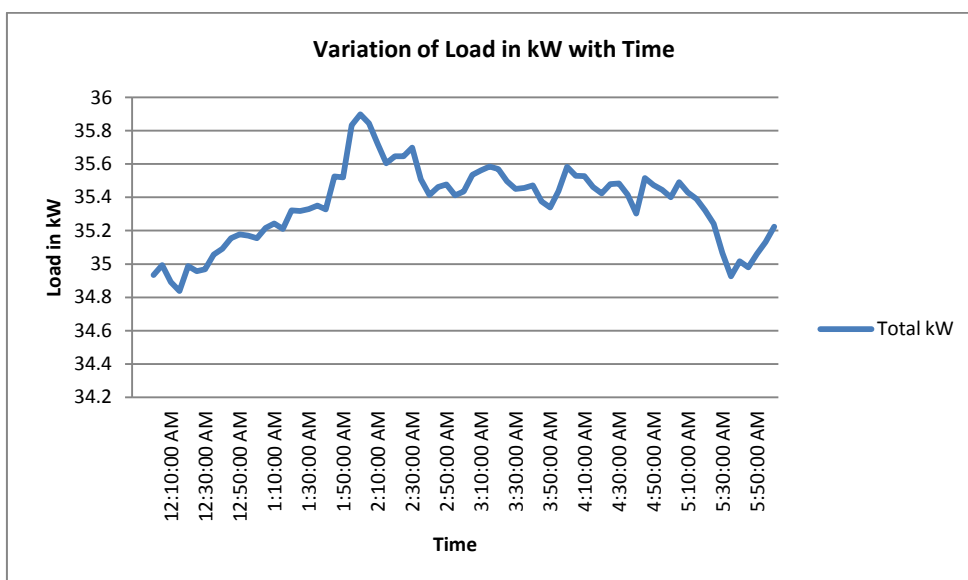
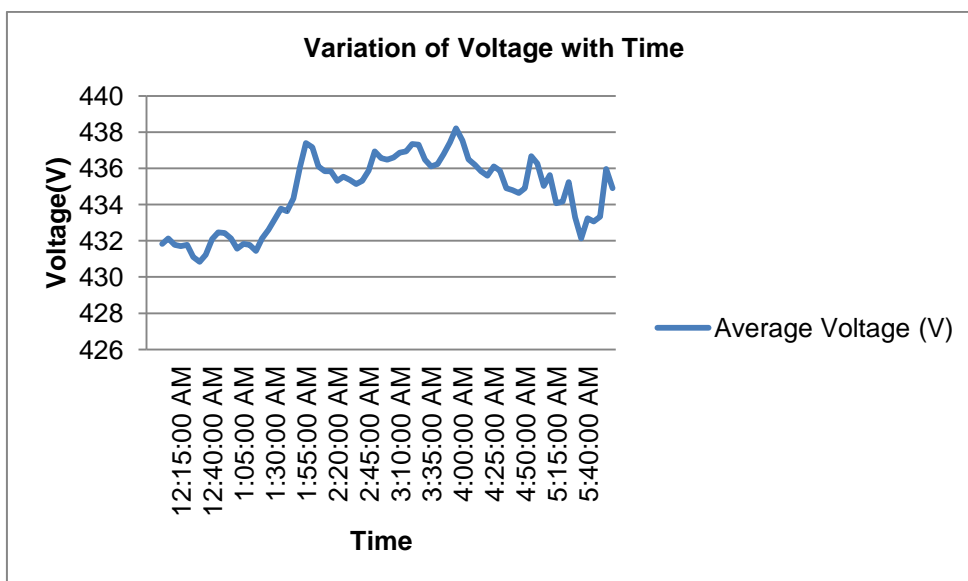




Study of Voltage Variation at Night for Golbazar Switching Point (After Midnight)

Study for Voltage After Midnight							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
12/5/2013	12:00:00 AM	431	433.7	430.8	431.8	6.1	34.9
12/5/2013	12:05:00 AM	431.4	434	431	432.1	6.2	35.0
12/5/2013	12:10:00 AM	430.7	433.8	430.8	431.8	6.1	34.9
12/5/2013	12:15:00 AM	430.7	433.7	430.7	431.7	6.1	34.8
12/5/2013	12:20:00 AM	430.8	433.6	430.9	431.8	6.1	35.0
12/5/2013	12:25:00 AM	430.2	433	430.1	431.1	5.9	35.0
12/5/2013	12:30:00 AM	430	432.5	430	430.8	5.9	35.0
12/5/2013	12:35:00 AM	430.5	433	430.2	431.2	6.0	35.1
12/5/2013	12:40:00 AM	431.4	433.7	431.2	432.1	6.2	35.1
12/5/2013	12:45:00 AM	431.6	434.3	431.5	432.5	6.3	35.2
12/5/2013	12:50:00 AM	431.7	434	431.6	432.4	6.2	35.2
12/5/2013	12:55:00 AM	431.4	433.7	431.3	432.1	6.2	35.2
12/5/2013	1:00:00 AM	430.8	433.1	430.8	431.6	6.0	35.2
12/5/2013	1:05:00 AM	431.3	433.4	430.8	431.8	6.1	35.2
12/5/2013	1:10:00 AM	431.2	433.4	430.7	431.8	6.1	35.2
12/5/2013	1:15:00 AM	430.8	433	430.5	431.4	6.0	35.2
12/5/2013	1:20:00 AM	431.5	433.8	431.1	432.1	6.2	35.3
12/5/2013	1:25:00 AM	432	434.1	431.7	432.6	6.3	35.3
12/5/2013	1:30:00 AM	432.4	434.9	432.2	433.2	6.4	35.3
12/5/2013	1:35:00 AM	433	435.4	432.9	433.8	6.6	35.4
12/5/2013	1:40:00 AM	432.9	435.1	432.9	433.6	6.5	35.3
12/5/2013	1:45:00 AM	433.9	435.9	433.2	434.3	6.7	35.5
12/5/2013	1:50:00 AM	435.5	437.8	434.8	436.0	7.1	35.5
12/5/2013	1:55:00 AM	436.9	439.1	436.2	437.4	7.5	35.8

Study for Voltage After Midnight							
12/5/2013	2:00:00 AM	436.5	438.9	436.1	437.2	7.4	35.9
12/5/2013	2:05:00 AM	435.3	438	435	436.1	7.1	35.8
12/5/2013	2:10:00 AM	435.1	437.7	434.7	435.8	7.1	35.7
12/5/2013	2:15:00 AM	435	437.7	434.8	435.8	7.1	35.6
12/5/2013	2:20:00 AM	434.4	437.2	434.3	435.3	7.0	35.6
12/5/2013	2:25:00 AM	434.6	437.4	434.6	435.5	7.0	35.6
12/5/2013	2:30:00 AM	434.4	437.4	434.3	435.4	7.0	35.7
12/5/2013	2:35:00 AM	434.2	437.2	434	435.1	6.9	35.5
12/5/2013	2:40:00 AM	434.4	437.3	434.2	435.3	7.0	35.4
12/5/2013	2:45:00 AM	435	437.7	434.9	435.9	7.1	35.5
12/5/2013	2:50:00 AM	436.1	438.9	435.8	436.9	7.4	35.5
12/5/2013	2:55:00 AM	435.8	438.4	435.5	436.6	7.3	35.4
12/5/2013	3:00:00 AM	435.7	438.4	435.3	436.5	7.2	35.4
12/5/2013	3:05:00 AM	435.7	438.6	435.5	436.6	7.3	35.5
12/5/2013	3:10:00 AM	436	438.9	435.7	436.9	7.3	35.6
12/5/2013	3:15:00 AM	436.1	438.8	435.9	436.9	7.4	35.6
12/5/2013	3:20:00 AM	436.3	439.3	436.4	437.3	7.5	35.6
12/5/2013	3:25:00 AM	436.3	439.2	436.4	437.3	7.4	35.5
12/5/2013	3:30:00 AM	435.5	438.5	435.4	436.5	7.2	35.5
12/5/2013	3:35:00 AM	435.1	438	435.2	436.1	7.1	35.5
12/5/2013	3:40:00 AM	435.1	438.1	435.5	436.2	7.2	35.5
12/5/2013	3:45:00 AM	435.8	438.6	435.9	436.8	7.3	35.4
12/5/2013	3:50:00 AM	436.6	439.2	436.5	437.4	7.5	35.3
12/5/2013	3:55:00 AM	437.4	440	437.2	438.2	7.7	35.4
12/5/2013	4:00:00 AM	436.7	439.3	436.6	437.5	7.5	35.6
12/5/2013	4:05:00 AM	435.7	438.2	435.6	436.5	7.2	35.5
12/5/2013	4:10:00 AM	435.3	437.9	435.4	436.2	7.2	35.5
12/5/2013	4:15:00 AM	435	437.6	434.9	435.8	7.1	35.5
12/5/2013	4:20:00 AM	434.7	437.3	434.8	435.6	7.0	35.4
12/5/2013	4:25:00 AM	435.2	437.8	435.3	436.1	7.1	35.5
12/5/2013	4:30:00 AM	435	437.6	435	435.9	7.1	35.5
12/5/2013	4:35:00 AM	434	436.6	434.1	434.9	6.9	35.4
12/5/2013	4:40:00 AM	433.9	436.5	434	434.8	6.8	35.3
12/5/2013	4:45:00 AM	433.9	436.5	433.5	434.6	6.8	35.5
12/5/2013	4:50:00 AM	434.3	436.7	433.7	434.9	6.9	35.5
12/5/2013	4:55:00 AM	436	438.5	435.5	436.7	7.3	35.4
12/5/2013	5:00:00 AM	435.5	438.1	435.2	436.3	7.2	35.4
12/5/2013	5:05:00 AM	434.2	436.7	434.2	435.0	6.9	35.5
12/5/2013	5:10:00 AM	434.7	437.5	434.7	435.6	7.0	35.4
12/5/2013	5:15:00 AM	433.2	436	433	434.1	6.7	35.4
12/5/2013	5:20:00 AM	433.2	436.1	433.2	434.2	6.7	35.3
12/5/2013	5:25:00 AM	434.3	437.1	434.3	435.2	6.9	35.2
12/5/2013	5:30:00 AM	432.5	435.1	432.3	433.3	6.5	35.1
12/5/2013	5:35:00 AM	431.3	433.7	431.4	432.1	6.2	34.9
12/5/2013	5:40:00 AM	432.3	434.8	432.6	433.2	6.4	35.0
12/5/2013	5:45:00 AM	431.9	434.7	432.6	433.1	6.4	35.0
12/5/2013	5:50:00 AM	432.1	435.4	432.5	433.3	6.5	35.1
12/5/2013	5:55:00 AM	434.6	438.2	435.1	436.0	7.1	35.1
12/5/2013	6:00:00 AM	433.3	437.3	434.1	434.9	6.9	35.2
		433.82	436.47	433.71			
	Average				434.7	6.8	35.4



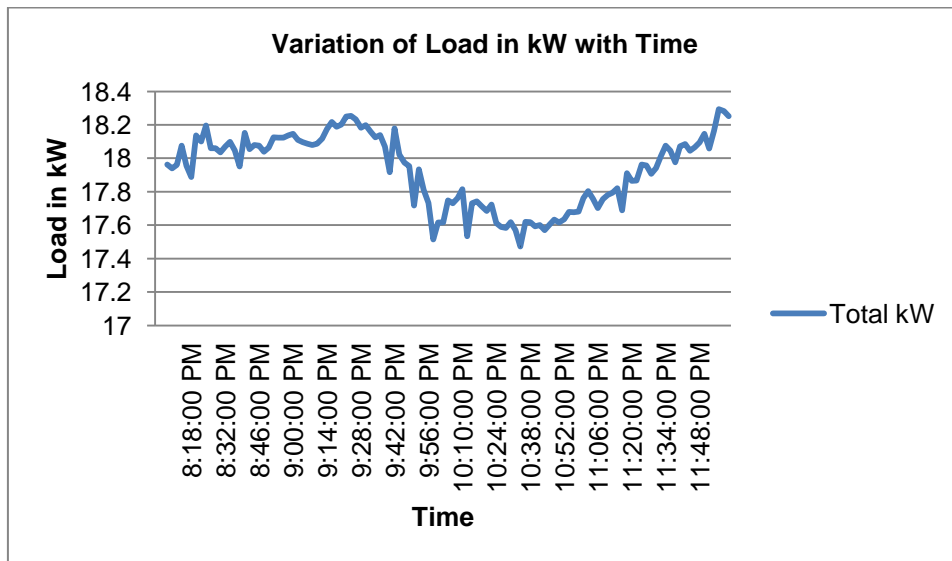
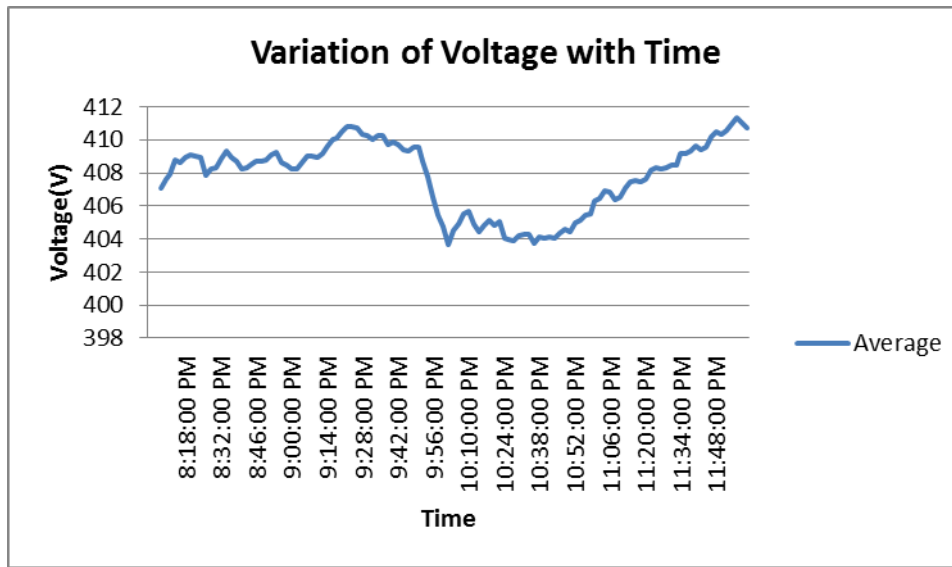
2. Study of Voltage Variation at Night for Dr.Kumar Switching Point(Till Midnight)

Study of Voltage During Night Load							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
03-Apr-14	8:08:00 PM	404.9	407.5	408.9	407.10	0.02	17.96
03-Apr-14	8:10:00 PM	405.3	407.9	409.6	407.60	0.15	17.94
03-Apr-14	8:12:00 PM	405.6	408.3	409.9	407.93	0.23	17.96
03-Apr-14	8:14:00 PM	406.6	409.1	410.7	408.80	0.44	18.08
03-Apr-14	8:16:00 PM	406.5	408.8	410.6	408.63	0.40	17.95
03-Apr-14	8:18:00 PM	406.4	409.2	411.3	408.97	0.48	17.89

Study of Voltage During Night Load							
03-Apr-14	8:20:00 PM	406.4	409.6	411.2	409.07	0.51	18.14
03-Apr-14	8:22:00 PM	406.5	409.6	411	409.03	0.50	18.10
03-Apr-14	8:24:00 PM	406.5	409.5	410.8	408.93	0.48	18.20
03-Apr-14	8:26:00 PM	405.5	408.5	409.6	407.87	0.21	18.06
03-Apr-14	8:28:00 PM	405.9	408.7	410	408.20	0.29	18.06
03-Apr-14	8:30:00 PM	406.3	408.8	409.8	408.30	0.32	18.03
03-Apr-14	8:32:00 PM	407	409.2	410.4	408.87	0.46	18.07
03-Apr-14	8:34:00 PM	407.7	409.5	410.8	409.33	0.57	18.10
03-Apr-14	8:36:00 PM	407.3	409.1	410.4	408.93	0.48	18.05
03-Apr-14	8:38:00 PM	407.2	408.8	410.2	408.73	0.43	17.95
03-Apr-14	8:40:00 PM	406.7	408.3	409.6	408.20	0.29	18.15
03-Apr-14	8:42:00 PM	406.9	408.3	409.8	408.33	0.33	18.05
03-Apr-14	8:44:00 PM	407	408.7	410	408.57	0.38	18.08
03-Apr-14	8:46:00 PM	406.9	409.2	410.1	408.73	0.43	18.08
03-Apr-14	8:48:00 PM	407.1	409.1	409.8	408.67	0.41	18.04
03-Apr-14	8:50:00 PM	407.2	409.4	409.8	408.80	0.44	18.06
03-Apr-14	8:52:00 PM	407.6	409.6	410	409.07	0.51	18.13
03-Apr-14	8:54:00 PM	408.1	409.7	410	409.27	0.56	18.12
03-Apr-14	8:56:00 PM	407.4	409	409.4	408.60	0.39	18.12
03-Apr-14	8:58:00 PM	407.3	409	409.2	408.50	0.37	18.14
03-Apr-14	9:00:00 PM	407.2	408.5	409	408.23	0.30	18.15
03-Apr-14	9:02:00 PM	407.1	408.6	409.1	408.27	0.31	18.11
03-Apr-14	9:04:00 PM	407.3	409	409.6	408.63	0.40	18.10
03-Apr-14	9:06:00 PM	407.5	409.4	410.1	409.00	0.49	18.09
03-Apr-14	9:08:00 PM	407.5	409.8	409.8	409.03	0.50	18.08
03-Apr-14	9:10:00 PM	407	409.9	409.8	408.90	0.47	18.09
03-Apr-14	9:12:00 PM	407.3	409.7	410.6	409.20	0.54	18.12
03-Apr-14	9:14:00 PM	407.9	409.7	411.2	409.60	0.64	18.18
03-Apr-14	9:16:00 PM	408.1	410.1	411.8	410.00	0.74	18.22
03-Apr-14	9:18:00 PM	408.6	410.2	411.5	410.10	0.76	18.19
03-Apr-14	9:20:00 PM	409.2	410.5	411.8	410.50	0.86	18.20
03-Apr-14	9:22:00 PM	409.5	410.8	412.2	410.83	0.94	18.25
03-Apr-14	9:24:00 PM	409.7	410.5	412.1	410.77	0.93	18.25
03-Apr-14	9:26:00 PM	409.4	410.7	412	410.70	0.91	18.23
03-Apr-14	9:28:00 PM	409.1	410.4	411.5	410.33	0.82	18.18
03-Apr-14	9:30:00 PM	408.8	410.9	411	410.23	0.79	18.20
03-Apr-14	9:32:00 PM	408.9	410.6	410.5	410.00	0.74	18.16
03-Apr-14	9:34:00 PM	409.2	410.5	411	410.23	0.79	18.12
03-Apr-14	9:36:00 PM	409.4	410.7	410.7	410.27	0.80	18.14
03-Apr-14	9:38:00 PM	409.1	410.4	409.6	409.70	0.66	18.07
03-Apr-14	9:40:00 PM	409.1	410.1	410.3	409.83	0.70	17.92
03-Apr-14	9:42:00 PM	408.9	409.6	410.6	409.70	0.66	18.18
03-Apr-14	9:44:00 PM	408.6	409.5	410.1	409.40	0.59	18.02
03-Apr-14	9:46:00 PM	408.5	409.4	410.1	409.33	0.57	17.97
03-Apr-14	9:48:00 PM	408.7	410	409.9	409.53	0.62	17.95
03-Apr-14	9:50:00 PM	408.4	409.7	410.5	409.53	0.62	17.72
03-Apr-14	9:52:00 PM	407.8	409.1	409.3	408.73	0.43	17.93
03-Apr-14	9:54:00 PM	406.8	408.2	408.3	407.77	0.19	17.81
03-Apr-14	9:56:00 PM	405.3	406.8	407.4	406.50	-0.12	17.73
03-Apr-14	9:58:00 PM	404.7	405.4	406.3	405.47	-0.38	17.52
03-Apr-14	10:00:00 PM	403.8	404.7	405.7	404.73	-0.56	17.62

Study of Voltage During Night Load							
03-Apr-14	10:02:00 PM	402.8	403.9	404.3	403.67	-0.82	17.62
03-Apr-14	10:04:00 PM	403.4	404.7	405.5	404.53	-0.61	17.75
03-Apr-14	10:06:00 PM	403.9	405.3	405.6	404.93	-0.51	17.73
03-Apr-14	10:08:00 PM	404.4	406.1	406.1	405.53	-0.36	17.76
03-Apr-14	10:10:00 PM	404.6	406.1	406.3	405.67	-0.33	17.82
03-Apr-14	10:12:00 PM	404.4	405.3	404.9	404.87	-0.52	17.53
03-Apr-14	10:14:00 PM	404	405.1	404.3	404.47	-0.62	17.73
03-Apr-14	10:16:00 PM	404.7	405.2	404.6	404.83	-0.53	17.74
03-Apr-14	10:18:00 PM	404.6	405.2	405.6	405.13	-0.46	17.71
03-Apr-14	10:20:00 PM	404.5	404.9	405.1	404.83	-0.53	17.68
03-Apr-14	10:22:00 PM	404.9	404.8	405.4	405.03	-0.48	17.72
03-Apr-14	10:24:00 PM	404	403.9	404.3	404.07	-0.72	17.61
03-Apr-14	10:26:00 PM	403.7	403.4	404.7	403.93	-0.75	17.59
03-Apr-14	10:28:00 PM	404	403.1	404.6	403.90	-0.76	17.58
03-Apr-14	10:30:00 PM	404.1	403.4	405.1	404.20	-0.69	17.62
03-Apr-14	10:32:00 PM	404.2	403.9	404.8	404.30	-0.66	17.57
03-Apr-14	10:34:00 PM	404.8	403.8	404.2	404.27	-0.67	17.47
03-Apr-14	10:36:00 PM	404.4	403.1	403.8	403.77	-0.79	17.62
03-Apr-14	10:38:00 PM	404.3	403.7	404.3	404.10	-0.71	17.62
03-Apr-14	10:40:00 PM	404.6	403.7	403.8	404.03	-0.73	17.59
03-Apr-14	10:42:00 PM	404.4	403.3	404.6	404.10	-0.71	17.60
03-Apr-14	10:44:00 PM	404.3	403.4	404.4	404.03	-0.73	17.57
03-Apr-14	10:46:00 PM	404.7	403.5	404.9	404.37	-0.65	17.60
03-Apr-14	10:48:00 PM	404.6	404.1	405	404.57	-0.60	17.63
03-Apr-14	10:50:00 PM	404.7	403.9	404.7	404.43	-0.63	17.62
03-Apr-14	10:52:00 PM	404.9	404.4	405.7	405.00	-0.49	17.64
03-Apr-14	10:54:00 PM	405.2	404.4	405.8	405.13	-0.46	17.68
03-Apr-14	10:56:00 PM	405.6	404.4	406.3	405.43	-0.38	17.68
03-Apr-14	10:58:00 PM	405.8	404.2	406.5	405.50	-0.37	17.68
03-Apr-14	11:00:00 PM	406.4	405.3	407.3	406.33	-0.16	17.76
03-Apr-14	11:02:00 PM	406.4	405.8	407.1	406.43	-0.14	17.80
03-Apr-14	11:04:00 PM	406.8	406.1	407.9	406.93	-0.02	17.76
03-Apr-14	11:06:00 PM	406.6	406	407.9	406.83	-0.04	17.70
03-Apr-14	11:08:00 PM	406.4	405.6	407.2	406.40	-0.15	17.76
03-Apr-14	11:10:00 PM	406.4	405.9	407.3	406.53	-0.11	17.78
03-Apr-14	11:12:00 PM	406.5	406.6	408	407.03	0.01	17.79
03-Apr-14	11:14:00 PM	407	407	408.4	407.47	0.11	17.82
03-Apr-14	11:16:00 PM	407.3	407.2	408	407.50	0.12	17.69
03-Apr-14	11:18:00 PM	407	407.5	407.9	407.47	0.11	17.91
03-Apr-14	11:20:00 PM	407.3	407.5	408.1	407.63	0.16	17.86
03-Apr-14	11:22:00 PM	407.8	407.8	408.8	408.13	0.28	17.87
03-Apr-14	11:24:00 PM	408	408.2	408.8	408.33	0.33	17.96
03-Apr-14	11:26:00 PM	407.9	407.9	409	408.27	0.31	17.96
03-Apr-14	11:28:00 PM	408.1	407.7	409.2	408.33	0.33	17.91
03-Apr-14	11:30:00 PM	408.2	408.1	409	408.43	0.35	17.94
03-Apr-14	11:32:00 PM	408.6	407.8	408.9	408.43	0.35	18.01
03-Apr-14	11:34:00 PM	409	408.7	409.9	409.20	0.54	18.07
03-Apr-14	11:36:00 PM	409.2	408.6	409.8	409.20	0.54	18.04
03-Apr-14	11:38:00 PM	409.6	408.7	409.6	409.30	0.57	17.98
03-Apr-14	11:40:00 PM	409.5	409.2	410.2	409.63	0.65	18.07
03-Apr-14	11:42:00 PM	409	409.3	409.8	409.37	0.58	18.08

Study of Voltage During Night Load							
03-Apr-14	11:44:00 PM	409.2	409.2	410.3	409.57	0.63	18.04
03-Apr-14	11:46:00 PM	409.7	409.7	411.1	410.17	0.78	18.07
03-Apr-14	11:48:00 PM	409.8	409.6	412	410.47	0.85	18.10
03-Apr-14	11:50:00 PM	410.3	409.7	411.1	410.37	0.83	18.15
03-Apr-14	11:52:00 PM	410.5	410.2	410.9	410.53	0.87	18.06
03-Apr-14	11:54:00 PM	410.5	410.4	411.9	410.93	0.97	18.16
03-Apr-14	11:56:00 PM	410.7	411	412.4	411.37	1.07	18.29
03-Apr-14	11:58:00 PM	410.3	410.9	412	411.07	1.00	18.28
04-Apr-14	12:00:00 AM	410.1	410.1	411.9	410.70	0.91	18.25
		406.93	407.72	408.66		-100.00	
Average					407.77	0.19	17.93



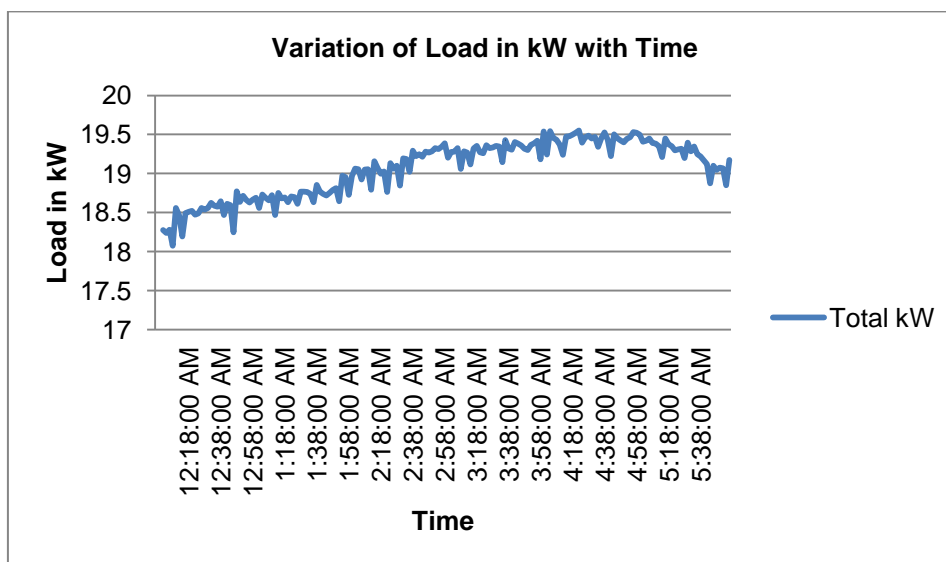
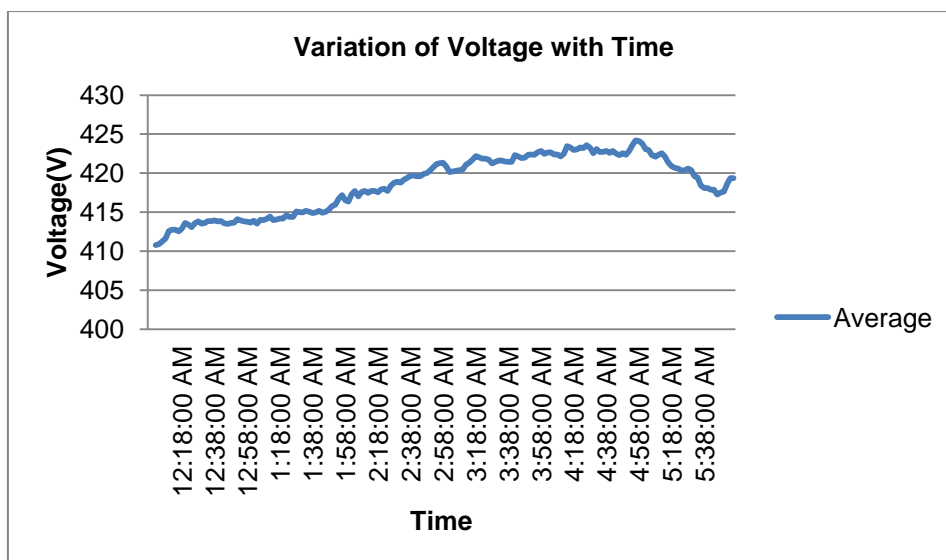
Study of Voltage Variation at Night for Dr.Kumar Switching Point (After Midnight)

Study of Voltage After Midnight							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
04-Apr-14	12:02:00 AM	410.2	410.3	411.8	410.77	0.93	18.27
04-Apr-14	12:04:00 AM	410.2	410.4	412.1	410.90	0.96	18.24
04-Apr-14	12:06:00 AM	410.6	411	412.2	411.27	1.05	18.28
04-Apr-14	12:08:00 AM	411.1	411.3	412.5	411.63	1.14	18.07
04-Apr-14	12:10:00 AM	411.7	412.4	413.7	412.60	1.38	18.56
04-Apr-14	12:12:00 AM	411.9	412.4	414	412.77	1.42	18.46
04-Apr-14	12:14:00 AM	412	412.3	414	412.77	1.42	18.19
04-Apr-14	12:16:00 AM	411.8	412.3	413.5	412.53	1.36	18.49
04-Apr-14	12:18:00 AM	412.2	412.5	414	412.90	1.45	18.51
04-Apr-14	12:20:00 AM	412.7	413	415.1	413.60	1.62	18.52
04-Apr-14	12:22:00 AM	412.8	413.2	414.2	413.40	1.57	18.47
04-Apr-14	12:24:00 AM	412.3	412.8	414.2	413.10	1.50	18.49
04-Apr-14	12:26:00 AM	412.7	413.4	414.8	413.63	1.63	18.56
04-Apr-14	12:28:00 AM	413.1	413.3	415	413.80	1.67	18.54
04-Apr-14	12:30:00 AM	413.2	412.7	414.7	413.53	1.61	18.56
04-Apr-14	12:32:00 AM	412.9	413	414.9	413.60	1.62	18.62
04-Apr-14	12:34:00 AM	412.7	413.5	415.4	413.87	1.69	18.59
04-Apr-14	12:36:00 AM	413	413.6	415	413.87	1.69	18.57
04-Apr-14	12:38:00 AM	413.2	414.2	414.4	413.93	1.70	18.64
04-Apr-14	12:40:00 AM	413.2	413.8	414.5	413.83	1.68	18.47
04-Apr-14	12:42:00 AM	413.1	413.7	414.8	413.87	1.69	18.61
04-Apr-14	12:44:00 AM	412.8	413.7	414.2	413.57	1.61	18.59
04-Apr-14	12:46:00 AM	412.8	413.2	414.5	413.50	1.60	18.25
04-Apr-14	12:48:00 AM	413	413.2	414.7	413.63	1.63	18.77
04-Apr-14	12:50:00 AM	412.7	413.3	415	413.67	1.64	18.64
04-Apr-14	12:52:00 AM	412.9	413.9	415.5	414.10	1.74	18.72
04-Apr-14	12:54:00 AM	413	413.8	415	413.93	1.70	18.66
04-Apr-14	12:56:00 AM	413	413.6	414.8	413.80	1.67	18.63
04-Apr-14	12:58:00 AM	413.4	413.1	414.8	413.77	1.66	18.66
04-Apr-14	1:00:00 AM	413.4	413.4	414.2	413.67	1.64	18.69
04-Apr-14	1:02:00 AM	413.1	413.3	415.3	413.90	1.70	18.56
04-Apr-14	1:04:00 AM	412.7	413	414.9	413.53	1.61	18.73
04-Apr-14	1:06:00 AM	413.1	413.9	415.1	414.03	1.73	18.69
04-Apr-14	1:08:00 AM	412.8	413.7	415.4	413.97	1.71	18.66
04-Apr-14	1:10:00 AM	412.9	413.6	416	414.17	1.76	18.72
04-Apr-14	1:12:00 AM	413.3	414	416	414.43	1.83	18.47
04-Apr-14	1:14:00 AM	413	413.5	415.4	413.97	1.71	18.75
04-Apr-14	1:16:00 AM	413.2	413.6	415.4	414.07	1.74	18.68
04-Apr-14	1:18:00 AM	413.4	413.7	415.5	414.20	1.77	18.69
04-Apr-14	1:20:00 AM	413.4	413.5	415.7	414.20	1.77	18.63
04-Apr-14	1:22:00 AM	413.4	414.2	416.2	414.60	1.87	18.70
04-Apr-14	1:24:00 AM	413.1	414	416.1	414.40	1.82	18.70
04-Apr-14	1:26:00 AM	413.2	414	416	414.40	1.82	18.61

Study of Voltage After Midnight							
04-Apr-14	1:28:00 AM	414.1	414.6	416.6	415.10	1.99	18.77
04-Apr-14	1:30:00 AM	414.2	414.3	416.5	415.00	1.97	18.77
04-Apr-14	1:32:00 AM	414.1	414.5	416.3	414.97	1.96	18.76
04-Apr-14	1:34:00 AM	414.2	414.8	416.5	415.17	2.01	18.74
04-Apr-14	1:36:00 AM	414.2	414.5	416.5	415.07	1.98	18.63
04-Apr-14	1:38:00 AM	413.9	414.6	416.2	414.90	1.94	18.85
04-Apr-14	1:40:00 AM	413.9	414.9	416.1	414.97	1.96	18.77
04-Apr-14	1:42:00 AM	414	414.6	416.9	415.17	2.01	18.74
04-Apr-14	1:44:00 AM	413.9	414.7	416.2	414.93	1.95	18.72
04-Apr-14	1:46:00 AM	414.1	414.6	416.4	415.03	1.97	18.75
04-Apr-14	1:48:00 AM	414.1	414.6	417.3	415.33	2.05	18.79
04-Apr-14	1:50:00 AM	414.7	415	417.7	415.80	2.16	18.81
04-Apr-14	1:52:00 AM	415.3	415.3	417.3	415.97	2.20	18.65
04-Apr-14	1:54:00 AM	415.9	416	418.2	416.70	2.38	18.97
04-Apr-14	1:56:00 AM	415.9	416.5	419.2	417.20	2.51	18.95
04-Apr-14	1:58:00 AM	415.5	416.1	418	416.53	2.34	18.73
04-Apr-14	2:00:00 AM	415.4	415.9	417.8	416.37	2.30	18.97
04-Apr-14	2:02:00 AM	416.3	416.6	419	417.30	2.53	19.06
04-Apr-14	2:04:00 AM	416.7	417	419.5	417.73	2.64	19.05
04-Apr-14	2:06:00 AM	416.3	416.3	418.4	417.00	2.46	18.92
04-Apr-14	2:08:00 AM	416.5	416.9	419.4	417.60	2.60	19.05
04-Apr-14	2:10:00 AM	416.7	417.4	419.1	417.73	2.64	19.06
04-Apr-14	2:12:00 AM	416.6	416.9	418.9	417.47	2.57	18.79
04-Apr-14	2:14:00 AM	416.8	416.7	419.7	417.73	2.64	19.16
04-Apr-14	2:16:00 AM	416.8	416.8	419.6	417.73	2.64	19.07
04-Apr-14	2:18:00 AM	416.5	417	419.2	417.57	2.60	19.00
04-Apr-14	2:20:00 AM	417	417.1	419.7	417.93	2.69	19.03
04-Apr-14	2:22:00 AM	417	416.9	420.1	418.00	2.70	18.77
04-Apr-14	2:24:00 AM	417.2	416.7	419.3	417.73	2.64	19.13
04-Apr-14	2:26:00 AM	417.6	417.5	420.2	418.43	2.81	19.06
04-Apr-14	2:28:00 AM	417.7	417.7	421	418.80	2.90	19.10
04-Apr-14	2:30:00 AM	418.1	417.7	420.9	418.90	2.92	18.85
04-Apr-14	2:32:00 AM	418.3	417.6	420.5	418.80	2.90	19.20
04-Apr-14	2:34:00 AM	418.4	418	421.1	419.17	2.99	19.19
04-Apr-14	2:36:00 AM	418.8	418.3	421.1	419.40	3.05	19.02
04-Apr-14	2:38:00 AM	419	418.9	421.2	419.70	3.12	19.29
04-Apr-14	2:40:00 AM	418.9	418.7	421.5	419.70	3.12	19.22
04-Apr-14	2:42:00 AM	418.9	418.6	421.3	419.60	3.10	19.25
04-Apr-14	2:44:00 AM	418.9	418.9	421	419.60	3.10	19.22
04-Apr-14	2:46:00 AM	418.9	418.8	422	419.90	3.17	19.28
04-Apr-14	2:48:00 AM	419.2	419.1	421.7	420.00	3.19	19.27
04-Apr-14	2:50:00 AM	419.7	419.5	421.8	420.33	3.28	19.29
04-Apr-14	2:52:00 AM	419.9	419.7	422.7	420.77	3.38	19.32
04-Apr-14	2:54:00 AM	420.4	420.1	423	421.17	3.48	19.32
04-Apr-14	2:56:00 AM	420.6	420.7	422.6	421.30	3.51	19.34
04-Apr-14	2:58:00 AM	420.5	420.7	422.8	421.33	3.52	19.39
04-Apr-14	3:00:00 AM	419.9	419.9	422.7	420.83	3.40	19.20
04-Apr-14	3:02:00 AM	419.5	419.2	421.7	420.13	3.23	19.28
04-Apr-14	3:04:00 AM	419.6	419	422	420.20	3.24	19.28
04-Apr-14	3:06:00 AM	419.3	419.4	422.2	420.30	3.27	19.33
04-Apr-14	3:08:00 AM	419.3	419.8	422	420.37	3.28	19.06

Study of Voltage After Midnight							
04-Apr-14	3:10:00 AM	419.4	419.7	422.3	420.47	3.31	19.29
04-Apr-14	3:12:00 AM	419.7	420	423.5	421.07	3.46	19.27
04-Apr-14	3:14:00 AM	420.2	420.7	423.1	421.33	3.52	19.11
04-Apr-14	3:16:00 AM	420.4	421	423.8	421.73	3.62	19.32
04-Apr-14	3:18:00 AM	420.7	421.2	424.6	422.17	3.73	19.35
04-Apr-14	3:20:00 AM	420.9	421.2	424	422.03	3.69	19.27
04-Apr-14	3:22:00 AM	420.8	420.9	423.9	421.87	3.65	19.26
04-Apr-14	3:24:00 AM	420.7	420.7	424.2	421.87	3.65	19.36
04-Apr-14	3:26:00 AM	420.8	420.7	423.7	421.73	3.62	19.33
04-Apr-14	3:28:00 AM	420	420.5	423.2	421.23	3.50	19.33
04-Apr-14	3:30:00 AM	420.1	420.6	423.6	421.43	3.55	19.35
04-Apr-14	3:32:00 AM	420.3	420.7	423.8	421.60	3.59	19.35
04-Apr-14	3:34:00 AM	420.3	421	423.5	421.60	3.59	19.15
04-Apr-14	3:36:00 AM	420.3	420.8	423.4	421.50	3.56	19.43
04-Apr-14	3:38:00 AM	420.4	420.8	423.1	421.43	3.55	19.32
04-Apr-14	3:40:00 AM	420.6	420.4	423.3	421.43	3.55	19.30
04-Apr-14	3:42:00 AM	420.9	421.6	424.4	422.30	3.76	19.40
04-Apr-14	3:44:00 AM	421	421.7	423.7	422.13	3.72	19.38
04-Apr-14	3:46:00 AM	420.9	421.2	423.7	421.93	3.67	19.36
04-Apr-14	3:48:00 AM	421	421.2	423.7	421.97	3.68	19.32
04-Apr-14	3:50:00 AM	421.3	421.8	424	422.37	3.78	19.30
04-Apr-14	3:52:00 AM	421.5	421.5	424.2	422.40	3.78	19.37
04-Apr-14	3:54:00 AM	421.2	421.6	424.2	422.33	3.77	19.39
04-Apr-14	3:56:00 AM	421.7	421.9	424.4	422.67	3.85	19.42
04-Apr-14	3:58:00 AM	421.4	422.1	425	422.83	3.89	19.18
04-Apr-14	4:00:00 AM	421.3	421.9	424.2	422.47	3.80	19.54
04-Apr-14	4:02:00 AM	421.7	421.6	424.6	422.63	3.84	19.24
04-Apr-14	4:04:00 AM	421.7	421.6	424.7	422.67	3.85	19.54
04-Apr-14	4:06:00 AM	421.6	421.8	423.8	422.40	3.78	19.46
04-Apr-14	4:08:00 AM	421.3	421.5	424.4	422.40	3.78	19.43
04-Apr-14	4:10:00 AM	421	421.1	424.3	422.13	3.72	19.37
04-Apr-14	4:12:00 AM	421.7	421.6	424.1	422.47	3.80	19.24
04-Apr-14	4:14:00 AM	422.4	422.6	425.4	423.47	4.05	19.47
04-Apr-14	4:16:00 AM	422.5	422.3	425.1	423.30	4.00	19.48
04-Apr-14	4:18:00 AM	421.9	422.4	424.6	422.97	3.92	19.50
04-Apr-14	4:20:00 AM	421.8	422.5	424.9	423.07	3.95	19.52
04-Apr-14	4:22:00 AM	422.4	422.7	424.8	423.30	4.00	19.55
04-Apr-14	4:24:00 AM	422.3	422.5	424.8	423.20	3.98	19.39
04-Apr-14	4:26:00 AM	422.6	422.4	425.7	423.57	4.07	19.46
04-Apr-14	4:28:00 AM	422.4	422.5	424.8	423.23	3.99	19.49
04-Apr-14	4:30:00 AM	421.8	422	423.9	422.57	3.82	19.45
04-Apr-14	4:32:00 AM	421.8	422.4	425.1	423.10	3.96	19.47
04-Apr-14	4:34:00 AM	421.7	422	424.4	422.70	3.86	19.34
04-Apr-14	4:36:00 AM	421.7	422	424.4	422.70	3.86	19.45
04-Apr-14	4:38:00 AM	421.8	422	424.7	422.83	3.89	19.53
04-Apr-14	4:40:00 AM	421.6	421.8	424.4	422.60	3.83	19.43
04-Apr-14	4:42:00 AM	421.7	422	424.8	422.83	3.89	19.22
04-Apr-14	4:44:00 AM	421.5	421.8	424.3	422.53	3.82	19.50
04-Apr-14	4:46:00 AM	421.3	421.8	423.8	422.30	3.76	19.45
04-Apr-14	4:48:00 AM	421.5	421.6	424.6	422.57	3.82	19.42
04-Apr-14	4:50:00 AM	421.5	421.4	424.1	422.33	3.77	19.40

Study of Voltage After Midnight							
04-Apr-14	4:52:00 AM	422	421.9	424.6	422.83	3.89	19.44
04-Apr-14	4:54:00 AM	422.9	422.7	425.1	423.57	4.07	19.47
04-Apr-14	4:56:00 AM	423.1	423.7	425.8	424.20	4.23	19.53
04-Apr-14	4:58:00 AM	423.1	423.5	425.8	424.13	4.21	19.52
04-Apr-14	5:00:00 AM	422.6	423.3	425.4	423.77	4.12	19.50
04-Apr-14	5:02:00 AM	422.1	422.6	424.6	423.10	3.96	19.41
04-Apr-14	5:04:00 AM	421.9	422.3	424.7	422.97	3.92	19.42
04-Apr-14	5:06:00 AM	421.2	421.9	423.8	422.30	3.76	19.45
04-Apr-14	5:08:00 AM	421.2	421.8	423.3	422.10	3.71	19.39
04-Apr-14	5:10:00 AM	421.1	422	424	422.37	3.78	19.38
04-Apr-14	5:12:00 AM	421.7	422.1	423.9	422.57	3.82	19.35
04-Apr-14	5:14:00 AM	420.8	421.7	423.8	422.10	3.71	19.21
04-Apr-14	5:16:00 AM	420.3	420.8	423	421.37	3.53	19.45
04-Apr-14	5:18:00 AM	419.9	420.4	422.3	420.87	3.41	19.37
04-Apr-14	5:20:00 AM	419.6	420	422.4	420.67	3.36	19.35
04-Apr-14	5:22:00 AM	419.7	419.8	422.3	420.60	3.34	19.30
04-Apr-14	5:24:00 AM	419.3	419.3	422.4	420.33	3.28	19.31
04-Apr-14	5:26:00 AM	419.5	419.5	422	420.33	3.28	19.32
04-Apr-14	5:28:00 AM	419.4	420.2	422.2	420.60	3.34	19.20
04-Apr-14	5:30:00 AM	419.2	420.1	421.8	420.37	3.28	19.40
04-Apr-14	5:32:00 AM	418.5	419.5	420.8	419.60	3.10	19.28
04-Apr-14	5:34:00 AM	418.4	418.7	421.2	419.43	3.05	19.34
04-Apr-14	5:36:00 AM	417.4	417.5	420.3	418.40	2.80	19.25
04-Apr-14	5:38:00 AM	417	417.2	420	418.07	2.72	19.22
04-Apr-14	5:40:00 AM	416.8	417.3	420.2	418.10	2.73	19.17
04-Apr-14	5:42:00 AM	416.1	417.6	419.9	417.87	2.67	19.12
04-Apr-14	5:44:00 AM	416.5	417.2	420	417.90	2.68	18.87
04-Apr-14	5:46:00 AM	416	416.5	419.3	417.27	2.52	19.10
04-Apr-14	5:48:00 AM	416.1	416.6	419.8	417.50	2.58	19.05
04-Apr-14	5:50:00 AM	416.1	416.7	420.1	417.63	2.61	19.07
04-Apr-14	5:52:00 AM	417	417.5	421.3	418.60	2.85	19.07
04-Apr-14	5:54:00 AM	417.7	418.5	421.9	419.37	3.04	18.85
04-Apr-14	5:56:00 AM	417.9	418.5	421.7	419.37	3.04	19.17
		417.63	417.96	420.23			
Average					418.61	2.85	18.61



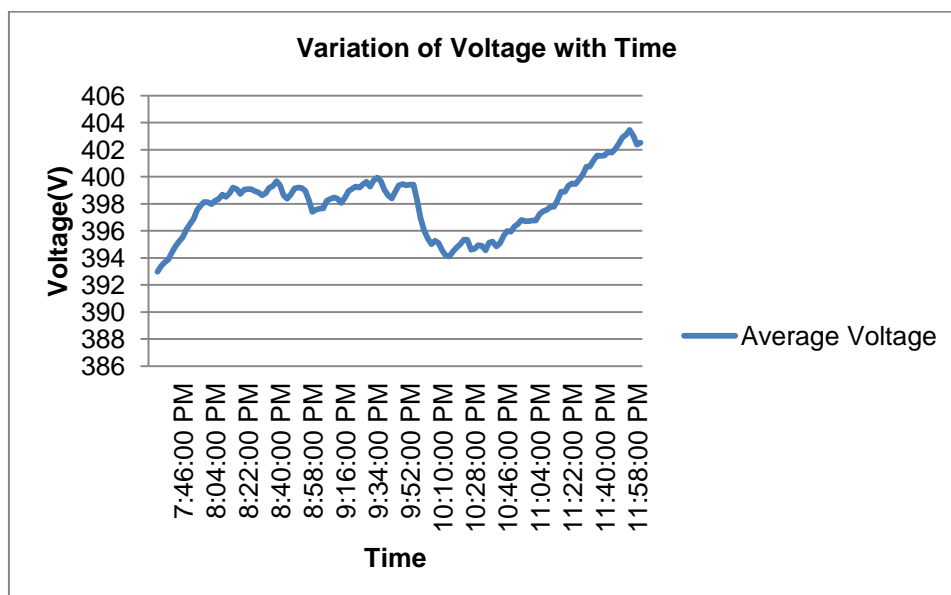
3. Study of Voltage Variation at Night for Labour Chowk Switching Point (Till Midnight)

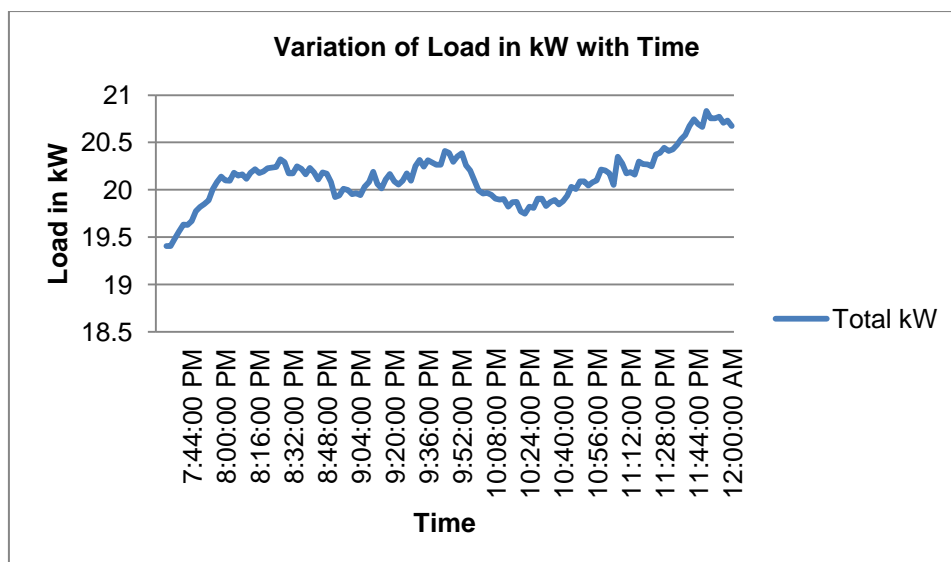
Study of Voltage During Night Time							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
01-Apr-14	7:32:00 PM	395.8	391.2	391.9	392.97	-3.45	19.41
01-Apr-14	7:34:00 PM	396.2	391.7	392.2	393.37	-3.35	19.41
01-Apr-14	7:36:00 PM	396.4	392	392.6	393.67	-3.28	19.48
01-Apr-14	7:38:00 PM	396.7	392.1	392.8	393.87	-3.23	19.56
01-Apr-14	7:40:00 PM	397	392.4	393.8	394.40	-3.10	19.63
01-Apr-14	7:42:00 PM	397.4	392.8	394.3	394.83	-2.99	19.63
01-Apr-14	7:44:00 PM	397.9	393.3	394.4	395.20	-2.90	19.67
01-Apr-14	7:46:00 PM	398.3	393.7	394.6	395.53	-2.82	19.77

Study of Voltage During Night Time							
01-Apr-14	7:48:00 PM	398.8	394.2	395.2	396.07	-2.69	19.82
01-Apr-14	7:50:00 PM	399.1	394.7	395.6	396.47	-2.59	19.85
01-Apr-14	7:52:00 PM	399.2	395	396.4	396.87	-2.49	19.89
01-Apr-14	7:54:00 PM	400	395.6	397	397.53	-2.33	20.01
01-Apr-14	7:56:00 PM	400.3	396	397.3	397.87	-2.24	20.08
01-Apr-14	7:58:00 PM	400.7	396.1	397.6	398.13	-2.18	20.14
01-Apr-14	8:00:00 PM	400.5	396.1	397.7	398.10	-2.19	20.10
01-Apr-14	8:02:00 PM	400.3	396.4	397.2	397.97	-2.22	20.10
01-Apr-14	8:04:00 PM	400.6	396.8	397.3	398.23	-2.15	20.18
01-Apr-14	8:06:00 PM	400.7	396.8	397.5	398.33	-2.13	20.15
01-Apr-14	8:08:00 PM	401.1	396.8	398.1	398.67	-2.05	20.17
01-Apr-14	8:10:00 PM	401	396.5	398	398.50	-2.09	20.12
01-Apr-14	8:12:00 PM	401.4	396.7	398.2	398.77	-2.02	20.18
01-Apr-14	8:14:00 PM	401.9	397.2	398.5	399.20	-1.92	20.22
01-Apr-14	8:16:00 PM	401.7	397.3	398.2	399.07	-1.95	20.18
01-Apr-14	8:18:00 PM	401.6	396.9	397.7	398.73	-2.03	20.19
01-Apr-14	8:20:00 PM	402	397.1	398	399.03	-1.96	20.23
01-Apr-14	8:22:00 PM	401.9	397	398.3	399.07	-1.95	20.24
01-Apr-14	8:24:00 PM	402	397	398.2	399.07	-1.95	20.24
01-Apr-14	8:26:00 PM	401.7	396.8	398.3	398.93	-1.98	20.32
01-Apr-14	8:28:00 PM	401.5	396.9	398.1	398.83	-2.01	20.29
01-Apr-14	8:30:00 PM	401.5	396.8	397.6	398.63	-2.06	20.17
01-Apr-14	8:32:00 PM	401.6	396.8	397.9	398.77	-2.02	20.17
01-Apr-14	8:34:00 PM	401.9	397.1	398.5	399.17	-1.92	20.25
01-Apr-14	8:36:00 PM	402	397.4	398.5	399.30	-1.89	20.22
01-Apr-14	8:38:00 PM	402.5	397.7	398.8	399.67	-1.80	20.16
01-Apr-14	8:40:00 PM	402.2	397.5	398.4	399.37	-1.88	20.23
01-Apr-14	8:42:00 PM	401.3	397	397.6	398.63	-2.06	20.18
01-Apr-14	8:44:00 PM	400.9	397	397.2	398.37	-2.12	20.11
01-Apr-14	8:46:00 PM	401.3	397.2	397.6	398.70	-2.04	20.18
01-Apr-14	8:48:00 PM	401.6	397.7	398.1	399.13	-1.93	20.17
01-Apr-14	8:50:00 PM	401.8	397.8	398	399.20	-1.92	20.08
01-Apr-14	8:52:00 PM	401.9	397.6	398	399.17	-1.92	19.92
01-Apr-14	8:54:00 PM	401.7	397.4	397.8	398.97	-1.97	19.94
01-Apr-14	8:56:00 PM	401	396.9	396.9	398.27	-2.15	20.01
01-Apr-14	8:58:00 PM	400	396.3	395.9	397.40	-2.36	20.00
01-Apr-14	9:00:00 PM	400.2	396.4	396.1	397.57	-2.32	19.95
01-Apr-14	9:02:00 PM	400.1	396.7	396.1	397.63	-2.30	19.96
01-Apr-14	9:04:00 PM	400.1	396.7	396.2	397.67	-2.29	19.94
01-Apr-14	9:06:00 PM	400.7	397	397	398.23	-2.15	20.03
01-Apr-14	9:08:00 PM	400.6	397.3	397.2	398.37	-2.12	20.08
01-Apr-14	9:10:00 PM	400.6	397.2	397.6	398.47	-2.10	20.19
01-Apr-14	9:12:00 PM	400.8	396.7	397.6	398.37	-2.12	20.06
01-Apr-14	9:14:00 PM	400.4	396.7	397.1	398.07	-2.19	20.02
01-Apr-14	9:16:00 PM	400.8	397.1	397.5	398.47	-2.10	20.11
01-Apr-14	9:18:00 PM	401.4	397.3	398.1	398.93	-1.98	20.17
01-Apr-14	9:20:00 PM	401.6	397.5	398.2	399.10	-1.94	20.09
01-Apr-14	9:22:00 PM	401.7	397.7	398.4	399.27	-1.90	20.05
01-Apr-14	9:24:00 PM	401.6	397.6	398.4	399.20	-1.92	20.10
01-Apr-14	9:26:00 PM	401.7	398	398.6	399.43	-1.86	20.17
01-Apr-14	9:28:00 PM	402.1	398	398.8	399.63	-1.81	20.10

Study of Voltage During Night Time							
01-Apr-14	9:30:00 PM	401.8	397.5	398.5	399.27	-1.90	20.25
01-Apr-14	9:32:00 PM	402.2	398.1	398.9	399.73	-1.79	20.32
01-Apr-14	9:34:00 PM	402.4	398.3	399.1	399.93	-1.74	20.24
01-Apr-14	9:36:00 PM	401.9	397.9	399.2	399.67	-1.80	20.31
01-Apr-14	9:38:00 PM	401	397.5	398.6	399.03	-1.96	20.29
01-Apr-14	9:40:00 PM	400.6	397.3	397.9	398.60	-2.06	20.27
01-Apr-14	9:42:00 PM	400.5	396.9	397.8	398.40	-2.11	20.27
01-Apr-14	9:44:00 PM	401	397.6	398.1	398.90	-1.99	20.41
01-Apr-14	9:46:00 PM	401.2	398.1	398.8	399.37	-1.88	20.39
01-Apr-14	9:48:00 PM	401.4	398.3	398.7	399.47	-1.85	20.29
01-Apr-14	9:50:00 PM	401.4	398.3	398.4	399.37	-1.88	20.35
01-Apr-14	9:52:00 PM	401.2	398.2	398.8	399.40	-1.87	20.39
01-Apr-14	9:54:00 PM	401.3	398	398.9	399.40	-1.87	20.26
01-Apr-14	9:56:00 PM	400.4	396.8	397.6	398.27	-2.15	20.20
01-Apr-14	9:58:00 PM	399.1	395.7	396	396.93	-2.47	20.10
01-Apr-14	10:00:00 PM	398.2	394.8	395.1	396.03	-2.69	20.00
01-Apr-14	10:02:00 PM	397.6	394.1	394.5	395.40	-2.85	19.96
01-Apr-14	10:04:00 PM	397.1	393.8	394.1	395.00	-2.95	19.97
01-Apr-14	10:06:00 PM	397.4	394.3	394.1	395.27	-2.88	19.95
01-Apr-14	10:08:00 PM	397.3	394.2	393.8	395.10	-2.92	19.91
01-Apr-14	10:10:00 PM	396.6	393.6	393.4	394.53	-3.06	19.90
01-Apr-14	10:12:00 PM	396.2	393.2	393.1	394.17	-3.15	19.90
01-Apr-14	10:14:00 PM	396.1	393	393.2	394.10	-3.17	19.82
01-Apr-14	10:16:00 PM	396.4	393.4	393.6	394.47	-3.08	19.87
01-Apr-14	10:18:00 PM	396.8	393.7	393.8	394.77	-3.01	19.87
01-Apr-14	10:20:00 PM	397.1	393.9	394	395.00	-2.95	19.77
01-Apr-14	10:22:00 PM	397.4	394.2	394.4	395.33	-2.87	19.75
01-Apr-14	10:24:00 PM	397.2	394.1	394.7	395.33	-2.87	19.82
01-Apr-14	10:26:00 PM	396.5	393.2	394.1	394.60	-3.05	19.81
01-Apr-14	10:28:00 PM	396.3	393.7	394	394.67	-3.03	19.91
01-Apr-14	10:30:00 PM	396.6	393.7	394.5	394.93	-2.96	19.91
01-Apr-14	10:32:00 PM	396.8	393.6	394.3	394.90	-2.97	19.83
01-Apr-14	10:34:00 PM	396.6	393.4	393.7	394.57	-3.05	19.87
01-Apr-14	10:36:00 PM	397.2	393.8	394.4	395.13	-2.92	19.89
01-Apr-14	10:38:00 PM	397.3	393.7	394.6	395.20	-2.90	19.85
01-Apr-14	10:40:00 PM	396.6	393.7	394.2	394.83	-2.99	19.88
01-Apr-14	10:42:00 PM	396.7	394	394.5	395.07	-2.93	19.94
01-Apr-14	10:44:00 PM	397.6	394.2	395	395.60	-2.80	20.03
01-Apr-14	10:46:00 PM	397.9	394.6	395.4	395.97	-2.71	20.01
01-Apr-14	10:48:00 PM	397.8	394.6	395.4	395.93	-2.72	20.09
01-Apr-14	10:50:00 PM	398	395	395.9	396.30	-2.63	20.09
01-Apr-14	10:52:00 PM	398.1	395.2	396.2	396.50	-2.58	20.05
01-Apr-14	10:54:00 PM	398.5	395.6	396.3	396.80	-2.51	20.08
01-Apr-14	10:56:00 PM	398.5	395.5	396.1	396.70	-2.53	20.10
01-Apr-14	10:58:00 PM	398.3	395.5	396.3	396.70	-2.53	20.21
01-Apr-14	11:00:00 PM	398.3	395.4	396.6	396.77	-2.51	20.20
01-Apr-14	11:02:00 PM	398.2	395.5	396.6	396.77	-2.51	20.17
01-Apr-14	11:04:00 PM	398.9	395.8	397	397.23	-2.40	20.05
01-Apr-14	11:06:00 PM	399.1	396.1	397.1	397.43	-2.35	20.35
01-Apr-14	11:08:00 PM	399.1	396.1	397.4	397.53	-2.33	20.28
01-Apr-14	11:10:00 PM	399.3	396.3	397.7	397.77	-2.27	20.17

Study of Voltage During Night Time							
01-Apr-14	11:12:00 PM	399.1	396.5	397.7	397.77	-2.27	20.19
01-Apr-14	11:14:00 PM	399.6	396.9	398.3	398.27	-2.15	20.16
01-Apr-14	11:16:00 PM	400.3	397.5	398.9	398.90	-1.99	20.30
01-Apr-14	11:18:00 PM	400.2	397.5	399	398.90	-1.99	20.27
01-Apr-14	11:20:00 PM	400.7	397.9	399.4	399.33	-1.88	20.27
01-Apr-14	11:22:00 PM	400.9	398	399.6	399.50	-1.84	20.25
01-Apr-14	11:24:00 PM	401	397.6	399.8	399.47	-1.85	20.37
01-Apr-14	11:26:00 PM	401.2	398.1	400.1	399.80	-1.77	20.39
01-Apr-14	11:28:00 PM	401.5	398.7	400.3	400.17	-1.68	20.44
01-Apr-14	11:30:00 PM	402.2	399.1	400.9	400.73	-1.54	20.41
01-Apr-14	11:32:00 PM	402.4	399	400.9	400.77	-1.53	20.43
01-Apr-14	11:34:00 PM	402.9	399.5	401.3	401.23	-1.42	20.47
01-Apr-14	11:36:00 PM	403	399.9	401.8	401.57	-1.33	20.54
01-Apr-14	11:38:00 PM	402.6	400.1	401.9	401.53	-1.34	20.58
01-Apr-14	11:40:00 PM	402.6	400.3	401.8	401.57	-1.33	20.67
01-Apr-14	11:42:00 PM	403.1	400.2	402.2	401.83	-1.27	20.74
01-Apr-14	11:44:00 PM	403	400.3	402	401.77	-1.29	20.69
01-Apr-14	11:46:00 PM	403.3	400.8	402	402.03	-1.22	20.66
01-Apr-14	11:48:00 PM	403.9	401.2	402.3	402.47	-1.11	20.83
01-Apr-14	11:50:00 PM	404.7	401.1	402.9	402.90	-1.01	20.75
01-Apr-14	11:52:00 PM	404.8	401.6	402.9	403.10	-0.96	20.76
01-Apr-14	11:54:00 PM	405.1	402.1	403.2	403.47	-0.87	20.77
01-Apr-14	11:56:00 PM	404.6	401.7	402.7	403.00	-0.98	20.71
01-Apr-14	11:58:00 PM	404.2	400.9	402	402.37	-1.14	20.73
02-Apr-14	12:00:00 AM	404.1	401.2	402.2	402.50	-1.11	20.68
		400.143	396.5178	397.3719			
AVERAGE					398.01	-2.21	20.14





Study of Voltage Variation at Night for Labour Chowk Switching Point (After Midnight)

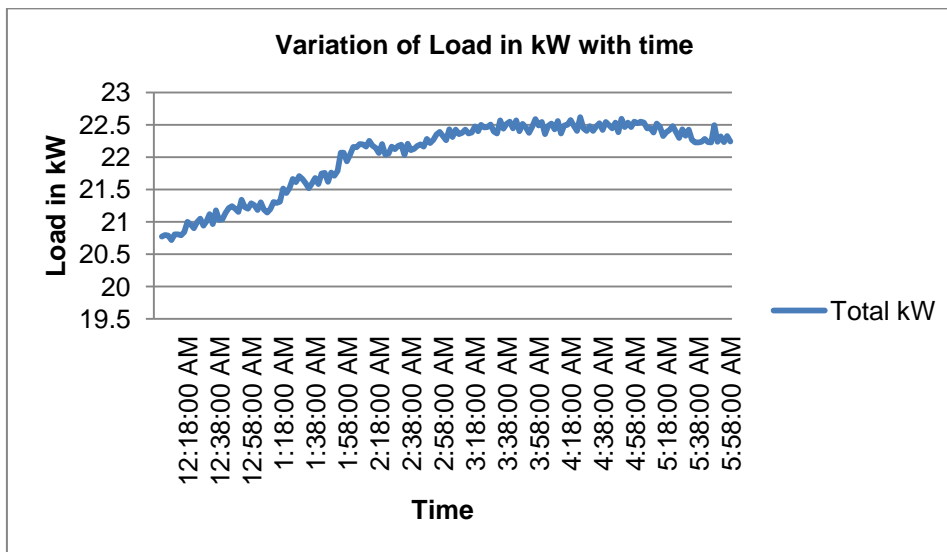
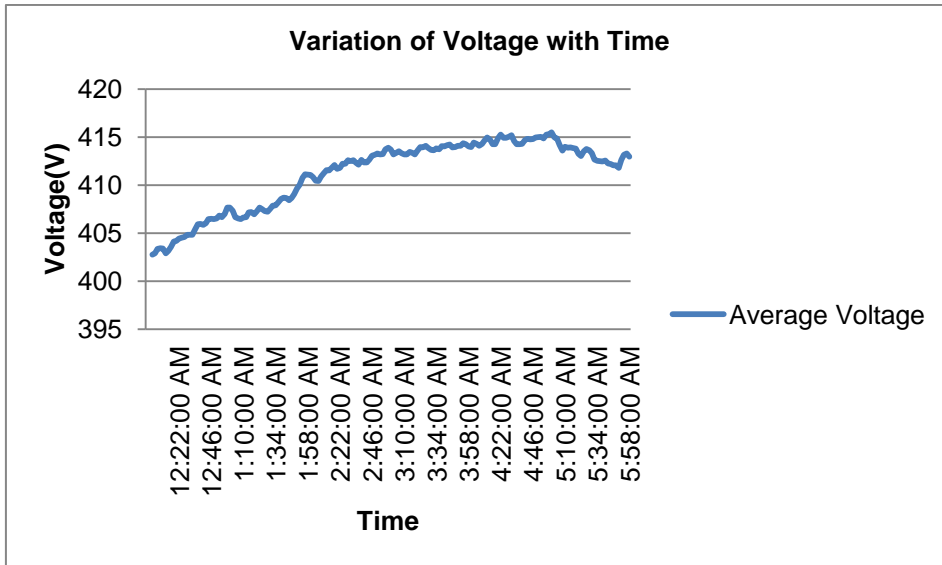
Study of Voltage During Night Time							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
02-Apr-14	12:02:00 AM	404.6	401.3	402.4	402.77	-1.04	20.77
02-Apr-14	12:04:00 AM	404.7	401.6	402.4	402.90	-1.01	20.80
02-Apr-14	12:06:00 AM	405.1	402.2	402.8	403.37	-0.89	20.79
02-Apr-14	12:08:00 AM	405	402	403.3	403.43	-0.88	20.72
02-Apr-14	12:10:00 AM	405	401.8	403.4	403.40	-0.88	20.81
02-Apr-14	12:12:00 AM	404.5	401.6	402.6	402.90	-1.01	20.80
02-Apr-14	12:14:00 AM	404.7	401.9	402.9	403.17	-0.94	20.79
02-Apr-14	12:16:00 AM	405.1	402.2	403.4	403.57	-0.84	20.84
02-Apr-14	12:18:00 AM	406	402.6	403.8	404.13	-0.70	21.00
02-Apr-14	12:20:00 AM	406	402.8	403.8	404.20	-0.69	20.96
02-Apr-14	12:22:00 AM	406.4	402.9	404	404.43	-0.63	20.90
02-Apr-14	12:24:00 AM	406	403.2	404.4	404.53	-0.61	21.00
02-Apr-14	12:26:00 AM	406.1	403.3	404.4	404.60	-0.59	21.05
02-Apr-14	12:28:00 AM	406.7	403.5	404.3	404.83	-0.53	20.94
02-Apr-14	12:30:00 AM	406.4	403.4	404.7	404.83	-0.53	21.00
02-Apr-14	12:32:00 AM	406.5	403.5	404.5	404.83	-0.53	21.12
02-Apr-14	12:34:00 AM	407	403.9	405.4	405.43	-0.38	20.96
02-Apr-14	12:36:00 AM	407.6	404.3	405.9	405.93	-0.26	21.18
02-Apr-14	12:38:00 AM	407.8	404.3	405.8	405.97	-0.25	21.03
02-Apr-14	12:40:00 AM	407.8	404.4	405.4	405.87	-0.28	21.04
02-Apr-14	12:42:00 AM	407.5	404.6	406	406.03	-0.24	21.14
02-Apr-14	12:44:00 AM	408	405	406.4	406.47	-0.13	21.21
02-Apr-14	12:46:00 AM	408.2	405.1	406.2	406.50	-0.12	21.24
02-Apr-14	12:48:00 AM	408.9	404.6	405.9	406.47	-0.13	21.20
02-Apr-14	12:50:00 AM	408.7	404.7	406.2	406.53	-0.11	21.15
02-Apr-14	12:52:00 AM	408.6	405.3	406.6	406.83	-0.04	21.34

Study of Voltage During Night Time							
02-Apr-14	12:54:00 AM	408.4	405.1	406.5	406.67	-0.08	21.23
02-Apr-14	12:56:00 AM	408.8	405.1	407.1	407.00	0.00	21.20
02-Apr-14	12:58:00 AM	409.6	405.6	407.8	407.67	0.16	21.29
02-Apr-14	1:00:00 AM	409.7	405.4	407.9	407.67	0.16	21.26
02-Apr-14	1:02:00 AM	409	405.1	407.9	407.33	0.08	21.18
02-Apr-14	1:04:00 AM	408.2	404.6	407.2	406.67	-0.08	21.30
02-Apr-14	1:06:00 AM	408.5	404.5	406.6	406.53	-0.11	21.19
02-Apr-14	1:08:00 AM	408.6	404.5	406.3	406.47	-0.13	21.14
02-Apr-14	1:10:00 AM	409	404.6	406.3	406.63	-0.09	21.20
02-Apr-14	1:12:00 AM	408.6	405	406.4	406.67	-0.08	21.30
02-Apr-14	1:14:00 AM	409.2	405.3	407	407.17	0.04	21.29
02-Apr-14	1:16:00 AM	409.4	405	407.2	407.20	0.05	21.31
02-Apr-14	1:18:00 AM	409	405.1	406.8	406.97	-0.01	21.51
02-Apr-14	1:20:00 AM	409.3	405.5	407	407.27	0.07	21.44
02-Apr-14	1:22:00 AM	409.8	405.8	407.4	407.67	0.16	21.52
02-Apr-14	1:24:00 AM	409.5	405.6	407.4	407.50	0.12	21.66
02-Apr-14	1:26:00 AM	409.1	405.5	407.3	407.30	0.07	21.61
02-Apr-14	1:28:00 AM	409.4	405.3	407	407.23	0.06	21.71
02-Apr-14	1:30:00 AM	409.9	405.5	407.2	407.53	0.13	21.66
02-Apr-14	1:32:00 AM	410.2	405.8	407.6	407.87	0.21	21.60
02-Apr-14	1:34:00 AM	410	405.7	408	407.90	0.22	21.52
02-Apr-14	1:36:00 AM	410.1	406.1	408.4	408.20	0.29	21.59
02-Apr-14	1:38:00 AM	410.3	406.6	408.8	408.57	0.38	21.68
02-Apr-14	1:40:00 AM	410.7	406.7	408.7	408.70	0.42	21.58
02-Apr-14	1:42:00 AM	410.6	406.5	408.9	408.67	0.41	21.74
02-Apr-14	1:44:00 AM	410	406.4	408.9	408.43	0.35	21.75
02-Apr-14	1:46:00 AM	410.4	406.4	409.2	408.67	0.41	21.62
02-Apr-14	1:48:00 AM	411	406.6	409.6	409.07	0.51	21.76
02-Apr-14	1:50:00 AM	411.8	407.3	409.9	409.67	0.66	21.71
02-Apr-14	1:52:00 AM	412.2	407.8	410.1	410.03	0.75	21.79
02-Apr-14	1:54:00 AM	412.9	408.6	410.8	410.77	0.93	22.07
02-Apr-14	1:56:00 AM	412.8	409.2	411.4	411.13	1.02	22.07
02-Apr-14	1:58:00 AM	413	408.8	411.5	411.10	1.01	21.93
02-Apr-14	2:00:00 AM	413.6	408.3	411.3	411.07	1.00	22.04
02-Apr-14	2:02:00 AM	413	408.3	411.2	410.83	0.94	22.16
02-Apr-14	2:04:00 AM	412.1	408.1	411.2	410.47	0.85	22.15
02-Apr-14	2:06:00 AM	412	408.2	411.1	410.43	0.84	22.20
02-Apr-14	2:08:00 AM	412.9	408.7	411.1	410.90	0.96	22.20
02-Apr-14	2:10:00 AM	413.4	408.7	411.7	411.27	1.05	22.16
02-Apr-14	2:12:00 AM	413.4	409.3	412	411.57	1.12	22.25
02-Apr-14	2:14:00 AM	413.6	409.2	411.8	411.53	1.11	22.18
02-Apr-14	2:16:00 AM	414.1	409.4	412	411.83	1.19	22.14
02-Apr-14	2:18:00 AM	414.5	409.7	412.1	412.10	1.25	22.06
02-Apr-14	2:20:00 AM	413.6	409.6	411.9	411.70	1.15	22.20
02-Apr-14	2:22:00 AM	413.6	409.5	412.3	411.80	1.18	22.04
02-Apr-14	2:24:00 AM	414.2	409.8	412.7	412.23	1.29	22.05
02-Apr-14	2:26:00 AM	414.2	410	412.5	412.23	1.29	22.16
02-Apr-14	2:28:00 AM	414.4	410.2	413.2	412.60	1.38	22.12
02-Apr-14	2:30:00 AM	414.3	410.1	413.1	412.50	1.35	22.17
02-Apr-14	2:32:00 AM	414.6	410.1	413.1	412.60	1.38	22.19
02-Apr-14	2:34:00 AM	414.2	409.8	413	412.33	1.31	22.03

Study of Voltage During Night Time							
02-Apr-14	2:36:00 AM	413.8	409.4	413.2	412.13	1.26	22.21
02-Apr-14	2:38:00 AM	414.5	410	413.4	412.63	1.38	22.11
02-Apr-14	2:40:00 AM	414.1	410.1	412.9	412.37	1.32	22.13
02-Apr-14	2:42:00 AM	414	410.1	413	412.37	1.32	22.17
02-Apr-14	2:44:00 AM	414.3	410.5	413.2	412.67	1.39	22.20
02-Apr-14	2:46:00 AM	414.9	410.8	413.5	413.07	1.49	22.16
02-Apr-14	2:48:00 AM	415.2	410.9	413.4	413.17	1.52	22.28
02-Apr-14	2:50:00 AM	415.3	411.2	413.4	413.30	1.55	22.22
02-Apr-14	2:52:00 AM	415.1	411	413.5	413.20	1.52	22.26
02-Apr-14	2:54:00 AM	415.1	411.2	413.4	413.23	1.53	22.35
02-Apr-14	2:56:00 AM	415.5	411.6	414.1	413.73	1.65	22.39
02-Apr-14	2:58:00 AM	415.9	411.6	414.2	413.90	1.70	22.32
02-Apr-14	3:00:00 AM	415.9	411.2	414	413.70	1.65	22.26
02-Apr-14	3:02:00 AM	415.2	410.8	413.6	413.20	1.52	22.43
02-Apr-14	3:04:00 AM	415.2	411.1	413.8	413.37	1.56	22.31
02-Apr-14	3:06:00 AM	415.6	411.1	413.9	413.53	1.61	22.43
02-Apr-14	3:08:00 AM	415.3	411	413.7	413.33	1.56	22.36
02-Apr-14	3:10:00 AM	415.1	410.8	413.7	413.20	1.52	22.37
02-Apr-14	3:12:00 AM	415	410.9	413.7	413.20	1.52	22.42
02-Apr-14	3:14:00 AM	415.5	411	413.9	413.47	1.59	22.36
02-Apr-14	3:16:00 AM	415.3	410.9	413.9	413.37	1.56	22.38
02-Apr-14	3:18:00 AM	415	411.1	413.5	413.20	1.52	22.48
02-Apr-14	3:20:00 AM	415.6	411.6	413.7	413.63	1.63	22.40
02-Apr-14	3:22:00 AM	416	411.6	414.3	413.97	1.71	22.50
02-Apr-14	3:24:00 AM	415.8	411.7	414.3	413.93	1.70	22.46
02-Apr-14	3:26:00 AM	415.8	412	414.5	414.10	1.74	22.46
02-Apr-14	3:28:00 AM	415.6	411.6	414.4	413.87	1.69	22.50
02-Apr-14	3:30:00 AM	415.7	411.2	414.1	413.67	1.64	22.40
02-Apr-14	3:32:00 AM	415.7	411.2	414	413.63	1.63	22.36
02-Apr-14	3:34:00 AM	415.8	411.3	414.4	413.83	1.68	22.57
02-Apr-14	3:36:00 AM	415.7	411.4	414.1	413.73	1.65	22.44
02-Apr-14	3:38:00 AM	415.9	411.9	414.4	414.07	1.74	22.51
02-Apr-14	3:40:00 AM	415.7	411.7	414.7	414.03	1.73	22.55
02-Apr-14	3:42:00 AM	415.9	411.7	414.9	414.17	1.76	22.44
02-Apr-14	3:44:00 AM	416.3	411.7	414.7	414.23	1.78	22.57
02-Apr-14	3:46:00 AM	415.8	411.6	414.4	413.93	1.70	22.40
02-Apr-14	3:48:00 AM	415.6	411.6	414.7	413.97	1.71	22.51
02-Apr-14	3:50:00 AM	415.8	411.7	414.8	414.10	1.74	22.46
02-Apr-14	3:52:00 AM	416.3	411.3	414.7	414.10	1.74	22.37
02-Apr-14	3:54:00 AM	416.8	411.7	414.6	414.37	1.81	22.47
02-Apr-14	3:56:00 AM	416.4	412.1	414.3	414.27	1.79	22.59
02-Apr-14	3:58:00 AM	416.2	411.6	414.3	414.03	1.73	22.49
02-Apr-14	4:00:00 AM	416.2	411.5	414.2	413.97	1.71	22.54
02-Apr-14	4:02:00 AM	417	411.4	414.9	414.43	1.83	22.36
02-Apr-14	4:04:00 AM	416.7	411.4	414.8	414.30	1.79	22.48
02-Apr-14	4:06:00 AM	416.3	411.3	414.7	414.10	1.74	22.52
02-Apr-14	4:08:00 AM	416.5	411.7	414.7	414.30	1.79	22.43
02-Apr-14	4:10:00 AM	416.8	412.1	415.1	414.67	1.88	22.56
02-Apr-14	4:12:00 AM	417.2	412.3	415.4	414.97	1.96	22.36
02-Apr-14	4:14:00 AM	416.7	412.3	415.2	414.73	1.90	22.49
02-Apr-14	4:16:00 AM	416.2	412	414.6	414.27	1.79	22.50

Study of Voltage During Night Time							
02-Apr-14	4:18:00 AM	416.1	411.8	414.9	414.27	1.79	22.57
02-Apr-14	4:20:00 AM	417.3	412.1	415.3	414.90	1.94	22.48
02-Apr-14	4:22:00 AM	417.7	412.3	415.8	415.27	2.03	22.40
02-Apr-14	4:24:00 AM	416.9	412.2	415.7	414.93	1.95	22.62
02-Apr-14	4:26:00 AM	416.9	412.3	415.6	414.93	1.95	22.44
02-Apr-14	4:28:00 AM	417.3	412.3	415.5	415.03	1.97	22.41
02-Apr-14	4:30:00 AM	417.4	412.3	415.9	415.20	2.01	22.48
02-Apr-14	4:32:00 AM	416.7	411.8	415.3	414.60	1.87	22.40
02-Apr-14	4:34:00 AM	416	411.8	415	414.27	1.79	22.47
02-Apr-14	4:36:00 AM	416.1	411.7	415	414.27	1.79	22.52
02-Apr-14	4:38:00 AM	416.2	411.8	414.9	414.30	1.79	22.42
02-Apr-14	4:40:00 AM	416.5	412.1	415.5	414.70	1.89	22.54
02-Apr-14	4:42:00 AM	416.7	412.4	415.4	414.83	1.92	22.49
02-Apr-14	4:44:00 AM	416.8	412.1	415.4	414.77	1.91	22.45
02-Apr-14	4:46:00 AM	416.6	412.2	415.6	414.80	1.92	22.53
02-Apr-14	4:48:00 AM	417	412.2	415.7	414.97	1.96	22.39
02-Apr-14	4:50:00 AM	417.3	412	415.7	415.00	1.97	22.59
02-Apr-14	4:52:00 AM	417	412.4	415.7	415.03	1.97	22.46
02-Apr-14	4:54:00 AM	416.6	412.3	415.7	414.87	1.93	22.53
02-Apr-14	4:56:00 AM	417.4	412.7	415.7	415.27	2.03	22.47
02-Apr-14	4:58:00 AM	417.5	412.7	415.7	415.30	2.04	22.55
02-Apr-14	5:00:00 AM	417.5	413.1	415.9	415.50	2.09	22.52
02-Apr-14	5:02:00 AM	416.8	412.6	415.5	414.97	1.96	22.55
02-Apr-14	5:04:00 AM	417	412.3	415.3	414.87	1.93	22.53
02-Apr-14	5:06:00 AM	416.3	411.5	414.8	414.20	1.77	22.44
02-Apr-14	5:08:00 AM	415.5	411	414.3	413.60	1.62	22.45
02-Apr-14	5:10:00 AM	416.2	411.3	414.5	414.00	1.72	22.38
02-Apr-14	5:12:00 AM	416.1	411.4	414.2	413.90	1.70	22.52
02-Apr-14	5:14:00 AM	416	411.6	414.2	413.93	1.70	22.47
02-Apr-14	5:16:00 AM	416	411.4	414.2	413.87	1.69	22.33
02-Apr-14	5:18:00 AM	416.2	411	414.2	413.80	1.67	22.39
02-Apr-14	5:20:00 AM	415.5	410.5	413.8	413.27	1.54	22.42
02-Apr-14	5:22:00 AM	415	410.5	413.6	413.03	1.48	22.48
02-Apr-14	5:24:00 AM	415.8	410.6	414.2	413.53	1.61	22.39
02-Apr-14	5:26:00 AM	415.9	411	414.4	413.77	1.66	22.29
02-Apr-14	5:28:00 AM	416	410.6	414.3	413.63	1.63	22.43
02-Apr-14	5:30:00 AM	415.3	410.5	414.2	413.33	1.56	22.33
02-Apr-14	5:32:00 AM	414.7	410.1	413.2	412.67	1.39	22.42
02-Apr-14	5:34:00 AM	414.8	409.9	412.9	412.53	1.36	22.27
02-Apr-14	5:36:00 AM	415	409.6	412.9	412.50	1.35	22.23
02-Apr-14	5:38:00 AM	414.7	409.7	413	412.47	1.34	22.23
02-Apr-14	5:40:00 AM	414.5	410	413.2	412.57	1.37	22.24
02-Apr-14	5:42:00 AM	414.4	409.8	412.6	412.27	1.29	22.28
02-Apr-14	5:44:00 AM	414.4	409.8	412.4	412.20	1.28	22.23
02-Apr-14	5:46:00 AM	414.3	409.6	412.3	412.07	1.24	22.22
02-Apr-14	5:48:00 AM	414.4	409.6	412.2	412.07	1.24	22.49
02-Apr-14	5:50:00 AM	413.6	409.6	412.2	411.80	1.18	22.24
02-Apr-14	5:52:00 AM	414.7	410.2	413	412.63	1.38	22.32
02-Apr-14	5:54:00 AM	415.2	410.9	413.4	413.17	1.52	22.23
02-Apr-14	5:56:00 AM	415.4	410.8	413.7	413.30	1.55	22.32
02-Apr-14	5:58:00 AM	415.3	410.4	413.2	412.97	1.47	22.24

Study of Voltage During Night Time						
		413.18	408.95	411.50		
Average				411.21	1.03	22.01

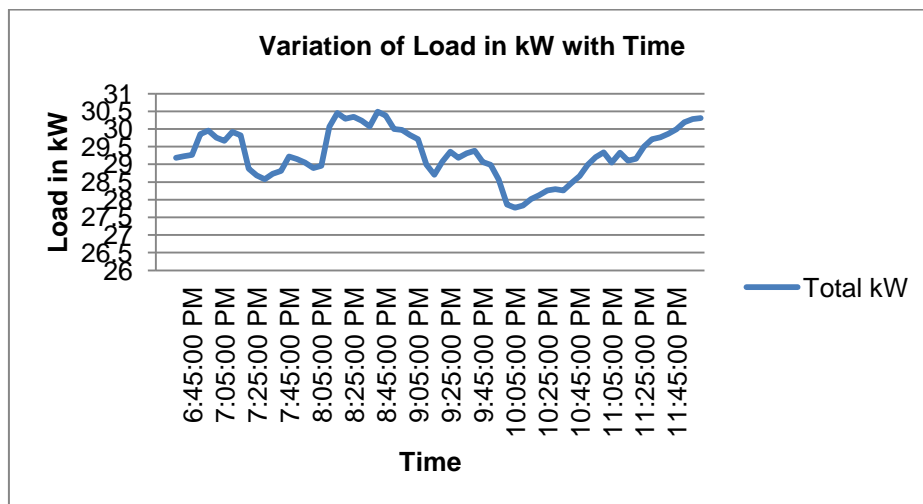
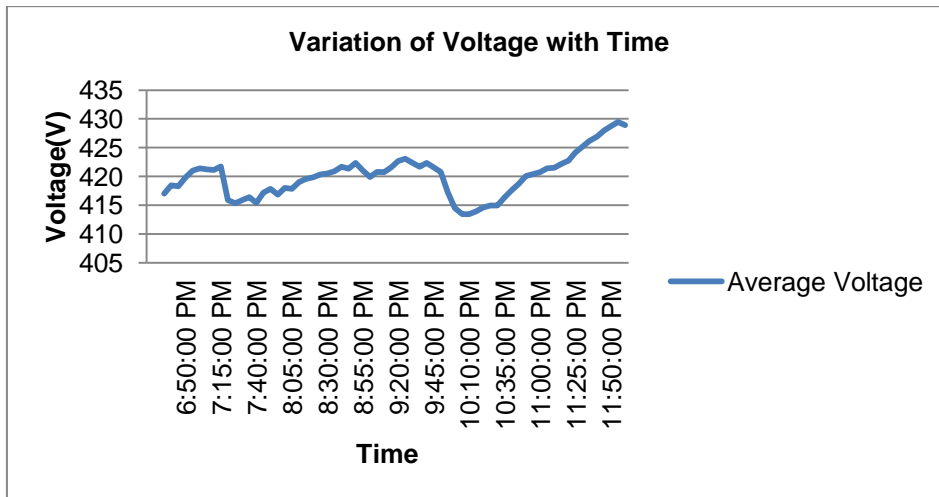


4. Study of Voltage Variation at Night for Mastana Chowk Switching Point (Till Midnight)

Study for Voltage Plant Main incomer - Night Load							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			

Study for Voltage Plant Main incomer - Night Load							
12/16/2013	6:35:00 PM	418.4	419.8	412.9	417.0	2.5	29.2
12/16/2013	6:40:00 PM	419.8	421.3	414.3	418.5	2.8	29.2
12/16/2013	6:45:00 PM	419.7	421.3	413.9	418.3	2.8	29.3
12/16/2013	6:50:00 PM	421.1	423.1	415.4	419.9	3.2	29.9
12/16/2013	6:55:00 PM	422.6	424.4	416	421.0	3.4	30.0
12/16/2013	7:00:00 PM	422.9	424.6	416.7	421.4	3.5	29.8
12/16/2013	7:05:00 PM	422.9	424.3	416.5	421.2	3.5	29.7
12/16/2013	7:10:00 PM	422.9	424.3	416.2	421.1	3.5	29.9
12/16/2013	7:15:00 PM	423.6	425.2	416.5	421.8	3.6	29.8
12/16/2013	7:20:00 PM	417.6	419.4	410.7	415.9	2.2	28.9
12/16/2013	7:25:00 PM	416.9	419	410.2	415.4	2.1	28.7
12/16/2013	7:30:00 PM	417.2	419.7	410.8	415.9	2.2	28.6
12/16/2013	7:35:00 PM	418.1	419.9	411.3	416.4	2.3	28.7
12/16/2013	7:40:00 PM	417.5	418.8	409.9	415.4	2.1	28.8
12/16/2013	7:45:00 PM	419.2	420.5	411.8	417.2	2.5	29.2
12/16/2013	7:50:00 PM	419.5	421.5	412.5	417.8	2.7	29.2
12/16/2013	7:55:00 PM	418.3	420.6	411.6	416.8	2.4	29.0
12/16/2013	8:00:00 PM	419.9	421.5	412.6	418.0	2.7	28.9
12/16/2013	8:05:00 PM	419.8	421	412.8	417.9	2.7	29.0
12/16/2013	8:10:00 PM	420.9	422.1	414.1	419.0	3.0	30.1
12/16/2013	8:15:00 PM	421.4	422.6	414.7	419.6	3.1	30.4
12/16/2013	8:20:00 PM	421.8	422.9	414.8	419.8	3.2	30.3
12/16/2013	8:25:00 PM	422.1	423.3	415.7	420.4	3.3	30.3
12/16/2013	8:30:00 PM	422.5	423.5	415.6	420.5	3.3	30.2
12/16/2013	8:35:00 PM	422.6	424.1	416	420.9	3.4	30.1
12/16/2013	8:40:00 PM	423.5	425.1	416.5	421.7	3.6	30.5
12/16/2013	8:45:00 PM	423.1	424.6	416.3	421.3	3.5	30.4
12/16/2013	8:50:00 PM	423.9	425.6	417.5	422.3	3.8	30.0
12/16/2013	8:55:00 PM	422.7	424.5	416.1	421.1	3.5	30.0
12/16/2013	9:00:00 PM	421.2	423.3	415.3	419.9	3.2	29.8
12/16/2013	9:05:00 PM	421.9	424.2	416.3	420.8	3.4	29.7
12/16/2013	9:10:00 PM	421.8	424.3	416.2	420.8	3.4	29.0
12/16/2013	9:15:00 PM	422.7	425	417	421.6	3.6	28.7
12/16/2013	9:20:00 PM	423.9	426.1	418.1	422.7	3.9	29.1
12/16/2013	9:25:00 PM	424.4	426.4	418.5	423.1	4.0	29.4
12/16/2013	9:30:00 PM	423.6	425.4	418	422.3	3.8	29.2
12/16/2013	9:35:00 PM	423	424.9	417.1	421.7	3.6	29.3
12/16/2013	9:40:00 PM	423.2	425.7	418.2	422.4	3.8	29.4
12/16/2013	9:45:00 PM	422.4	424.8	417.6	421.6	3.6	29.1
12/16/2013	9:50:00 PM	422	423.7	416.7	420.8	3.4	29.0
12/16/2013	9:55:00 PM	418.5	420.1	413.2	417.3	2.5	28.6
12/16/2013	10:00:00 PM	415.5	417.2	410.8	414.5	1.8	27.9
12/16/2013	10:05:00 PM	414.7	415.9	409.7	413.4	1.6	27.8
12/16/2013	10:10:00 PM	414.7	415.9	409.8	413.5	1.6	27.8
12/16/2013	10:15:00 PM	415	416.5	410.4	414.0	1.7	28.0
12/16/2013	10:20:00 PM	415.6	417.1	411.2	414.6	1.9	28.1
12/16/2013	10:25:00 PM	415.8	417.4	411.6	414.9	1.9	28.3
12/16/2013	10:30:00 PM	415.7	417.5	411.7	415.0	2.0	28.3
12/16/2013	10:35:00 PM	416.8	418.9	413.6	416.4	2.3	28.3
12/16/2013	10:40:00 PM	418	419.9	415	417.6	2.6	28.5
12/16/2013	10:45:00 PM	419.2	421.1	416	418.8	2.9	28.7

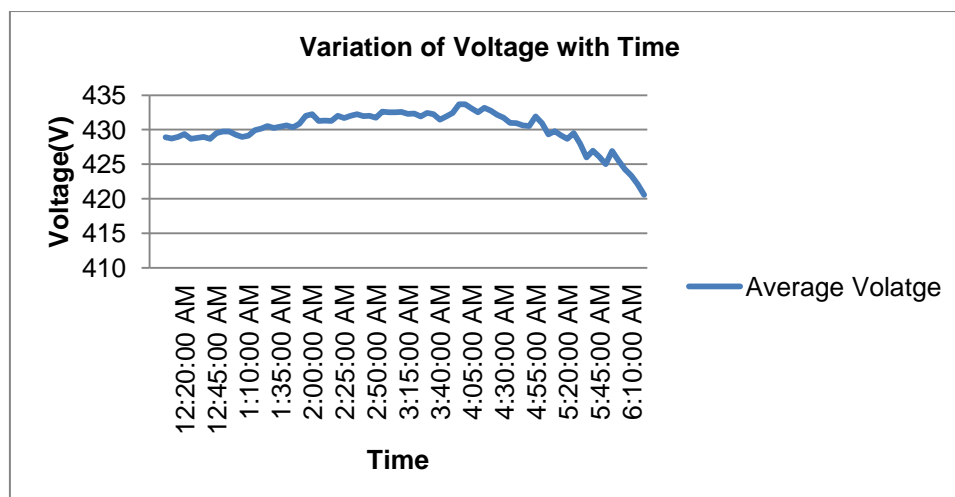
Study for Voltage Plant Main incomer - Night Load							
12/16/2013	10:50:00 PM	420.9	422.2	417.2	420.1	3.2	29.0
12/16/2013	10:55:00 PM	421.2	422.5	417.5	420.4	3.3	29.2
12/16/2013	11:00:00 PM	421.5	423	417.8	420.8	3.4	29.3
12/16/2013	11:05:00 PM	422.1	423.5	418.6	421.4	3.5	29.0
12/16/2013	11:10:00 PM	422.2	423.6	418.8	421.5	3.6	29.3
12/16/2013	11:15:00 PM	422.7	424.3	419.5	422.2	3.7	29.1
12/16/2013	11:20:00 PM	423.3	424.8	420.2	422.8	3.9	29.2
12/16/2013	11:25:00 PM	424.9	426.1	421.5	424.2	4.2	29.5
12/16/2013	11:30:00 PM	425.9	427	422.6	425.2	4.5	29.7
12/16/2013	11:35:00 PM	426.7	428.1	423.7	426.2	4.7	29.8
12/16/2013	11:40:00 PM	427.5	428.9	424.4	426.9	4.9	29.9
12/16/2013	11:45:00 PM	428.7	430.1	425.1	428.0	5.2	30.0
12/16/2013	11:50:00 PM	429.5	430.8	425.9	428.7	5.3	30.2
12/16/2013	11:55:00 PM	430.1	431.7	426.6	429.5	5.5	30.3
12/17/2013	12:00:00 AM	429.5	431.4	425.9	428.9	5.4	30.3
		421.34	422.99	416.01			
AVERAGE					420.1	3.2	29.3

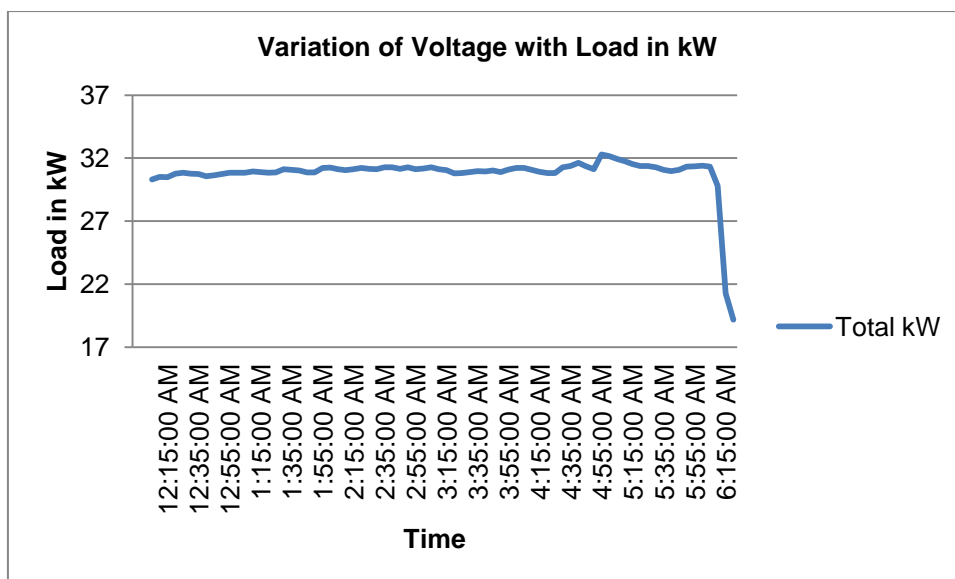


Study of Voltage Variation at Night for Mastana Chowk Switching Point (After Midnight)

Study for Voltage Plant Main incomer - After Midnight Load							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
12/17/2013	12:05:00 AM	429.7	431.1	425.9	428.9	5.4	30.3
12/17/2013	12:10:00 AM	429.5	430.8	425.9	428.7	5.3	30.5
12/17/2013	12:15:00 AM	429.9	430.9	426	428.9	5.4	30.5
12/17/2013	12:20:00 AM	430.1	431.4	426.6	429.4	5.5	30.8
12/17/2013	12:25:00 AM	429.3	430.7	426	428.7	5.3	30.8
12/17/2013	12:30:00 AM	429.4	430.9	426.1	428.8	5.4	30.8
12/17/2013	12:35:00 AM	429.5	431.1	426.3	429.0	5.4	30.7
12/17/2013	12:40:00 AM	429.3	430.7	426	428.7	5.3	30.6
12/17/2013	12:45:00 AM	430.3	431.6	426.7	429.5	5.5	30.6
12/17/2013	12:50:00 AM	430.4	431.9	426.9	429.7	5.6	30.7
12/17/2013	12:55:00 AM	430.6	431.8	426.8	429.7	5.6	30.8
12/17/2013	1:00:00 AM	430	431.4	426.5	429.3	5.5	30.8
12/17/2013	1:05:00 AM	429.7	431.1	426.1	429.0	5.4	30.9
12/17/2013	1:10:00 AM	429.9	431.1	426.4	429.1	5.4	31.0
12/17/2013	1:15:00 AM	430.8	431.7	427.3	429.9	5.6	30.9
12/17/2013	1:20:00 AM	431.1	431.9	427.5	430.2	5.7	30.8
12/17/2013	1:25:00 AM	431.3	432.5	427.8	430.5	5.8	30.9
12/17/2013	1:30:00 AM	431.1	432.1	427.6	430.3	5.7	31.1
12/17/2013	1:35:00 AM	431.4	432.4	427.5	430.4	5.8	31.1
12/17/2013	1:40:00 AM	431.6	432.4	427.9	430.6	5.8	31.0
12/17/2013	1:45:00 AM	431.3	432.1	427.7	430.4	5.7	30.9
12/17/2013	1:50:00 AM	431.6	432.6	428.4	430.9	5.9	30.9
12/17/2013	1:55:00 AM	432.9	433.7	429.4	432.0	6.1	31.2
12/17/2013	2:00:00 AM	432.8	434.2	429.7	432.2	6.2	31.3
12/17/2013	2:05:00 AM	431.8	433.2	428.8	431.3	6.0	31.1
12/17/2013	2:10:00 AM	431.8	433.4	428.7	431.3	6.0	31.1
12/17/2013	2:15:00 AM	432.1	433.1	428.6	431.3	6.0	31.1
12/17/2013	2:20:00 AM	432.8	434	429.3	432.0	6.2	31.2
12/17/2013	2:25:00 AM	432.6	433.6	428.9	431.7	6.1	31.1
12/17/2013	2:30:00 AM	432.8	434	429.2	432.0	6.1	31.1
12/17/2013	2:35:00 AM	433	434.2	429.5	432.2	6.2	31.3
12/17/2013	2:40:00 AM	432.8	433.8	429.3	432.0	6.1	31.3
12/17/2013	2:45:00 AM	432.9	433.8	429.4	432.0	6.2	31.2
12/17/2013	2:50:00 AM	432.8	433.5	428.9	431.7	6.1	31.3
12/17/2013	2:55:00 AM	433.6	434.3	429.9	432.6	6.3	31.1
12/17/2013	3:00:00 AM	433.3	434.3	429.9	432.5	6.3	31.2
12/17/2013	3:05:00 AM	433.4	434.3	429.9	432.5	6.3	31.3
12/17/2013	3:10:00 AM	433.6	434.3	429.8	432.6	6.3	31.1
12/17/2013	3:15:00 AM	433.4	433.9	429.6	432.3	6.2	31.1
12/17/2013	3:20:00 AM	433.4	433.9	429.7	432.3	6.2	30.8
12/17/2013	3:25:00 AM	432.9	433.6	429.3	431.9	6.1	30.8
12/17/2013	3:30:00 AM	433.2	434.3	429.8	432.4	6.2	30.9

Study for Voltage Plant Main incomer - After Midnight Load							
12/17/2013	3:35:00 AM	433	434	429.7	432.2	6.2	31.0
12/17/2013	3:40:00 AM	432.2	433.2	429	431.5	6.0	30.9
12/17/2013	3:45:00 AM	432.9	433.5	429.3	431.9	6.1	31.0
12/17/2013	3:50:00 AM	433.4	434.1	429.8	432.4	6.2	30.9
12/17/2013	3:55:00 AM	434.5	435.4	431.1	433.7	6.6	31.1
12/17/2013	4:00:00 AM	434.5	435.6	431	433.7	6.6	31.2
12/17/2013	4:05:00 AM	433.9	435	430.4	433.1	6.4	31.2
12/17/2013	4:10:00 AM	433.2	434.2	430.1	432.5	6.3	31.1
12/17/2013	4:15:00 AM	433.9	435	430.6	433.2	6.4	30.9
12/17/2013	4:20:00 AM	433.5	434.7	430	432.7	6.3	30.8
12/17/2013	4:25:00 AM	433	433.9	429.6	432.2	6.2	30.8
12/17/2013	4:30:00 AM	432.6	433.4	429.2	431.7	6.1	31.3
12/17/2013	4:35:00 AM	431.8	432.7	428.5	431.0	5.9	31.4
12/17/2013	4:40:00 AM	431.6	433	428.2	430.9	5.9	31.6
12/17/2013	4:45:00 AM	431.4	432.8	427.7	430.6	5.8	31.3
12/17/2013	4:50:00 AM	431.3	432.6	427.7	430.5	5.8	31.1
12/17/2013	4:55:00 AM	432.6	434	429.2	431.9	6.1	32.3
12/17/2013	5:00:00 AM	431.6	433	428.3	431.0	5.9	32.2
12/17/2013	5:05:00 AM	430	431.1	426.9	429.3	5.5	31.9
12/17/2013	5:10:00 AM	430.4	431.8	427.2	429.8	5.6	31.7
12/17/2013	5:15:00 AM	430	431	426.5	429.2	5.4	31.5
12/17/2013	5:20:00 AM	429.4	430.7	426	428.7	5.3	31.4
12/17/2013	5:25:00 AM	430.1	431.7	426.8	429.5	5.5	31.4
12/17/2013	5:30:00 AM	428.4	430.1	425.4	428.0	5.2	31.3
12/17/2013	5:35:00 AM	426.6	428	423.4	426.0	4.7	31.1
12/17/2013	5:40:00 AM	427.6	428.9	424.4	427.0	4.9	31.0
12/17/2013	5:45:00 AM	426.4	428.3	423.5	426.1	4.7	31.1
12/17/2013	5:50:00 AM	425.7	427.2	422.1	425.0	4.4	31.3
12/17/2013	5:55:00 AM	427.6	429.2	423.9	426.9	4.9	31.4
12/17/2013	6:00:00 AM	426.4	428.4	421.8	425.5	4.6	31.4
12/17/2013	6:05:00 AM	425.2	427.2	420.4	424.3	4.2	31.3
12/17/2013	6:10:00 AM	424.5	426	419.6	423.4	4.0	29.8
12/17/2013	6:15:00 AM	423.3	425.3	417.7	422.1	3.7	21.3
12/17/2013	6:20:00 AM	421.9	423.5	416.3	420.6	3.3	19.2
		430.92	432.11	427.35			
Average					430.1	5.7	30.8

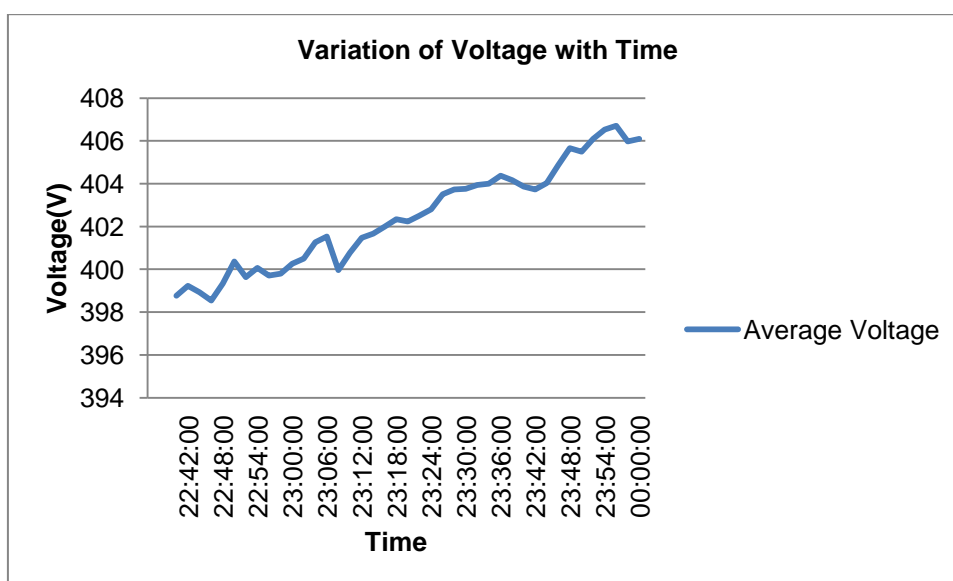


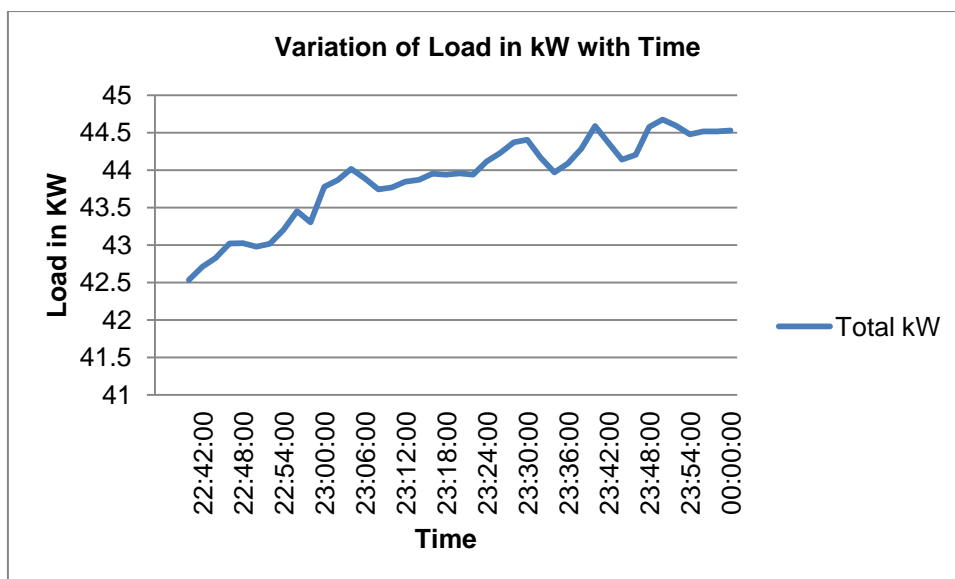


5. Study of Voltage Variation at Night for Hanumantal Thane kesamne Switching Point (Till Midnight)

Study for Voltage During Night Time							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
07-03-2014	22:40:00	400.7	409.7	385.9	398.77	-2.02	42.53
07-03-2014	22:42:00	401.2	409.9	386.6	399.23	-1.91	42.71
07-03-2014	22:44:00	400.7	409.7	386.4	398.93	-1.98	42.83
07-03-2014	22:46:00	400.6	409.6	385.4	398.53	-2.08	43.02
07-03-2014	22:48:00	401.2	411.5	385.3	399.33	-1.88	43.03
07-03-2014	22:50:00	402.3	412.1	386.7	400.37	-1.63	42.98
07-03-2014	22:52:00	401.9	409.5	387.5	399.63	-1.81	43.01
07-03-2014	22:54:00	402.7	410.1	387.4	400.07	-1.70	43.20
07-03-2014	22:56:00	402.8	409.9	386.4	399.70	-1.79	43.45
07-03-2014	22:58:00	402.8	409.6	387	399.80	-1.77	43.30
07-03-2014	23:00:00	403.2	411.3	386.3	400.27	-1.65	43.78
07-03-2014	23:02:00	403.5	411.7	386.3	400.50	-1.60	43.86
07-03-2014	23:04:00	404.2	412.2	387.4	401.27	-1.41	44.02
07-03-2014	23:06:00	404.5	412.7	387.4	401.53	-1.34	43.89
07-03-2014	23:08:00	403	410	386.9	399.97	-1.73	43.74
07-03-2014	23:10:00	403.6	412	386.7	400.77	-1.53	43.77
07-03-2014	23:12:00	404	413.1	387.3	401.47	-1.36	43.84
07-03-2014	23:14:00	404.5	412.7	387.8	401.67	-1.31	43.87
07-03-2014	23:16:00	404.8	413	388.2	402.00	-1.23	43.95
07-03-2014	23:18:00	404.9	413.4	388.7	402.33	-1.15	43.94
07-03-2014	23:20:00	404.9	413.6	388.2	402.23	-1.17	43.96
07-03-2014	23:22:00	405.4	413.7	388.4	402.50	-1.11	43.94
07-03-2014	23:24:00	406	413.8	388.6	402.80	-1.03	44.11

Study for Voltage During Night Time							
07-03-2014	23:26:00	406.6	414.8	389.1	403.50	-0.86	44.23
07-03-2014	23:28:00	407.1	415	389.1	403.73	-0.80	44.37
07-03-2014	23:30:00	407	414.8	389.5	403.77	-0.79	44.40
07-03-2014	23:32:00	406.6	415.2	390	403.93	-0.75	44.16
07-03-2014	23:34:00	406.5	414.6	390.9	404.00	-0.74	43.97
07-03-2014	23:36:00	407.2	414.7	391.2	404.37	-0.65	44.09
07-03-2014	23:38:00	407.1	414.6	390.8	404.17	-0.70	44.28
07-03-2014	23:40:00	407.2	415.1	389.3	403.87	-0.77	44.59
07-03-2014	23:42:00	407	414.3	389.9	403.73	-0.80	44.36
07-03-2014	23:44:00	406.9	414.4	390.8	404.03	-0.73	44.14
07-03-2014	23:46:00	407.7	415.3	391.6	404.87	-0.52	44.20
07-03-2014	23:48:00	408.6	416.4	392	405.67	-0.33	44.58
07-03-2014	23:50:00	409	416.5	391	405.50	-0.37	44.67
07-03-2014	23:52:00	409.6	416.8	391.9	406.10	-0.22	44.59
07-03-2014	23:54:00	409.9	417.2	392.5	406.53	-0.11	44.48
07-03-2014	23:56:00	409.6	417.7	392.8	406.70	-0.07	44.51
07-03-2014	23:58:00	409	416.8	392.1	405.97	-0.25	44.52
08-03-2014	00:00:00	409.2	417.2	391.9	406.10	-0.22	44.53
		405.24	413.32	388.76			
AVERAGE					402.44	-1.12	43.89





Study of Voltage Variation at Night for Hanumantal Thane kesamne Switching Point (After Midnight)

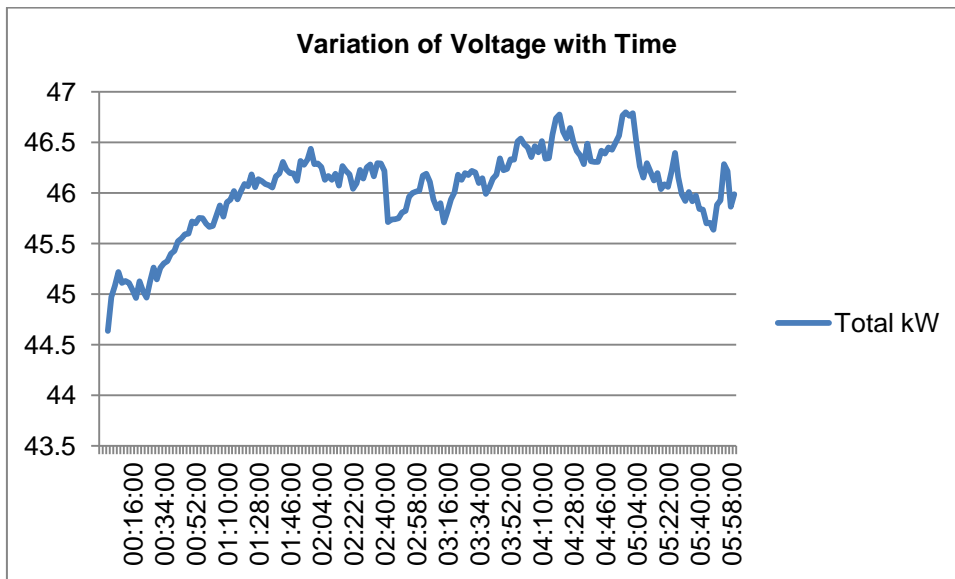
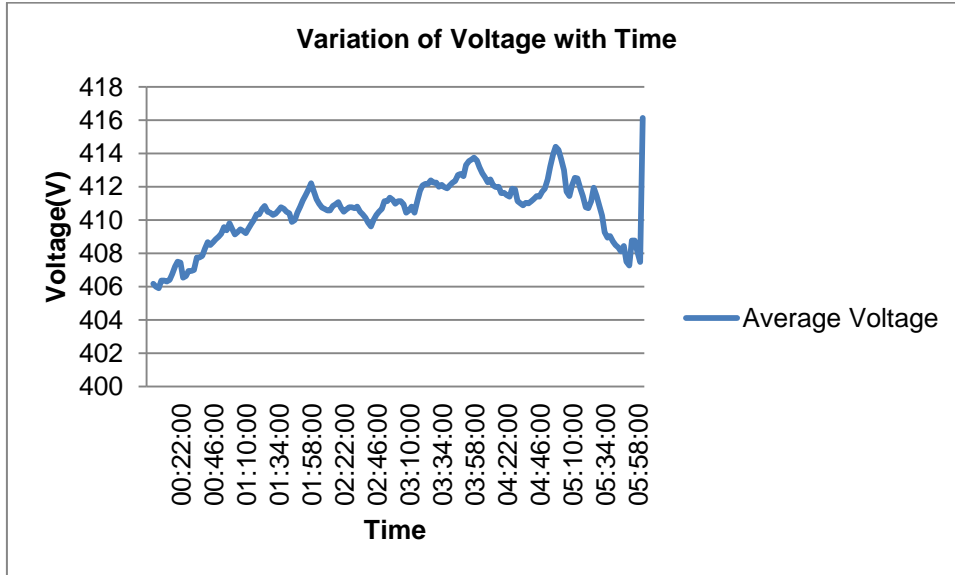
Study for Voltage During Night Time							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
08-03-2014	00:02:00	409.1	417.2	392.2	406.17	-0.20	44.64
08-03-2014	00:04:00	408.8	417	392.2	406.00	-0.25	44.97
08-03-2014	00:06:00	408.6	417.1	392	405.90	-0.27	45.08
08-03-2014	00:08:00	409.1	417.5	392.5	406.37	-0.16	45.22
08-03-2014	00:10:00	409.4	417.4	392.3	406.37	-0.16	45.11
08-03-2014	00:12:00	409.2	417.5	392.2	406.30	-0.17	45.13
08-03-2014	00:14:00	409.3	417.5	392.4	406.40	-0.15	45.11
08-03-2014	00:16:00	409.8	417.7	392.7	406.73	-0.07	45.04
08-03-2014	00:18:00	410.1	418.1	393.4	407.20	0.05	44.96
08-03-2014	00:20:00	410.5	418.7	393.3	407.50	0.12	45.13
08-03-2014	00:22:00	410.5	418.6	393.2	407.43	0.11	45.03
08-03-2014	00:24:00	409.7	417.6	392.3	406.53	-0.11	44.97
08-03-2014	00:26:00	409.9	417.8	392.2	406.63	-0.09	45.13
08-03-2014	00:28:00	410.2	418	392.6	406.93	-0.02	45.26
08-03-2014	00:30:00	410	417.9	392.9	406.93	-0.02	45.14
08-03-2014	00:32:00	410	418.1	392.9	407.00	0.00	45.26
08-03-2014	00:34:00	411.2	418.6	393.4	407.73	0.18	45.30
08-03-2014	00:36:00	411.3	418.6	393.3	407.73	0.18	45.33
08-03-2014	00:38:00	411.5	418.6	393.4	407.83	0.20	45.40
08-03-2014	00:40:00	411.9	419.2	393.7	408.27	0.31	45.43
08-03-2014	00:42:00	412.3	419.4	394.3	408.67	0.41	45.52
08-03-2014	00:44:00	412.1	419.1	394.3	408.50	0.37	45.55
08-03-2014	00:46:00	412.4	419.3	394.3	408.67	0.41	45.59
08-03-2014	00:48:00	412.8	419.3	394.4	408.83	0.45	45.60
08-03-2014	00:50:00	412.8	419.5	394.7	409.00	0.49	45.72
08-03-2014	00:52:00	412.8	419.8	394.9	409.17	0.53	45.70

Study for Voltage During Night Time							
08-03-2014	00:54:00	413.2	420.3	395.2	409.57	0.63	45.75
08-03-2014	00:56:00	412.8	420.4	394.9	409.37	0.58	45.75
08-03-2014	00:58:00	413.1	420.7	395.6	409.80	0.69	45.70
08-03-2014	01:00:00	412.9	420.3	395.2	409.47	0.61	45.66
08-03-2014	01:02:00	412.4	420	395	409.13	0.52	45.67
08-03-2014	01:04:00	412.8	420.1	394.9	409.27	0.56	45.77
08-03-2014	01:06:00	413.2	420	395.1	409.43	0.60	45.88
08-03-2014	01:08:00	413.1	419.9	395	409.33	0.57	45.77
08-03-2014	01:10:00	412.8	420	394.8	409.20	0.54	45.91
08-03-2014	01:12:00	413.1	420.3	395	409.47	0.61	45.93
08-03-2014	01:14:00	413.3	420.8	395.2	409.77	0.68	46.02
08-03-2014	01:16:00	413.6	421	395.4	410.00	0.74	45.93
08-03-2014	01:18:00	414	421.2	395.8	410.33	0.82	46.02
08-03-2014	01:20:00	414	421	396	410.33	0.82	46.09
08-03-2014	01:22:00	414.3	421.2	396.5	410.67	0.90	46.07
08-03-2014	01:24:00	414.2	421.6	396.7	410.83	0.94	46.18
08-03-2014	01:26:00	413.9	421.2	396.4	410.50	0.86	46.06
08-03-2014	01:28:00	414	421.2	396.1	410.43	0.84	46.14
08-03-2014	01:30:00	413.9	420.8	396.2	410.30	0.81	46.12
08-03-2014	01:32:00	413.7	420.8	396.6	410.37	0.83	46.09
08-03-2014	01:34:00	413.6	421.2	396.9	410.57	0.88	46.07
08-03-2014	01:36:00	413.8	421.5	397	410.77	0.93	46.05
08-03-2014	01:38:00	414	421.3	396.7	410.67	0.90	46.16
08-03-2014	01:40:00	413.6	421.2	396.7	410.50	0.86	46.19
08-03-2014	01:42:00	413.7	421.2	396.3	410.40	0.84	46.31
08-03-2014	01:44:00	413.4	420.4	395.8	409.87	0.70	46.23
08-03-2014	01:46:00	413.7	420.5	395.8	410.00	0.74	46.20
08-03-2014	01:48:00	414.1	420.9	396.3	410.43	0.84	46.19
08-03-2014	01:50:00	414.4	421.4	396.6	410.80	0.93	46.12
08-03-2014	01:52:00	414.8	421.8	396.9	411.17	1.02	46.31
08-03-2014	01:54:00	415	422.2	397.3	411.50	1.11	46.28
08-03-2014	01:56:00	415.3	422.5	397.6	411.80	1.18	46.33
08-03-2014	01:58:00	415.7	422.8	398.1	412.20	1.28	46.44
08-03-2014	02:00:00	415.1	422.3	397.8	411.73	1.16	46.28
08-03-2014	02:02:00	414.6	421.9	397.2	411.23	1.04	46.29
08-03-2014	02:04:00	414.1	421.7	397.1	410.97	0.97	46.26
08-03-2014	02:06:00	414	421.4	396.8	410.73	0.92	46.13
08-03-2014	02:08:00	413.9	421.4	396.7	410.67	0.90	46.17
08-03-2014	02:10:00	413.8	421.2	396.7	410.57	0.88	46.13
08-03-2014	02:12:00	413.8	421.3	396.6	410.57	0.88	46.19
08-03-2014	02:14:00	414	421.7	396.8	410.83	0.94	46.07
08-03-2014	02:16:00	414	421.9	396.9	410.93	0.97	46.27
08-03-2014	02:18:00	414.4	421.7	397.1	411.07	1.00	46.22
08-03-2014	02:20:00	414.1	421.3	396.8	410.73	0.92	46.18
08-03-2014	02:22:00	413.9	421	396.6	410.50	0.86	46.04
08-03-2014	02:24:00	414	421.2	396.7	410.63	0.89	46.09
08-03-2014	02:26:00	414	421.5	396.8	410.77	0.93	46.23
08-03-2014	02:28:00	413.8	421.6	396.9	410.77	0.93	46.14
08-03-2014	02:30:00	413.8	421.6	396.7	410.70	0.91	46.25
08-03-2014	02:32:00	413.9	421.6	396.9	410.80	0.93	46.28
08-03-2014	02:34:00	413.7	421.3	396.5	410.50	0.86	46.16

Study for Voltage During Night Time							
08-03-2014	02:36:00	413.8	421	396.2	410.33	0.82	46.29
08-03-2014	02:38:00	413.6	420.7	396.1	410.13	0.77	46.29
08-03-2014	02:40:00	413.3	420.4	395.8	409.83	0.70	46.22
08-03-2014	02:42:00	413.1	420.2	395.5	409.60	0.64	45.71
08-03-2014	02:44:00	413.7	420.4	395.9	410.00	0.74	45.74
08-03-2014	02:46:00	414	420.6	396.3	410.30	0.81	45.74
08-03-2014	02:48:00	414.2	421	396.3	410.50	0.86	45.75
08-03-2014	02:50:00	414.3	421.4	396.3	410.67	0.90	45.81
08-03-2014	02:52:00	414.4	422	397	411.13	1.02	45.82
08-03-2014	02:54:00	414.1	422.4	396.9	411.13	1.02	45.96
08-03-2014	02:56:00	414.4	422.5	397.1	411.33	1.06	46.00
08-03-2014	02:58:00	414.4	422.1	397.1	411.20	1.03	46.01
08-03-2014	03:00:00	414.3	421.8	396.8	410.97	0.97	46.02
08-03-2014	03:02:00	414.5	422	396.9	411.13	1.02	46.17
08-03-2014	03:04:00	414.4	421.9	397.1	411.13	1.02	46.19
08-03-2014	03:06:00	414.1	421.8	396.9	410.93	0.97	46.11
08-03-2014	03:08:00	413.4	421.4	396.5	410.43	0.84	45.94
08-03-2014	03:10:00	413.4	421.7	396.6	410.57	0.88	45.85
08-03-2014	03:12:00	413.7	421.6	397.1	410.80	0.93	45.90
08-03-2014	03:14:00	413.4	421.3	396.6	410.43	0.84	45.71
08-03-2014	03:16:00	414.2	421.8	397.2	411.07	1.00	45.82
08-03-2014	03:18:00	414.9	422.6	397.7	411.73	1.16	45.94
08-03-2014	03:20:00	415.5	422.9	397.8	412.07	1.24	46.01
08-03-2014	03:22:00	415.4	423.2	397.9	412.17	1.27	46.18
08-03-2014	03:24:00	415.4	423.1	398	412.17	1.27	46.13
08-03-2014	03:26:00	415.5	423.2	398.4	412.37	1.32	46.20
08-03-2014	03:28:00	415.4	423	398.3	412.23	1.29	46.18
08-03-2014	03:30:00	415.5	423	398.2	412.23	1.29	46.22
08-03-2014	03:32:00	415.4	422.7	397.9	412.00	1.23	46.20
08-03-2014	03:34:00	415.6	422.8	397.9	412.10	1.25	46.10
08-03-2014	03:36:00	415.4	422.9	397.6	411.97	1.22	46.15
08-03-2014	03:38:00	415.4	422.8	397.5	411.90	1.20	45.99
08-03-2014	03:40:00	415.5	423	397.7	412.07	1.24	46.06
08-03-2014	03:42:00	415.6	423	398.1	412.23	1.29	46.14
08-03-2014	03:44:00	415.4	423.4	398.2	412.33	1.31	46.18
08-03-2014	03:46:00	415.8	423.7	398.6	412.70	1.40	46.34
08-03-2014	03:48:00	416	423.5	398.8	412.77	1.42	46.22
08-03-2014	03:50:00	415.8	423.5	398.6	412.63	1.38	46.24
08-03-2014	03:52:00	416.6	424.2	399.1	413.30	1.55	46.33
08-03-2014	03:54:00	416.7	424.4	399.5	413.53	1.61	46.33
08-03-2014	03:56:00	416.6	424.8	399.5	413.63	1.63	46.51
08-03-2014	03:58:00	416.8	424.7	399.7	413.73	1.65	46.54
08-03-2014	04:00:00	416.9	424.4	399.4	413.57	1.61	46.48
08-03-2014	04:02:00	416.5	424	399	413.17	1.52	46.45
08-03-2014	04:04:00	416.3	423.4	398.7	412.80	1.43	46.35
08-03-2014	04:06:00	416.2	423.3	398.2	412.57	1.37	46.46
08-03-2014	04:08:00	415.9	423.1	397.8	412.27	1.29	46.40
08-03-2014	04:10:00	415.8	423.4	398.1	412.43	1.33	46.51
08-03-2014	04:12:00	415.5	423	397.7	412.07	1.24	46.34
08-03-2014	04:14:00	415.5	422.9	397.5	411.97	1.22	46.35
08-03-2014	04:16:00	415.5	422.8	397.7	412.00	1.23	46.57

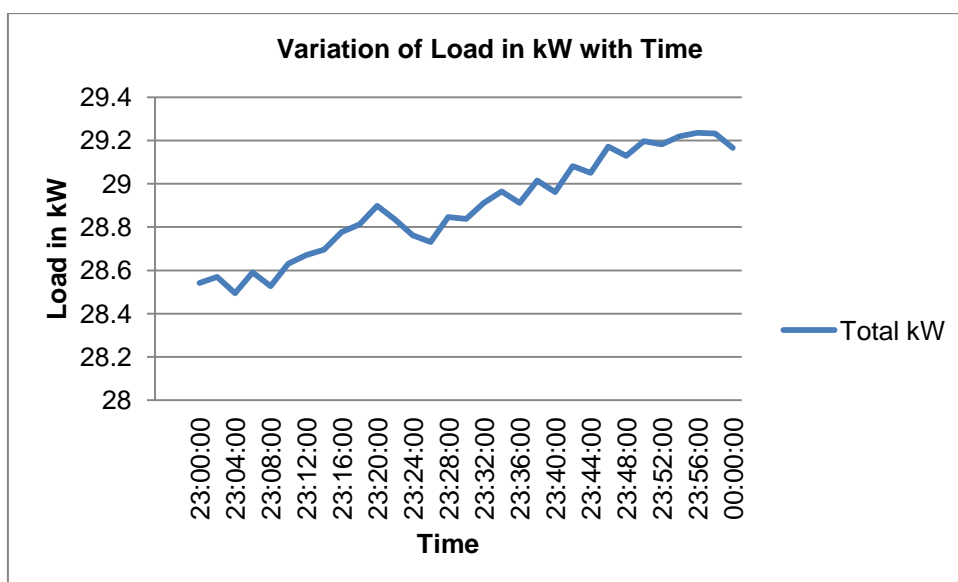
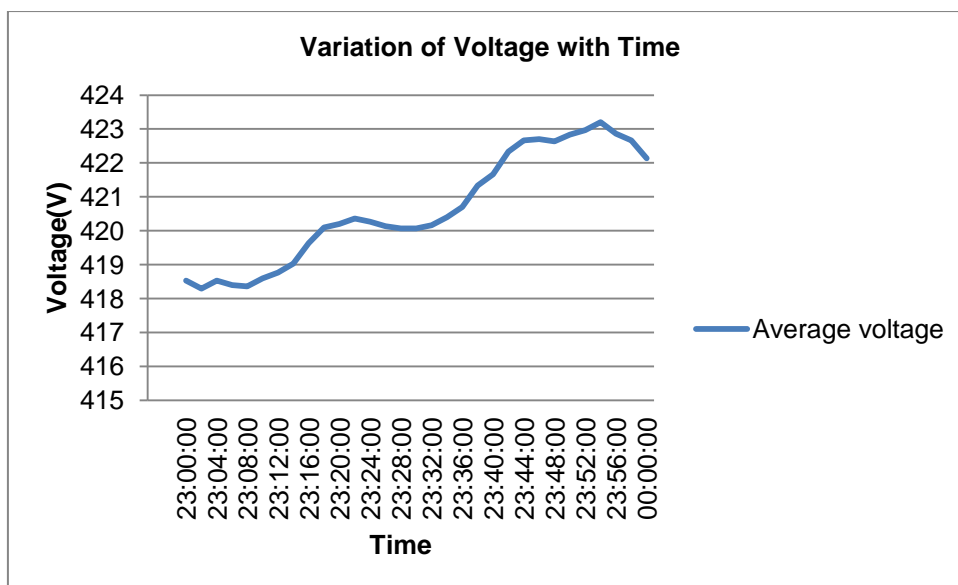
Study for Voltage During Night Time							
08-03-2014	04:18:00	414.7	422.5	397.6	411.60	1.13	46.74
08-03-2014	04:20:00	414.8	422.6	397.5	411.63	1.14	46.77
08-03-2014	04:22:00	414.8	422.2	397.5	411.50	1.11	46.61
08-03-2014	04:24:00	414.6	422.2	397.4	411.40	1.08	46.54
08-03-2014	04:26:00	414.9	422.8	397.9	411.87	1.20	46.64
08-03-2014	04:28:00	415	422.7	397.8	411.83	1.19	46.51
08-03-2014	04:30:00	414.3	421.9	397.2	411.13	1.02	46.41
08-03-2014	04:32:00	414.1	421.8	397.1	411.00	0.98	46.37
08-03-2014	04:34:00	414.1	421.6	396.9	410.87	0.95	46.28
08-03-2014	04:36:00	414	421.9	397.2	411.03	0.99	46.48
08-03-2014	04:38:00	414.3	421.7	397	411.00	0.98	46.31
08-03-2014	04:40:00	414.5	421.9	397	411.13	1.02	46.31
08-03-2014	04:42:00	414.6	421.9	397.3	411.27	1.05	46.30
08-03-2014	04:44:00	414.7	422.2	397.4	411.43	1.09	46.42
08-03-2014	04:46:00	414.6	422.2	397.4	411.40	1.08	46.39
08-03-2014	04:48:00	414.7	422.6	397.8	411.70	1.15	46.45
08-03-2014	04:50:00	414.9	422.9	397.8	411.87	1.20	46.43
08-03-2014	04:52:00	415.7	423.4	398.2	412.43	1.33	46.50
08-03-2014	04:54:00	416.5	424.1	399	413.20	1.52	46.57
08-03-2014	04:56:00	417.2	425.2	399.4	413.93	1.70	46.77
08-03-2014	04:58:00	417.6	425.3	400.3	414.40	1.82	46.80
08-03-2014	05:00:00	417.9	424.2	400.5	414.20	1.77	46.76
08-03-2014	05:02:00	417.4	423.7	399.9	413.67	1.64	46.79
08-03-2014	05:04:00	416.8	422.9	399.3	413.00	1.47	46.50
08-03-2014	05:06:00	414.9	422.2	398	411.70	1.15	46.26
08-03-2014	05:08:00	414.4	422	397.9	411.43	1.09	46.15
08-03-2014	05:10:00	414.9	422.8	398.5	412.07	1.24	46.29
08-03-2014	05:12:00	415.5	423.2	398.9	412.53	1.36	46.21
08-03-2014	05:14:00	415.6	423.1	398.8	412.50	1.35	46.12
08-03-2014	05:16:00	415	422.4	398.3	411.90	1.20	46.19
08-03-2014	05:18:00	414.6	421.8	397.9	411.43	1.09	46.04
08-03-2014	05:20:00	414.3	421	397	410.77	0.93	46.08
08-03-2014	05:22:00	414.2	421	396.9	410.70	0.91	46.06
08-03-2014	05:24:00	414.8	421	397.6	411.13	1.02	46.21
08-03-2014	05:26:00	415.8	421.6	398.4	411.93	1.21	46.39
08-03-2014	05:28:00	415.2	421.2	397.9	411.43	1.09	46.15
08-03-2014	05:30:00	414.5	420.5	397.6	410.87	0.95	45.99
08-03-2014	05:32:00	413.8	420	397	410.27	0.80	45.92
08-03-2014	05:34:00	412.8	419.3	395.7	409.27	0.56	46.01
08-03-2014	05:36:00	412.7	418.8	395.3	408.93	0.48	45.92
08-03-2014	05:38:00	412.7	418.9	395.5	409.03	0.50	45.97
08-03-2014	05:40:00	412.5	418.5	395.1	408.70	0.42	45.84
08-03-2014	05:42:00	412.3	418.2	395	408.50	0.37	45.84
08-03-2014	05:44:00	412	418.3	394.7	408.33	0.33	45.70
08-03-2014	05:46:00	411.7	418.4	394.2	408.10	0.27	45.71
08-03-2014	05:48:00	412	418.5	394.8	408.43	0.35	45.64
08-03-2014	05:50:00	411.5	417.9	393.1	407.50	0.12	45.88
08-03-2014	05:52:00	411.6	417.5	392.7	407.27	0.07	45.93
08-03-2014	05:54:00	413.1	419	394.2	408.77	0.43	46.28
08-03-2014	05:56:00	413.1	419.4	393.8	408.77	0.43	46.21
08-03-2014	05:58:00	412.6	418.4	393.3	408.10	0.27	45.86

Study for Voltage During Night Time							
08-03-2014	06:00:00	411.8	417.8	392.8	407.47	0.11	45.99
08-03-2014	06:02:00	419.2	421.7	407.5	416.13	2.24	31.15
		413.89	421.19	396.48			
Average					410.52	0.87	45.95



6. Study of Voltage Variation at Night for Bhawani Chowk Switching Point (Till Midnight)

Study for Voltage During Night Time							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
08-03-2014	23:00:00	419.6	421.4	414.6	418.53	2.83	28.54
08-03-2014	23:02:00	419.4	421.2	414.3	418.30	2.78	28.57
08-03-2014	23:04:00	419.7	421.4	414.5	418.53	2.83	28.49
08-03-2014	23:06:00	419.6	421.2	414.4	418.40	2.80	28.59
08-03-2014	23:08:00	419.4	421.3	414.4	418.37	2.79	28.53
08-03-2014	23:10:00	419.6	421.5	414.7	418.60	2.85	28.63
08-03-2014	23:12:00	419.7	421.6	415	418.77	2.89	28.67
08-03-2014	23:14:00	420.1	421.9	415.1	419.03	2.96	28.70
08-03-2014	23:16:00	420.8	422.7	415.4	419.63	3.10	28.78
08-03-2014	23:18:00	421.2	423.2	415.9	420.10	3.22	28.81
08-03-2014	23:20:00	421.3	423.1	416.2	420.20	3.24	28.90
08-03-2014	23:22:00	421.3	423.1	416.7	420.37	3.28	28.84
08-03-2014	23:24:00	421.1	423.1	416.6	420.27	3.26	28.76
08-03-2014	23:26:00	421.1	423	416.3	420.13	3.23	28.73
08-03-2014	23:28:00	421.2	422.9	416.1	420.07	3.21	28.85
08-03-2014	23:30:00	421.2	422.7	416.3	420.07	3.21	28.84
08-03-2014	23:32:00	421.3	422.8	416.4	420.17	3.24	28.91
08-03-2014	23:34:00	421.5	423.1	416.6	420.40	3.29	28.97
08-03-2014	23:36:00	421.7	423.5	416.9	420.70	3.37	28.91
08-03-2014	23:38:00	422.5	424.2	417.3	421.33	3.52	29.01
08-03-2014	23:40:00	423.2	424.4	417.4	421.67	3.60	28.96
08-03-2014	23:42:00	423.6	425.2	418.2	422.33	3.77	29.08
08-03-2014	23:44:00	423.9	425.4	418.7	422.67	3.85	29.05
08-03-2014	23:46:00	424.1	425.3	418.7	422.70	3.86	29.17
08-03-2014	23:48:00	423.9	425.3	418.7	422.63	3.84	29.13
08-03-2014	23:50:00	424.2	425.4	418.9	422.83	3.89	29.20
08-03-2014	23:52:00	424.2	425.7	419	422.97	3.92	29.18
08-03-2014	23:54:00	424.5	426	419.1	423.20	3.98	29.22
08-03-2014	23:56:00	424.2	425.5	418.9	422.87	3.90	29.23
08-03-2014	23:58:00	424	425.3	418.7	422.67	3.85	29.23
09-03-2014	00:00:00	423.6	424.8	418	422.13	3.72	29.16
		421.82	423.45	416.70			
AVERAGE					420.67	3.36	28.89



Study of Voltage Variation at Night for Bhawani Chowk Switching Point (After Midnight)

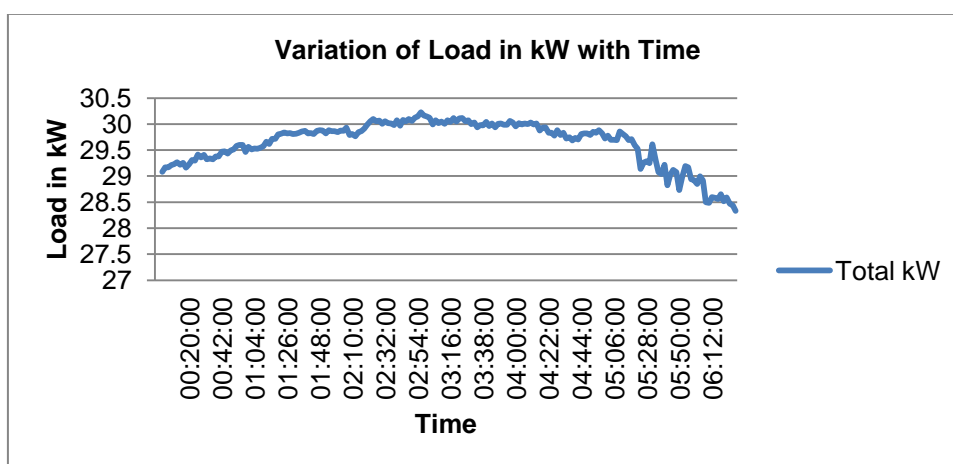
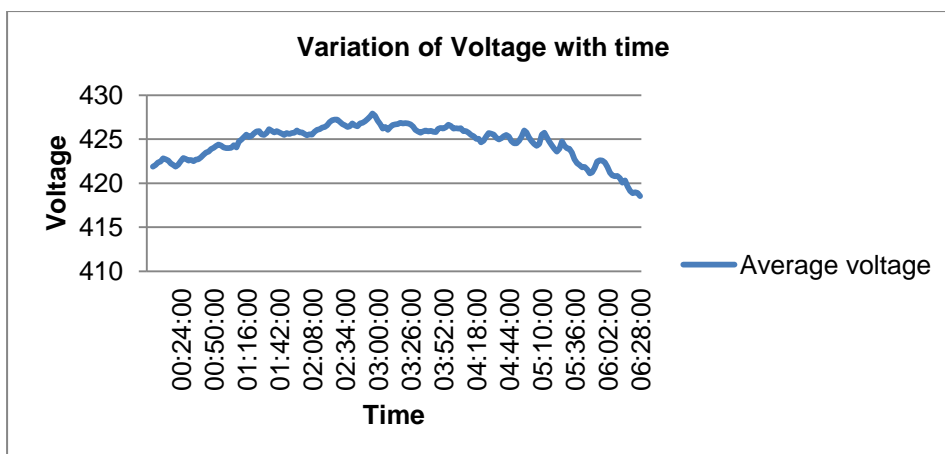
Study for Voltage During Night Time							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
09-03-2014	00:02:00	423.3	424.5	417.8	421.87	3.65	29.08
09-03-2014	00:04:00	423.3	424.8	418.1	422.07	3.70	29.17
09-03-2014	00:06:00	423.7	425.1	418.2	422.33	3.77	29.17
09-03-2014	00:08:00	423.6	425.3	418.5	422.47	3.80	29.21
09-03-2014	00:10:00	424.1	425.6	418.8	422.83	3.89	29.23

Study for Voltage During Night Time							
09-03-2014	00:12:00	424.1	425.4	418.6	422.70	3.86	29.27
09-03-2014	00:14:00	423.8	425.4	418.5	422.57	3.82	29.22
09-03-2014	00:16:00	423.6	424.9	418.2	422.23	3.74	29.26
09-03-2014	00:18:00	423.4	424.7	418.1	422.07	3.70	29.16
09-03-2014	00:20:00	423.1	424.4	418.1	421.87	3.65	29.23
09-03-2014	00:22:00	423.3	424.6	418.4	422.10	3.71	29.31
09-03-2014	00:24:00	423.8	425	418.7	422.50	3.81	29.30
09-03-2014	00:26:00	424.3	425.5	418.8	422.87	3.90	29.41
09-03-2014	00:28:00	424.2	425.2	418.8	422.73	3.87	29.36
09-03-2014	00:30:00	423.8	425.2	418.7	422.57	3.82	29.41
09-03-2014	00:32:00	424	425.3	418.6	422.63	3.84	29.32
09-03-2014	00:34:00	423.9	425.3	418.3	422.50	3.81	29.34
09-03-2014	00:36:00	424	425.4	418.6	422.67	3.85	29.32
09-03-2014	00:38:00	424	425.5	418.6	422.70	3.86	29.38
09-03-2014	00:40:00	424.3	425.7	418.8	422.93	3.91	29.38
09-03-2014	00:42:00	424.5	426.1	419.1	423.23	3.99	29.47
09-03-2014	00:44:00	424.9	426.1	419.4	423.47	4.05	29.48
09-03-2014	00:46:00	425	426.3	419.5	423.60	4.08	29.43
09-03-2014	00:48:00	425.3	426.5	419.8	423.87	4.14	29.49
09-03-2014	00:50:00	425.1	426.8	420.2	424.03	4.19	29.52
09-03-2014	00:52:00	425.4	427	420.3	424.23	4.23	29.58
09-03-2014	00:54:00	425.6	427	420.6	424.40	4.28	29.60
09-03-2014	00:56:00	425.6	426.8	420.4	424.27	4.24	29.60
09-03-2014	00:58:00	425.4	426.8	420	424.07	4.19	29.46
09-03-2014	01:00:00	425.3	426.7	420	424.00	4.18	29.56
09-03-2014	01:02:00	425.1	426.9	420	424.00	4.18	29.51
09-03-2014	01:04:00	425.3	426.7	420.1	424.03	4.19	29.53
09-03-2014	01:06:00	425.5	426.9	420.5	424.30	4.25	29.53
09-03-2014	01:08:00	425.5	426.6	420.1	424.07	4.19	29.54
09-03-2014	01:10:00	426.2	427.2	420.9	424.77	4.37	29.58
09-03-2014	01:12:00	426.4	427.4	421	424.93	4.41	29.66
09-03-2014	01:14:00	426.9	427.6	421.2	425.23	4.48	29.62
09-03-2014	01:16:00	427.1	427.9	421.5	425.50	4.55	29.72
09-03-2014	01:18:00	426.6	427.9	421.3	425.27	4.49	29.71
09-03-2014	01:20:00	426.8	428	421.3	425.37	4.51	29.80
09-03-2014	01:22:00	427.1	428.3	421.6	425.67	4.59	29.81
09-03-2014	01:24:00	427.3	428.5	421.8	425.87	4.64	29.84
09-03-2014	01:26:00	427.5	428.5	421.7	425.90	4.64	29.82
09-03-2014	01:28:00	427.3	428.1	421.2	425.53	4.55	29.82
09-03-2014	01:30:00	427.2	427.9	421.3	425.47	4.54	29.81
09-03-2014	01:32:00	427.3	428.2	421.6	425.70	4.59	29.81
09-03-2014	01:34:00	427.7	428.6	422.1	426.13	4.70	29.83
09-03-2014	01:36:00	427.4	428.6	421.8	425.93	4.65	29.85
09-03-2014	01:38:00	427.2	428.5	421.6	425.77	4.61	29.87
09-03-2014	01:40:00	427.3	428.6	421.8	425.90	4.64	29.82
09-03-2014	01:42:00	427.3	428.4	421.6	425.77	4.61	29.83
09-03-2014	01:44:00	427.1	428.4	421.4	425.63	4.58	29.81
09-03-2014	01:46:00	427.1	428.1	421.2	425.47	4.54	29.87
09-03-2014	01:48:00	427.3	428.3	421.5	425.70	4.59	29.88
09-03-2014	01:50:00	427.3	428	421.5	425.60	4.57	29.88
09-03-2014	01:52:00	427.3	428.2	421.6	425.70	4.59	29.82

Study for Voltage During Night Time							
09-03-2014	01:54:00	427.3	428.3	421.6	425.73	4.60	29.88
09-03-2014	01:56:00	427.6	428.5	421.8	425.97	4.66	29.86
09-03-2014	01:58:00	427.4	428.3	421.6	425.77	4.61	29.86
09-03-2014	02:00:00	427.6	428.3	421.4	425.77	4.61	29.85
09-03-2014	02:02:00	427.4	428.2	421.1	425.57	4.56	29.88
09-03-2014	02:04:00	427.1	428.1	421.1	425.43	4.53	29.87
09-03-2014	02:06:00	427.3	428.2	421.1	425.53	4.55	29.93
09-03-2014	02:08:00	427.3	428.1	421.1	425.50	4.55	29.79
09-03-2014	02:10:00	427.6	428.4	421.5	425.83	4.63	29.81
09-03-2014	02:12:00	427.9	428.7	421.6	426.07	4.68	29.76
09-03-2014	02:14:00	427.8	428.9	421.7	426.13	4.70	29.84
09-03-2014	02:16:00	427.7	429.1	422.1	426.30	4.74	29.87
09-03-2014	02:18:00	427.8	429.2	422.2	426.40	4.77	29.91
09-03-2014	02:20:00	428	429.4	422.3	426.57	4.81	29.99
09-03-2014	02:22:00	428.3	429.7	422.8	426.93	4.90	30.06
09-03-2014	02:24:00	428.5	430	422.9	427.13	4.95	30.10
09-03-2014	02:26:00	428.7	430	423	427.23	4.97	30.06
09-03-2014	02:28:00	428.9	429.9	422.9	427.23	4.97	30.07
09-03-2014	02:30:00	428.6	429.7	422.6	426.97	4.91	30.00
09-03-2014	02:32:00	428.4	429.2	422.5	426.70	4.84	30.06
09-03-2014	02:34:00	428.1	429.2	422.4	426.57	4.81	30.02
09-03-2014	02:36:00	427.9	429	422.3	426.40	4.77	30.01
09-03-2014	02:38:00	428	428.9	422.5	426.47	4.78	29.98
09-03-2014	02:40:00	428.4	429.3	422.7	426.80	4.86	30.07
09-03-2014	02:42:00	428.3	429	422.4	426.57	4.81	29.97
09-03-2014	02:44:00	428	429	422.4	426.47	4.78	30.08
09-03-2014	02:46:00	428.1	429.6	422.7	426.80	4.86	30.06
09-03-2014	02:48:00	428.4	429.5	422.7	426.87	4.88	30.10
09-03-2014	02:50:00	428.6	429.6	422.9	427.03	4.92	30.06
09-03-2014	02:52:00	429	429.9	423	427.30	4.99	30.12
09-03-2014	02:54:00	429.2	430.2	423.3	427.57	5.05	30.15
09-03-2014	02:56:00	429.4	430.5	423.8	427.90	5.14	30.23
09-03-2014	02:58:00	429.1	430.4	423.5	427.67	5.08	30.16
09-03-2014	03:00:00	428.5	429.8	423	427.10	4.94	30.15
09-03-2014	03:02:00	428.2	429.3	422.6	426.70	4.84	30.12
09-03-2014	03:04:00	427.8	429	421.8	426.20	4.72	29.99
09-03-2014	03:06:00	427.9	429.2	422	426.37	4.76	30.07
09-03-2014	03:08:00	427.6	428.6	422	426.07	4.68	30.02
09-03-2014	03:10:00	427.8	429	422.3	426.37	4.76	30.05
09-03-2014	03:12:00	428	429.2	422.6	426.60	4.82	30.01
09-03-2014	03:14:00	428.1	429.4	422.5	426.67	4.83	30.07
09-03-2014	03:16:00	428.3	429.5	422.3	426.70	4.84	30.04
09-03-2014	03:18:00	428.6	429.5	422.5	426.87	4.88	30.11
09-03-2014	03:20:00	428.4	429.5	422.5	426.80	4.86	30.05
09-03-2014	03:22:00	428.4	429.5	422.6	426.83	4.87	30.11
09-03-2014	03:24:00	428.3	429.5	422.6	426.80	4.86	30.11
09-03-2014	03:26:00	428.1	429.5	422.4	426.67	4.83	30.05
09-03-2014	03:28:00	427.9	429.2	422.2	426.43	4.77	30.07
09-03-2014	03:30:00	427.6	428.7	421.9	426.07	4.68	30.00
09-03-2014	03:32:00	427.4	428.5	421.7	425.87	4.64	30.03
09-03-2014	03:34:00	427.3	428.4	421.5	425.73	4.60	29.94

Study for Voltage During Night Time							
09-03-2014	03:36:00	427.6	428.5	421.5	425.87	4.64	29.98
09-03-2014	03:38:00	427.5	428.7	421.8	426.00	4.67	29.97
09-03-2014	03:40:00	427.4	428.5	421.7	425.87	4.64	30.04
09-03-2014	03:42:00	427.3	428.6	421.9	425.93	4.65	29.96
09-03-2014	03:44:00	427.1	428.4	422	425.83	4.63	30.01
09-03-2014	03:46:00	427.3	428.5	421.6	425.80	4.62	29.93
09-03-2014	03:48:00	427.8	428.8	421.9	426.17	4.71	30.01
09-03-2014	03:50:00	427.7	428.9	422.2	426.27	4.73	30.01
09-03-2014	03:52:00	427.7	428.8	422.1	426.20	4.72	29.98
09-03-2014	03:54:00	427.8	429	422.2	426.33	4.75	29.98
09-03-2014	03:56:00	428.1	429.2	422.6	426.63	4.82	30.06
09-03-2014	03:58:00	428.1	429	422.4	426.50	4.79	30.03
09-03-2014	04:00:00	427.7	428.8	422.1	426.20	4.72	29.96
09-03-2014	04:02:00	427.5	428.9	422.3	426.23	4.73	30.02
09-03-2014	04:04:00	427.6	428.8	422.2	426.20	4.72	29.99
09-03-2014	04:06:00	427.9	428.7	422.1	426.23	4.73	30.01
09-03-2014	04:08:00	427.5	428.3	421.9	425.90	4.64	30.00
09-03-2014	04:10:00	427.4	428.4	421.9	425.90	4.64	30.03
09-03-2014	04:12:00	427.3	428.1	421.8	425.73	4.60	29.99
09-03-2014	04:14:00	427	428	421.4	425.47	4.54	30.01
09-03-2014	04:16:00	427.1	427.8	421.1	425.33	4.50	29.87
09-03-2014	04:18:00	426.7	427.5	420.9	425.03	4.43	29.93
09-03-2014	04:20:00	426.7	427.3	421.1	425.03	4.43	29.94
09-03-2014	04:22:00	426.6	426.7	420.6	424.63	4.33	29.83
09-03-2014	04:24:00	426.9	426.9	420.7	424.83	4.38	29.83
09-03-2014	04:26:00	427.2	427.5	421.2	425.30	4.50	29.78
09-03-2014	04:28:00	427.6	428.2	421.3	425.70	4.59	29.88
09-03-2014	04:30:00	427.6	428.1	421.2	425.63	4.58	29.79
09-03-2014	04:32:00	427.3	427.9	421.3	425.50	4.55	29.83
09-03-2014	04:34:00	426.9	427.6	420.9	425.13	4.46	29.72
09-03-2014	04:36:00	426.8	427.5	420.6	424.97	4.41	29.75
09-03-2014	04:38:00	426.9	427.7	420.7	425.10	4.45	29.68
09-03-2014	04:40:00	427.1	428	420.9	425.33	4.50	29.73
09-03-2014	04:42:00	427.4	428	421	425.47	4.54	29.70
09-03-2014	04:44:00	427.2	427.9	420.8	425.30	4.50	29.81
09-03-2014	04:46:00	426.6	427.4	420.4	424.80	4.37	29.82
09-03-2014	04:48:00	426.5	427.1	420	424.53	4.31	29.82
09-03-2014	04:50:00	426.4	427.2	420	424.53	4.31	29.79
09-03-2014	04:52:00	426.6	427.5	420.4	424.83	4.38	29.85
09-03-2014	04:54:00	427.2	427.9	420.8	425.30	4.50	29.83
09-03-2014	04:56:00	427.8	428.4	421.7	425.97	4.66	29.88
09-03-2014	04:58:00	427.3	428.5	421.5	425.77	4.61	29.82
09-03-2014	05:00:00	426.8	427.9	420.9	425.20	4.47	29.72
09-03-2014	05:02:00	426.3	427.5	420.6	424.80	4.37	29.78
09-03-2014	05:04:00	425.9	427.1	420.4	424.47	4.29	29.69
09-03-2014	05:06:00	425.8	426.9	420	424.23	4.23	29.70
09-03-2014	05:08:00	426	427.2	420.2	424.47	4.29	29.69
09-03-2014	05:10:00	427	428.3	421.2	425.50	4.55	29.86
09-03-2014	05:12:00	427.3	428.4	421.5	425.73	4.60	29.81
09-03-2014	05:14:00	426.8	428	421	425.27	4.49	29.76
09-03-2014	05:16:00	426.1	427.6	420.6	424.77	4.37	29.69

Study for Voltage During Night Time							
09-03-2014	05:18:00	425.9	427	420	424.30	4.25	29.71
09-03-2014	05:20:00	425.6	426.5	419.6	423.90	4.15	29.59
09-03-2014	05:22:00	425.2	426.2	419.4	423.60	4.08	29.52
09-03-2014	05:24:00	425.5	426.5	419.7	423.90	4.15	29.14
09-03-2014	05:26:00	426.2	427.3	420.8	424.77	4.37	29.26
09-03-2014	05:28:00	425.6	426.7	420.4	424.23	4.23	29.29
09-03-2014	05:30:00	425.3	426.4	420.2	423.97	4.17	29.25
09-03-2014	05:32:00	425.4	426.4	419.9	423.90	4.15	29.61
09-03-2014	05:34:00	425	425.9	419.5	423.47	4.05	29.32
09-03-2014	05:36:00	423.9	425.3	418.9	422.70	3.86	29.07
09-03-2014	05:38:00	423.6	424.7	418.5	422.27	3.75	29.04
09-03-2014	05:40:00	423.3	424.5	418.4	422.07	3.70	29.22
09-03-2014	05:42:00	423.1	424.2	418.1	421.80	3.64	28.82
09-03-2014	05:44:00	423.1	424.3	418.1	421.83	3.64	29.03
09-03-2014	05:46:00	422.9	424.1	417.7	421.57	3.58	29.12
09-03-2014	05:48:00	422.3	423.6	417.4	421.10	3.46	29.08
09-03-2014	05:50:00	422.5	423.6	417.6	421.23	3.50	28.73
09-03-2014	05:52:00	422.8	424.2	418.2	421.73	3.62	28.98
09-03-2014	05:54:00	423.6	424.9	418.9	422.47	3.80	29.19
09-03-2014	05:56:00	423.9	425	418.9	422.60	3.83	29.17
09-03-2014	05:58:00	423.7	425.1	418.9	422.57	3.82	28.94
09-03-2014	06:00:00	423.6	424.8	418.7	422.37	3.78	28.92
09-03-2014	06:02:00	423.1	424.3	418.1	421.83	3.64	28.85
09-03-2014	06:04:00	422.3	423.7	417.6	421.20	3.49	29.00
09-03-2014	06:06:00	421.9	423.5	417.3	420.90	3.42	28.92
09-03-2014	06:08:00	421.8	423.3	417.3	420.80	3.39	28.50
09-03-2014	06:10:00	421.9	423.3	417.3	420.83	3.40	28.49
09-03-2014	06:12:00	421.8	423	416.9	420.57	3.33	28.60
09-03-2014	06:14:00	421.3	422.5	416.4	420.07	3.21	28.58
09-03-2014	06:16:00	421.6	422.8	416.6	420.33	3.28	28.56
09-03-2014	06:18:00	420.7	422.2	416	419.63	3.10	28.65
09-03-2014	06:20:00	420.1	421.6	415.7	419.13	2.98	28.51
09-03-2014	06:22:00	419.9	421.1	415.6	418.87	2.92	28.59
09-03-2014	06:24:00	419.9	421.2	415.8	418.97	2.94	28.47
09-03-2014	06:26:00	419.9	421.2	415.6	418.90	2.92	28.44
09-03-2014	06:28:00	419.6	420.9	415.1	418.53	2.83	28.33
		426.13	427.24	420.58			
Average					424.65	4.34	29.64

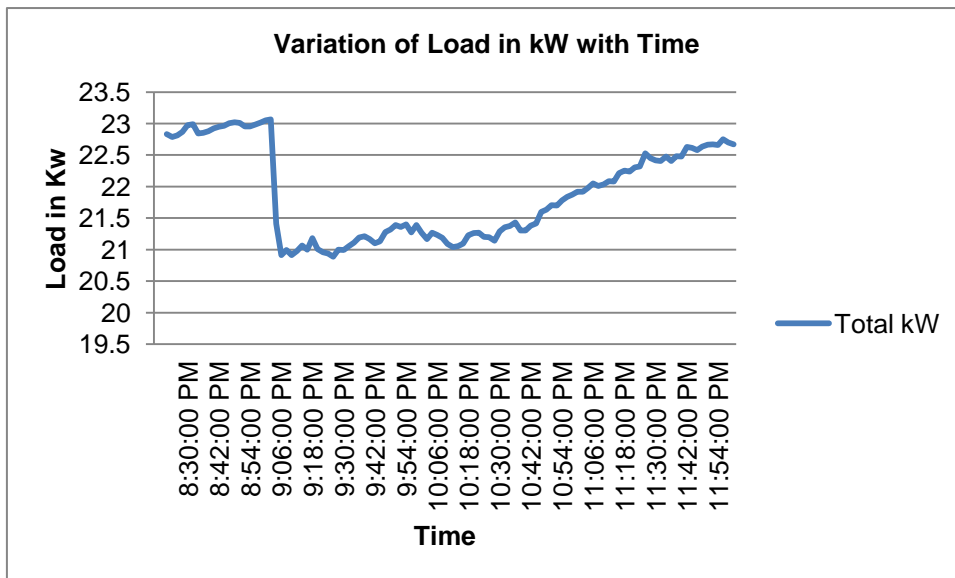
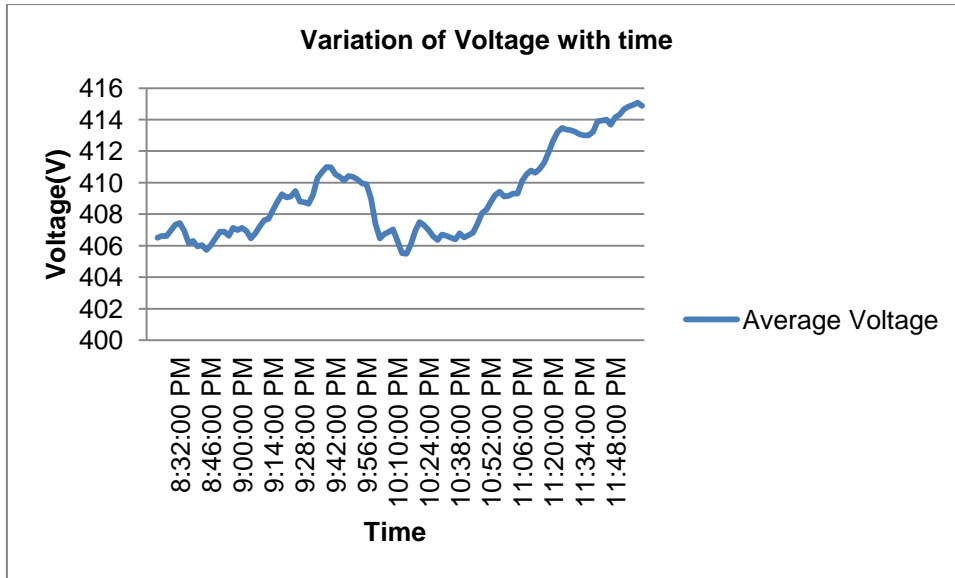


7. Study of Voltage Variation at Night for Aadhartal Tiraha Switching Point (Till Midnight)

Study of Voltage for Night Load							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
02-Apr-14	8:22:00 PM	406.7	401.8	411	406.50	-0.12	22.83
02-Apr-14	8:24:00 PM	406.9	401.6	411.4	406.63	-0.09	22.79
02-Apr-14	8:26:00 PM	407	401.5	411.3	406.60	-0.10	22.81
02-Apr-14	8:28:00 PM	407.2	401.9	411.8	406.97	-0.01	22.87
02-Apr-14	8:30:00 PM	407.4	402.7	411.9	407.33	0.08	22.98
02-Apr-14	8:32:00 PM	407.9	402.8	411.6	407.43	0.11	22.99
02-Apr-14	8:34:00 PM	407.3	401.7	411.8	406.93	-0.02	22.84
02-Apr-14	8:36:00 PM	406.5	401	410.9	406.13	-0.21	22.85
02-Apr-14	8:38:00 PM	406.6	401.3	411	406.30	-0.17	22.88
02-Apr-14	8:40:00 PM	406	401.6	410.3	405.97	-0.25	22.92
02-Apr-14	8:42:00 PM	406.3	401.7	410.1	406.03	-0.24	22.95
02-Apr-14	8:44:00 PM	406.1	401	410.1	405.73	-0.31	22.96

Study of Voltage for Night Load							
02-Apr-14	8:46:00 PM	406.3	401.1	410.7	406.03	-0.24	23.00
02-Apr-14	8:48:00 PM	406.7	401.8	410.9	406.47	-0.13	23.02
02-Apr-14	8:50:00 PM	407	402.4	411.3	406.90	-0.02	23.01
02-Apr-14	8:52:00 PM	407.1	402	411.6	406.90	-0.02	22.95
02-Apr-14	8:54:00 PM	407	401.6	411.3	406.63	-0.09	22.95
02-Apr-14	8:56:00 PM	407.5	402	411.9	407.13	0.03	22.98
02-Apr-14	8:58:00 PM	407	402.2	411.8	407.00	0.00	23.01
02-Apr-14	9:00:00 PM	406.8	402.9	411.7	407.13	0.03	23.05
02-Apr-14	9:02:00 PM	407	402.4	411.4	406.93	-0.02	23.06
02-Apr-14	9:04:00 PM	406.6	401.8	411	406.47	-0.13	21.41
02-Apr-14	9:06:00 PM	406.8	402	411.6	406.80	-0.05	20.91
02-Apr-14	9:08:00 PM	406.9	402.8	412	407.23	0.06	20.99
02-Apr-14	9:10:00 PM	407.5	403.4	412	407.63	0.16	20.91
02-Apr-14	9:12:00 PM	408	402.9	412.2	407.70	0.17	20.98
02-Apr-14	9:14:00 PM	408.6	403.5	412.7	408.27	0.31	21.07
02-Apr-14	9:16:00 PM	409.1	403.8	413.5	408.80	0.44	21.00
02-Apr-14	9:18:00 PM	409.2	404.6	414	409.27	0.56	21.18
02-Apr-14	9:20:00 PM	408.9	404.5	413.8	409.07	0.51	21.01
02-Apr-14	9:22:00 PM	409	404.4	414	409.13	0.52	20.96
02-Apr-14	9:24:00 PM	409.4	404.9	414.1	409.47	0.61	20.94
02-Apr-14	9:26:00 PM	408.8	403.9	413.7	408.80	0.44	20.89
02-Apr-14	9:28:00 PM	408.8	404	413.5	408.77	0.43	21.00
02-Apr-14	9:30:00 PM	408.7	404	413.3	408.67	0.41	20.99
02-Apr-14	9:32:00 PM	409.3	404.3	414.1	409.23	0.55	21.06
02-Apr-14	9:34:00 PM	410.3	405.7	414.9	410.30	0.81	21.11
02-Apr-14	9:36:00 PM	410.7	406.2	415.1	410.67	0.90	21.19
02-Apr-14	9:38:00 PM	410.9	406.8	415.3	411.00	0.98	21.21
02-Apr-14	9:40:00 PM	410.9	406.9	415.1	410.97	0.97	21.17
02-Apr-14	9:42:00 PM	410.7	406.2	414.7	410.53	0.87	21.10
02-Apr-14	9:44:00 PM	410.7	405.8	414.6	410.37	0.83	21.13
02-Apr-14	9:46:00 PM	410.6	405.4	414.4	410.13	0.77	21.28
02-Apr-14	9:48:00 PM	410.6	406	414.7	410.43	0.84	21.32
02-Apr-14	9:50:00 PM	410.5	406	414.6	410.37	0.83	21.39
02-Apr-14	9:52:00 PM	410.7	405.7	414.2	410.20	0.79	21.36
02-Apr-14	9:54:00 PM	410.5	405.2	414.2	409.97	0.73	21.40
02-Apr-14	9:56:00 PM	410.4	405.3	414	409.90	0.71	21.28
02-Apr-14	9:58:00 PM	409.6	404.8	412.6	409.00	0.49	21.39
02-Apr-14	10:00:00 PM	407.9	403.3	411	407.40	0.10	21.27
02-Apr-14	10:02:00 PM	406.9	402.2	410.3	406.47	-0.13	21.17
02-Apr-14	10:04:00 PM	407.2	402.6	410.4	406.73	-0.07	21.27
02-Apr-14	10:06:00 PM	406.9	402.8	410.9	406.87	-0.03	21.24
02-Apr-14	10:08:00 PM	406.7	403.4	411	407.03	0.01	21.19
02-Apr-14	10:10:00 PM	406	402.6	410.3	406.30	-0.17	21.09
02-Apr-14	10:12:00 PM	405.5	401.5	409.6	405.53	-0.36	21.04
02-Apr-14	10:14:00 PM	405.4	401.4	409.7	405.50	-0.37	21.06
02-Apr-14	10:16:00 PM	406.1	402.2	410	406.10	-0.22	21.10
02-Apr-14	10:18:00 PM	406.8	403.5	410.6	406.97	-0.01	21.23
02-Apr-14	10:20:00 PM	407.3	404	411.2	407.50	0.12	21.26
02-Apr-14	10:22:00 PM	407.4	403.3	411.2	407.30	0.07	21.27
02-Apr-14	10:24:00 PM	407.2	403.2	410.6	407.00	0.00	21.20
02-Apr-14	10:26:00 PM	407.1	402.7	410	406.60	-0.10	21.20

Study of Voltage for Night Load							
02-Apr-14	10:28:00 PM	406.4	402.7	410	406.37	-0.16	21.14
02-Apr-14	10:30:00 PM	406.6	403.3	410.2	406.70	-0.07	21.29
02-Apr-14	10:32:00 PM	406.7	403	410.2	406.63	-0.09	21.35
02-Apr-14	10:34:00 PM	406.6	403.1	409.8	406.50	-0.12	21.37
02-Apr-14	10:36:00 PM	406.6	403.1	409.5	406.40	-0.15	21.43
02-Apr-14	10:38:00 PM	407	403.6	409.8	406.80	-0.05	21.31
02-Apr-14	10:40:00 PM	407	403.2	409.4	406.53	-0.11	21.30
02-Apr-14	10:42:00 PM	407.3	403.1	409.6	406.67	-0.08	21.38
02-Apr-14	10:44:00 PM	407.3	403.3	409.9	406.83	-0.04	21.41
02-Apr-14	10:46:00 PM	407.8	403.9	410.5	407.40	0.10	21.60
02-Apr-14	10:48:00 PM	408.1	405.4	410.7	408.07	0.26	21.63
02-Apr-14	10:50:00 PM	408.2	405.5	411.2	408.30	0.32	21.71
02-Apr-14	10:52:00 PM	408.9	405.6	411.9	408.80	0.44	21.70
02-Apr-14	10:54:00 PM	409.6	405.9	412.1	409.20	0.54	21.78
02-Apr-14	10:56:00 PM	409.8	406.3	412.2	409.43	0.60	21.84
02-Apr-14	10:58:00 PM	409.4	406.2	411.8	409.13	0.52	21.87
02-Apr-14	11:00:00 PM	409.5	406.1	411.9	409.17	0.53	21.92
02-Apr-14	11:02:00 PM	409.7	405.9	412.3	409.30	0.57	21.92
02-Apr-14	11:04:00 PM	409.6	405.9	412.4	409.30	0.57	21.98
02-Apr-14	11:06:00 PM	410.1	407	413.2	410.10	0.76	22.05
02-Apr-14	11:08:00 PM	410.6	407.5	413.5	410.53	0.87	22.01
02-Apr-14	11:10:00 PM	410.9	407.5	413.9	410.77	0.93	22.03
02-Apr-14	11:12:00 PM	410.9	407.2	413.8	410.63	0.89	22.09
02-Apr-14	11:14:00 PM	411.1	407.4	414.1	410.87	0.95	22.08
02-Apr-14	11:16:00 PM	411.5	407.7	414.6	411.27	1.05	22.22
02-Apr-14	11:18:00 PM	411.9	408.5	415.4	411.93	1.21	22.26
02-Apr-14	11:20:00 PM	412.7	409.1	416.2	412.67	1.39	22.24
02-Apr-14	11:22:00 PM	413.2	409.6	416.8	413.20	1.52	22.30
02-Apr-14	11:24:00 PM	413.5	410	416.9	413.47	1.59	22.32
02-Apr-14	11:26:00 PM	413.4	410.1	416.6	413.37	1.56	22.53
02-Apr-14	11:28:00 PM	413.4	409.9	416.7	413.33	1.56	22.45
02-Apr-14	11:30:00 PM	413.5	409.3	416.9	413.23	1.53	22.42
02-Apr-14	11:32:00 PM	413.5	409.2	416.5	413.07	1.49	22.40
02-Apr-14	11:34:00 PM	413.1	409.4	416.5	413.00	1.47	22.48
02-Apr-14	11:36:00 PM	413.1	409.3	416.6	413.00	1.47	22.41
02-Apr-14	11:38:00 PM	413.2	409.9	416.6	413.23	1.53	22.48
02-Apr-14	11:40:00 PM	414.4	410.4	416.9	413.90	1.70	22.48
02-Apr-14	11:42:00 PM	414.4	410.6	416.8	413.93	1.70	22.63
02-Apr-14	11:44:00 PM	414.3	410.6	417.1	414.00	1.72	22.61
02-Apr-14	11:46:00 PM	414.1	410.1	416.8	413.67	1.64	22.58
02-Apr-14	11:48:00 PM	414.5	411	416.9	414.13	1.75	22.63
02-Apr-14	11:50:00 PM	414.7	411.2	417.1	414.33	1.80	22.67
02-Apr-14	11:52:00 PM	414.9	411.5	417.6	414.67	1.88	22.67
02-Apr-14	11:54:00 PM	415.3	411.4	417.8	414.83	1.92	22.66
02-Apr-14	11:56:00 PM	415.5	411.4	417.9	414.93	1.95	22.75
02-Apr-14	11:58:00 PM	415.5	412	417.7	415.07	1.98	22.70
03-Apr-14	12:00:00 AM	415.3	411.8	417.5	414.87	1.93	22.67
		409.32	405.12	412.97			
AVERAGE					409.14	0.53	21.89



Study of Voltage Variation at Night for Aadhartal Tiraha Switching Point (After Midnight)

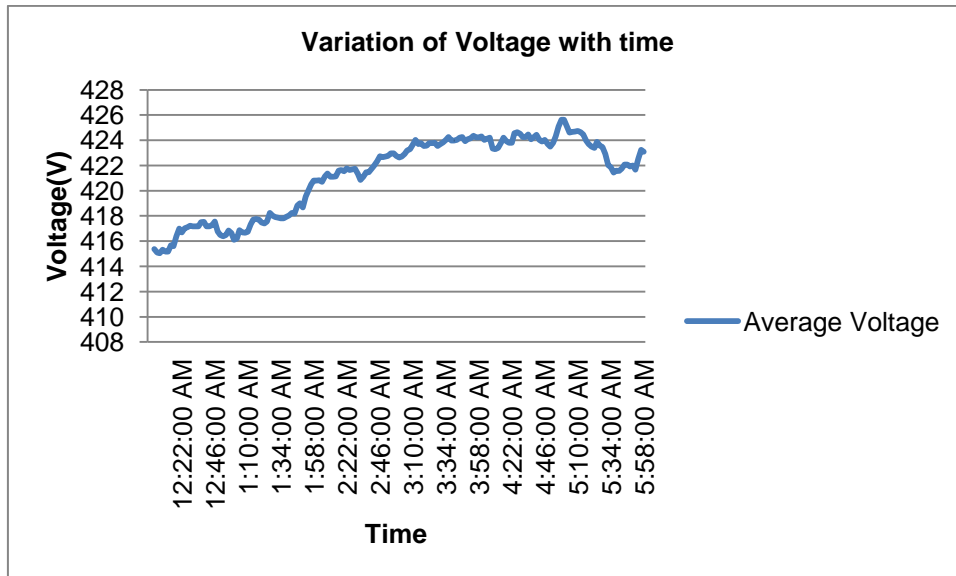
Study of Voltage for Night Load							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
03-Apr-14	12:02:00 AM	416	412.2	417.9	415.37	2.06	22.83
03-Apr-14	12:04:00 AM	415.8	411.6	417.9	415.10	1.99	22.75
03-Apr-14	12:06:00 AM	415.7	411.5	417.9	415.03	1.97	22.77
03-Apr-14	12:08:00 AM	415.6	412.2	418.2	415.33	2.05	22.85
03-Apr-14	12:10:00 AM	415.4	411.8	418.3	415.17	2.01	22.79
03-Apr-14	12:12:00 AM	415.6	411.8	418.1	415.17	2.01	22.74

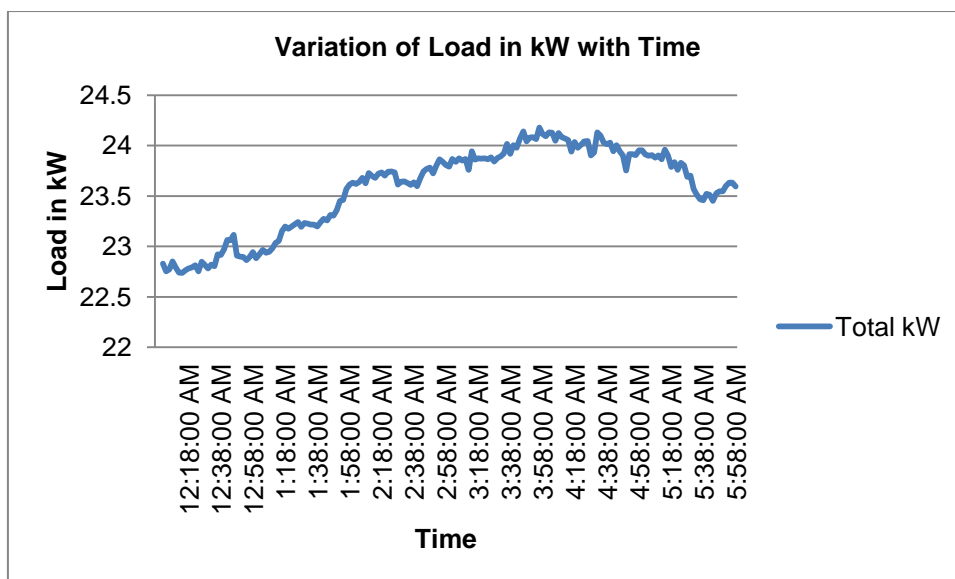
Study of Voltage for Night Load							
03-Apr-14	12:14:00 AM	416.3	412.2	418.5	415.67	2.13	22.74
03-Apr-14	12:16:00 AM	416.2	412.3	418.3	415.60	2.11	22.76
03-Apr-14	12:18:00 AM	416.8	413.3	419.1	416.40	2.31	22.78
03-Apr-14	12:20:00 AM	417.1	413.7	420.2	417.00	2.46	22.79
03-Apr-14	12:22:00 AM	416.9	413.2	420	416.70	2.38	22.81
03-Apr-14	12:24:00 AM	417.4	413.5	420.2	417.03	2.47	22.75
03-Apr-14	12:26:00 AM	417.4	413.8	420.1	417.10	2.48	22.85
03-Apr-14	12:28:00 AM	417.5	414	420.2	417.23	2.51	22.82
03-Apr-14	12:30:00 AM	417.4	413.5	420.6	417.17	2.50	22.78
03-Apr-14	12:32:00 AM	417.4	413.7	420.4	417.17	2.50	22.82
03-Apr-14	12:34:00 AM	417.5	413.7	420.3	417.17	2.50	22.81
03-Apr-14	12:36:00 AM	417.7	414.4	420.4	417.50	2.58	22.92
03-Apr-14	12:38:00 AM	417.5	414.7	420.4	417.53	2.59	22.91
03-Apr-14	12:40:00 AM	417.3	413.7	420.5	417.17	2.50	22.97
03-Apr-14	12:42:00 AM	417.5	413.7	420.3	417.17	2.50	23.07
03-Apr-14	12:44:00 AM	417.5	413.9	420.4	417.27	2.52	23.06
03-Apr-14	12:46:00 AM	417.6	414.4	420.7	417.57	2.60	23.12
03-Apr-14	12:48:00 AM	416.8	413.7	419.8	416.77	2.40	22.91
03-Apr-14	12:50:00 AM	416.8	413.1	419.6	416.50	2.33	22.90
03-Apr-14	12:52:00 AM	416.7	413	419.5	416.40	2.31	22.90
03-Apr-14	12:54:00 AM	416.9	413.1	419.5	416.50	2.33	22.86
03-Apr-14	12:56:00 AM	416.9	413.7	419.9	416.83	2.42	22.90
03-Apr-14	12:58:00 AM	416.9	413.6	419.4	416.63	2.37	22.94
03-Apr-14	1:00:00 AM	416.6	412.8	418.9	416.10	2.24	22.88
03-Apr-14	1:02:00 AM	416.5	412.8	419.3	416.20	2.26	22.92
03-Apr-14	1:04:00 AM	417.1	413.6	419.9	416.87	2.42	22.97
03-Apr-14	1:06:00 AM	417.1	413.7	419.3	416.70	2.38	22.94
03-Apr-14	1:08:00 AM	417.1	413.6	419.3	416.67	2.38	22.95
03-Apr-14	1:10:00 AM	417.4	413.4	419.4	416.73	2.39	22.98
03-Apr-14	1:12:00 AM	417.7	413.9	420.4	417.33	2.54	23.03
03-Apr-14	1:14:00 AM	418.1	414.4	420.6	417.70	2.63	23.06
03-Apr-14	1:16:00 AM	418	414.7	420.6	417.77	2.65	23.15
03-Apr-14	1:18:00 AM	418.1	414.5	420.5	417.70	2.63	23.20
03-Apr-14	1:20:00 AM	418	414	420.4	417.47	2.57	23.17
03-Apr-14	1:22:00 AM	417.9	414	420.3	417.40	2.56	23.20
03-Apr-14	1:24:00 AM	417.8	414.3	420.6	417.57	2.60	23.22
03-Apr-14	1:26:00 AM	418.3	415.2	421.2	418.23	2.76	23.24
03-Apr-14	1:28:00 AM	418.2	415	420.8	418.00	2.70	23.19
03-Apr-14	1:30:00 AM	418.3	414.6	420.8	417.90	2.68	23.23
03-Apr-14	1:32:00 AM	418.1	414.6	420.9	417.87	2.67	23.23
03-Apr-14	1:34:00 AM	418	414.5	420.9	417.80	2.65	23.22
03-Apr-14	1:36:00 AM	417.9	414.6	420.9	417.80	2.65	23.22
03-Apr-14	1:38:00 AM	418.1	414.8	420.9	417.93	2.69	23.20
03-Apr-14	1:40:00 AM	418.2	414.7	421.2	418.03	2.71	23.24
03-Apr-14	1:42:00 AM	418.6	415.1	421	418.23	2.76	23.27
03-Apr-14	1:44:00 AM	418.7	415	420.9	418.20	2.75	23.26
03-Apr-14	1:46:00 AM	418.9	416	421.6	418.83	2.91	23.31
03-Apr-14	1:48:00 AM	419.1	416	421.9	419.00	2.95	23.31
03-Apr-14	1:50:00 AM	419.1	415.4	421.5	418.67	2.87	23.36
03-Apr-14	1:52:00 AM	420	416.1	422.5	419.53	3.08	23.45
03-Apr-14	1:54:00 AM	420.4	416.4	423.2	420.00	3.19	23.46

Study of Voltage for Night Load							
03-Apr-14	1:56:00 AM	420.8	417.4	423.3	420.50	3.32	23.57
03-Apr-14	1:58:00 AM	421.2	417.9	423.3	420.80	3.39	23.61
03-Apr-14	2:00:00 AM	421.1	417.7	423.6	420.80	3.39	23.63
03-Apr-14	2:02:00 AM	421.1	417.7	423.7	420.83	3.40	23.62
03-Apr-14	2:04:00 AM	421.1	417.6	423.4	420.70	3.37	23.64
03-Apr-14	2:06:00 AM	421.4	418.1	423.9	421.13	3.47	23.68
03-Apr-14	2:08:00 AM	421.3	418.1	424.7	421.37	3.53	23.63
03-Apr-14	2:10:00 AM	421.3	417.7	424.3	421.10	3.46	23.73
03-Apr-14	2:12:00 AM	421.4	417.9	424	421.10	3.46	23.70
03-Apr-14	2:14:00 AM	421.4	417.8	424.2	421.13	3.47	23.68
03-Apr-14	2:16:00 AM	421.7	418.7	424.4	421.60	3.59	23.72
03-Apr-14	2:18:00 AM	421.9	418.7	424.3	421.63	3.60	23.73
03-Apr-14	2:20:00 AM	421.7	418.5	424.4	421.53	3.57	23.70
03-Apr-14	2:22:00 AM	422	418.4	424.9	421.77	3.63	23.74
03-Apr-14	2:24:00 AM	422.1	418.3	424.5	421.63	3.60	23.74
03-Apr-14	2:26:00 AM	421.9	418.7	424.5	421.70	3.61	23.74
03-Apr-14	2:28:00 AM	421.8	418.8	424.6	421.73	3.62	23.61
03-Apr-14	2:30:00 AM	421.6	418.3	424.1	421.33	3.52	23.64
03-Apr-14	2:32:00 AM	421.2	417.7	423.7	420.87	3.41	23.65
03-Apr-14	2:34:00 AM	421.2	418	424.1	421.10	3.46	23.63
03-Apr-14	2:36:00 AM	421.6	418.4	424.4	421.47	3.55	23.61
03-Apr-14	2:38:00 AM	421.9	418.2	424.3	421.47	3.55	23.63
03-Apr-14	2:40:00 AM	422.1	418.1	425	421.73	3.62	23.60
03-Apr-14	2:42:00 AM	422.2	418.6	425.2	422.00	3.69	23.68
03-Apr-14	2:44:00 AM	422.6	419.2	425.2	422.33	3.77	23.74
03-Apr-14	2:46:00 AM	422.8	419.8	425.6	422.73	3.87	23.77
03-Apr-14	2:48:00 AM	422.8	419.4	425.8	422.67	3.85	23.78
03-Apr-14	2:50:00 AM	423.1	419.3	425.7	422.70	3.86	23.73
03-Apr-14	2:52:00 AM	423.2	419.2	425.9	422.77	3.87	23.80
03-Apr-14	2:54:00 AM	423.1	419.5	426.3	422.97	3.92	23.86
03-Apr-14	2:56:00 AM	423.2	419.7	426	422.97	3.92	23.84
03-Apr-14	2:58:00 AM	423	419.5	425.8	422.77	3.87	23.81
03-Apr-14	3:00:00 AM	422.7	419.2	426	422.63	3.84	23.79
03-Apr-14	3:02:00 AM	422.9	419.3	425.9	422.70	3.86	23.87
03-Apr-14	3:04:00 AM	423.1	419.5	426.1	422.90	3.91	23.84
03-Apr-14	3:06:00 AM	423.4	419.8	426.4	423.20	3.98	23.87
03-Apr-14	3:08:00 AM	423.6	419.8	426.5	423.30	4.00	23.85
03-Apr-14	3:10:00 AM	424.2	420.1	426.7	423.67	4.10	23.87
03-Apr-14	3:12:00 AM	424.3	420.7	427.1	424.03	4.19	23.76
03-Apr-14	3:14:00 AM	424	420.6	426.5	423.70	4.10	23.94
03-Apr-14	3:16:00 AM	423.9	420.8	426.6	423.77	4.12	23.86
03-Apr-14	3:18:00 AM	423.6	420.3	426.7	423.53	4.06	23.87
03-Apr-14	3:20:00 AM	423.7	420.2	426.8	423.57	4.07	23.87
03-Apr-14	3:22:00 AM	423.9	420.4	427	423.77	4.12	23.87
03-Apr-14	3:24:00 AM	423.7	420.5	427.1	423.77	4.12	23.86
03-Apr-14	3:26:00 AM	423.5	420.7	427.2	423.80	4.13	23.88
03-Apr-14	3:28:00 AM	423.3	420.6	426.7	423.53	4.06	23.84
03-Apr-14	3:30:00 AM	423.7	420.4	427	423.70	4.10	23.88
03-Apr-14	3:32:00 AM	424	420.6	426.9	423.83	4.14	23.89
03-Apr-14	3:34:00 AM	424.2	420.9	427	424.03	4.19	23.92
03-Apr-14	3:36:00 AM	424.1	421.1	427.6	424.27	4.24	24.02

Study of Voltage for Night Load							
03-Apr-14	3:38:00 AM	424.1	420.5	427.3	423.97	4.17	23.92
03-Apr-14	3:40:00 AM	424.1	420.6	427.2	423.97	4.17	24.00
03-Apr-14	3:42:00 AM	424	420.7	427.4	424.03	4.19	23.98
03-Apr-14	3:44:00 AM	424.1	421.2	427.3	424.20	4.23	24.07
03-Apr-14	3:46:00 AM	424	421.5	427.3	424.27	4.24	24.14
03-Apr-14	3:48:00 AM	423.7	420.6	427.5	423.93	4.16	24.04
03-Apr-14	3:50:00 AM	424.2	420.6	427.4	424.07	4.19	24.08
03-Apr-14	3:52:00 AM	424.4	420.6	427.5	424.17	4.22	24.08
03-Apr-14	3:54:00 AM	424.4	420.9	427.8	424.37	4.27	24.06
03-Apr-14	3:56:00 AM	424.1	420.9	427.7	424.23	4.23	24.18
03-Apr-14	3:58:00 AM	424.2	421	427.5	424.23	4.23	24.11
03-Apr-14	4:00:00 AM	424.2	421	427.7	424.30	4.25	24.09
03-Apr-14	4:02:00 AM	424.2	420.8	427.1	424.03	4.19	24.13
03-Apr-14	4:04:00 AM	424	421.1	427.3	424.13	4.21	24.13
03-Apr-14	4:06:00 AM	423.9	421	427.7	424.20	4.23	24.05
03-Apr-14	4:08:00 AM	423.3	419.8	426.9	423.33	4.01	24.13
03-Apr-14	4:10:00 AM	423.3	419.7	426.9	423.30	4.00	24.08
03-Apr-14	4:12:00 AM	423.3	420	426.9	423.40	4.03	24.07
03-Apr-14	4:14:00 AM	423.6	420.6	427.2	423.80	4.13	24.05
03-Apr-14	4:16:00 AM	424	420.9	427.7	424.20	4.23	23.94
03-Apr-14	4:18:00 AM	424	420.4	427.4	423.93	4.16	24.04
03-Apr-14	4:20:00 AM	424	420.5	426.9	423.80	4.13	23.98
03-Apr-14	4:22:00 AM	424.2	420	427.2	423.80	4.13	24.01
03-Apr-14	4:24:00 AM	424.9	421.2	427.6	424.57	4.32	24.04
03-Apr-14	4:26:00 AM	424.9	421.2	427.8	424.63	4.33	24.04
03-Apr-14	4:28:00 AM	424.6	421	427.9	424.50	4.30	23.90
03-Apr-14	4:30:00 AM	424.5	420.8	427.5	424.27	4.24	23.93
03-Apr-14	4:32:00 AM	424.3	420.9	427.6	424.27	4.24	24.13
03-Apr-14	4:34:00 AM	424.4	421.1	427.9	424.47	4.29	24.10
03-Apr-14	4:36:00 AM	424.2	420.6	427.4	424.07	4.19	24.03
03-Apr-14	4:38:00 AM	424.4	420.7	427.7	424.27	4.24	24.01
03-Apr-14	4:40:00 AM	424.5	420.9	427.9	424.43	4.28	24.03
03-Apr-14	4:42:00 AM	424.3	420.4	427.4	424.03	4.19	23.94
03-Apr-14	4:44:00 AM	424.1	420.6	427	423.90	4.15	24.00
03-Apr-14	4:46:00 AM	424.1	420.8	427.2	424.03	4.19	23.94
03-Apr-14	4:48:00 AM	423.9	420.4	426.8	423.70	4.10	23.90
03-Apr-14	4:50:00 AM	423.6	420.2	426.7	423.50	4.05	23.75
03-Apr-14	4:52:00 AM	424.2	420.3	426.9	423.80	4.13	23.91
03-Apr-14	4:54:00 AM	424.6	421	427.3	424.30	4.25	23.91
03-Apr-14	4:56:00 AM	425.2	421.7	428.4	425.10	4.45	23.91
03-Apr-14	4:58:00 AM	425.8	422	429.1	425.63	4.58	23.95
03-Apr-14	5:00:00 AM	425.7	422.1	429.1	425.63	4.58	23.95
03-Apr-14	5:02:00 AM	425.1	421.4	428.8	425.10	4.45	23.91
03-Apr-14	5:04:00 AM	424.8	421.3	427.7	424.60	4.32	23.90
03-Apr-14	5:06:00 AM	424.7	421.1	428.2	424.67	4.34	23.91
03-Apr-14	5:08:00 AM	424.9	420.9	428.3	424.70	4.35	23.88
03-Apr-14	5:10:00 AM	425	421	428.2	424.73	4.36	23.90
03-Apr-14	5:12:00 AM	425	420.7	428.2	424.63	4.33	23.87
03-Apr-14	5:14:00 AM	424.6	421.2	427.6	424.47	4.29	23.96
03-Apr-14	5:16:00 AM	424	420.9	427	423.97	4.17	23.90
03-Apr-14	5:18:00 AM	423.7	420.3	427.1	423.70	4.10	23.79

Study of Voltage for Night Load							
03-Apr-14	5:20:00 AM	423.4	420.2	426.9	423.50	4.05	23.83
03-Apr-14	5:22:00 AM	423.2	420	427	423.40	4.03	23.76
03-Apr-14	5:24:00 AM	423.8	420.4	427.4	423.87	4.14	23.83
03-Apr-14	5:26:00 AM	423.8	420.1	426.8	423.57	4.07	23.80
03-Apr-14	5:28:00 AM	423.5	419.6	427.3	423.47	4.05	23.69
03-Apr-14	5:30:00 AM	422.8	419.3	426.6	422.90	3.91	23.70
03-Apr-14	5:32:00 AM	421.9	418.7	425.5	422.03	3.69	23.57
03-Apr-14	5:34:00 AM	421.5	418.9	425.2	421.87	3.65	23.51
03-Apr-14	5:36:00 AM	421.4	418.3	424.6	421.43	3.55	23.47
03-Apr-14	5:38:00 AM	421.5	418.1	425.2	421.60	3.59	23.46
03-Apr-14	5:40:00 AM	421.5	418.1	425.1	421.57	3.58	23.52
03-Apr-14	5:42:00 AM	422	418.1	425.1	421.73	3.62	23.51
03-Apr-14	5:44:00 AM	422.2	418.6	425.4	422.07	3.70	23.45
03-Apr-14	5:46:00 AM	422.1	418.4	425.7	422.07	3.70	23.53
03-Apr-14	5:48:00 AM	421.8	418.5	425.5	421.93	3.67	23.55
03-Apr-14	5:50:00 AM	422.1	418.3	425.6	422.00	3.69	23.55
03-Apr-14	5:52:00 AM	421.9	418.3	424.8	421.67	3.60	23.60
03-Apr-14	5:54:00 AM	422.7	419.4	425.5	422.53	3.82	23.63
03-Apr-14	5:56:00 AM	423.1	419.9	426.7	423.23	3.99	23.63
03-Apr-14	5:58:00 AM	423	420	426.3	423.10	3.96	23.59
		421.42	417.93	424.38			
Average					421.25	3.50	23.57

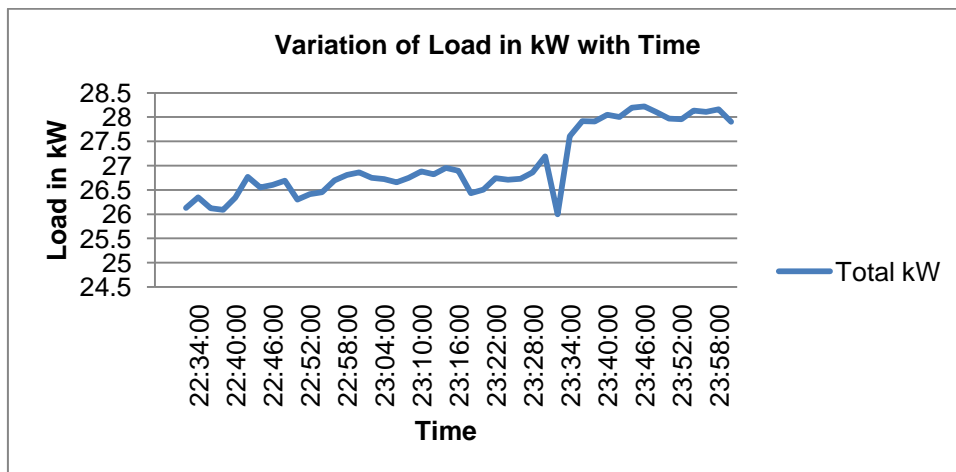
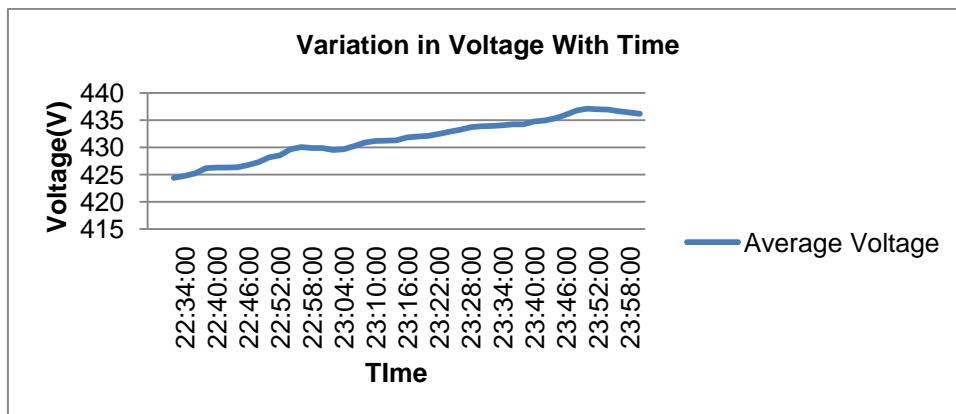




8. Study of Voltage Variation at Night Kripal Chowk Switching Point (Till Midnight)

Study for Voltage During Night Time							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
09-03-2014	22:32:00	424.9	420.4	427.9	424.40	4.28	26.13
09-03-2014	22:34:00	425.4	420.7	428.2	424.77	4.37	26.35
09-03-2014	22:36:00	425.7	421.2	428.8	425.23	4.48	26.13
09-03-2014	22:38:00	426.5	422.1	429.9	426.17	4.71	26.09
09-03-2014	22:40:00	426.5	422.2	430.1	426.27	4.73	26.34
09-03-2014	22:42:00	426.5	422.2	430.2	426.30	4.74	26.77
09-03-2014	22:44:00	426.5	422.4	430.1	426.33	4.75	26.55
09-03-2014	22:46:00	426.8	422.7	430.7	426.73	4.85	26.60
09-03-2014	22:48:00	427.5	423.1	431.3	427.30	4.99	26.69
09-03-2014	22:50:00	428.4	424.2	431.8	428.13	5.19	26.30
09-03-2014	22:52:00	428.8	424.6	432.2	428.53	5.29	26.42
09-03-2014	22:54:00	429.9	425.7	433.2	429.60	5.55	26.45
09-03-2014	22:56:00	430.5	426.2	433.5	430.07	5.67	26.70
09-03-2014	22:58:00	430.3	425.9	433.3	429.83	5.61	26.81
09-03-2014	23:00:00	430.3	426.1	433.2	429.87	5.62	26.86
09-03-2014	23:02:00	429.8	425.6	433.2	429.53	5.54	26.75
09-03-2014	23:04:00	429.8	425.6	433.5	429.63	5.56	26.72
09-03-2014	23:06:00	430.4	426.1	434.2	430.23	5.71	26.66
09-03-2014	23:08:00	431.2	426.6	434.7	430.83	5.86	26.75
09-03-2014	23:10:00	431.4	427	435.1	431.17	5.94	26.88
09-03-2014	23:12:00	431.4	427.3	434.9	431.20	5.95	26.82
09-03-2014	23:14:00	431.5	427.5	434.9	431.30	5.97	26.95
09-03-2014	23:16:00	431.9	428	435.5	431.80	6.09	26.90
09-03-2014	23:18:00	432.3	427.8	435.8	431.97	6.13	26.43
09-03-2014	23:20:00	432.4	428.2	435.7	432.10	6.17	26.50

Study for Voltage During Night Time							
09-03-2014	23:22:00	432.7	428.7	436	432.47	6.26	26.75
09-03-2014	23:24:00	433.3	429	436.3	432.87	6.36	26.71
09-03-2014	23:26:00	433.8	429.2	436.7	433.23	6.45	26.73
09-03-2014	23:28:00	434.1	429.5	437.5	433.70	6.56	26.86
09-03-2014	23:30:00	433.9	429.8	437.8	433.83	6.59	27.19
09-03-2014	23:32:00	433.7	430.1	437.9	433.90	6.61	26.00
09-03-2014	23:34:00	434	430	438.1	434.03	6.64	27.61
09-03-2014	23:36:00	434.2	430.1	438.3	434.20	6.68	27.91
09-03-2014	23:38:00	434.4	430.1	438.2	434.23	6.69	27.91
09-03-2014	23:40:00	434.7	430.8	438.7	434.73	6.81	28.05
09-03-2014	23:42:00	434.8	431	439	434.93	6.86	28.00
09-03-2014	23:44:00	435.4	431.1	439.4	435.30	6.95	28.19
09-03-2014	23:46:00	435.9	432	440	435.97	7.12	28.22
09-03-2014	23:48:00	436.6	432.8	440.9	436.77	7.31	28.10
09-03-2014	23:50:00	437	433.1	441.2	437.10	7.40	27.97
09-03-2014	23:52:00	436.9	432.9	441.2	437.00	7.37	27.95
09-03-2014	23:54:00	437	432.8	440.9	436.90	7.35	28.13
09-03-2014	23:56:00	436.6	432.7	440.6	436.63	7.28	28.11
09-03-2014	23:58:00	436.4	432.3	440.4	436.37	7.22	28.16
10-03-2014	00:00:00	436.5	432	440	436.17	7.17	27.90
		431.74	427.54	435.35			
AVERAGE					431.55	6.03	27.04



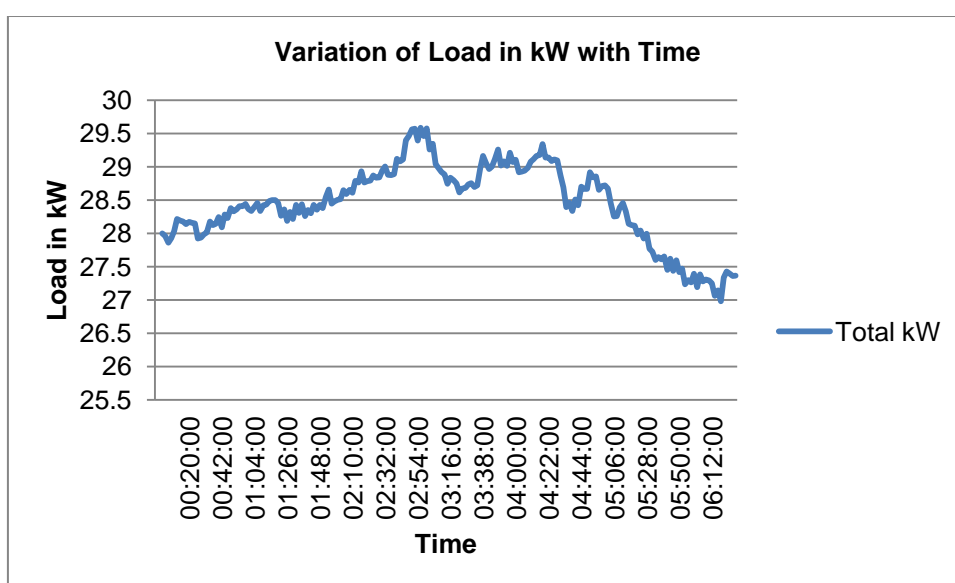
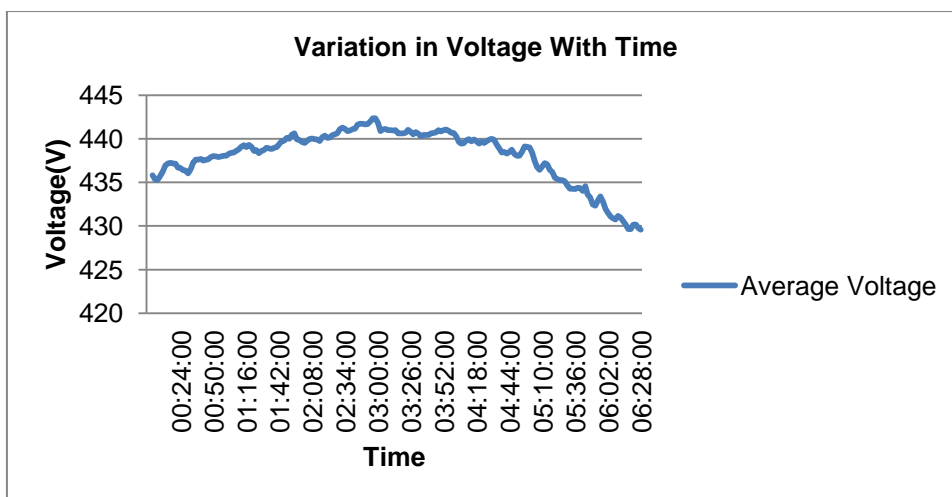
Study of Voltage Variation at Night Kripal Chowk Switching Point (After Midnight)

Study for Voltage During Night Time							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
10-03-2014	00:02:00	435.9	431.4	440.1	435.80	7.08	28.00
10-03-2014	00:04:00	435.2	431.1	439.7	435.33	6.96	27.96
10-03-2014	00:06:00	435.1	431.3	439.5	435.30	6.95	27.86
10-03-2014	00:08:00	435.7	431.8	439.7	435.73	7.06	27.92
10-03-2014	00:10:00	436.2	432.5	440.1	436.27	7.19	28.03
10-03-2014	00:12:00	437.2	432.8	440.9	436.97	7.36	28.21
10-03-2014	00:14:00	437.6	433	440.9	437.17	7.41	28.19
10-03-2014	00:16:00	437.5	433.1	441.1	437.23	7.43	28.18
10-03-2014	00:18:00	437.4	433.3	440.8	437.17	7.41	28.14
10-03-2014	00:20:00	437.2	433.3	440.9	437.13	7.40	28.17
10-03-2014	00:22:00	436.8	432.6	440.7	436.70	7.30	28.16
10-03-2014	00:24:00	436.9	432.6	440.5	436.67	7.29	28.15
10-03-2014	00:26:00	436.7	432.4	440.1	436.40	7.22	27.92
10-03-2014	00:28:00	436.3	432.5	440.3	436.37	7.22	27.93
10-03-2014	00:30:00	436	432.1	440	436.03	7.13	27.99
10-03-2014	00:32:00	436.8	432.4	440.3	436.50	7.25	28.01
10-03-2014	00:34:00	437.6	433.3	440.9	437.27	7.44	28.17
10-03-2014	00:36:00	437.7	433.8	441.3	437.60	7.52	28.12
10-03-2014	00:38:00	437.7	433.8	441.3	437.60	7.52	28.14
10-03-2014	00:40:00	437.9	434	441.2	437.70	7.54	28.25
10-03-2014	00:42:00	437.6	433.8	441.1	437.50	7.49	28.09
10-03-2014	00:44:00	437.8	433.9	441	437.57	7.51	28.28
10-03-2014	00:46:00	437.7	434.1	441.1	437.63	7.53	28.23
10-03-2014	00:48:00	437.8	434.4	441.5	437.90	7.59	28.38
10-03-2014	00:50:00	438.2	434.3	441.5	438.00	7.62	28.33
10-03-2014	00:52:00	438.1	434.2	441.6	437.97	7.61	28.36
10-03-2014	00:54:00	438.2	434.1	441.4	437.90	7.59	28.41
10-03-2014	00:56:00	438	434.1	441.8	437.97	7.61	28.41
10-03-2014	00:58:00	438	434.3	441.9	438.07	7.63	28.44
10-03-2014	01:00:00	437.9	434.4	441.8	438.03	7.62	28.36
10-03-2014	01:02:00	438.3	434.4	442.1	438.27	7.68	28.34
10-03-2014	01:04:00	438.6	434.4	442.1	438.37	7.71	28.40
10-03-2014	01:06:00	438.5	434.7	442.1	438.43	7.72	28.45
10-03-2014	01:08:00	438.5	435.2	442.1	438.60	7.76	28.33
10-03-2014	01:10:00	438.6	435.4	442.4	438.80	7.81	28.42
10-03-2014	01:12:00	439.1	435.5	442.6	439.07	7.88	28.43
10-03-2014	01:14:00	439.3	435.8	442.7	439.27	7.93	28.48
10-03-2014	01:16:00	439	435.6	442.5	439.03	7.87	28.50
10-03-2014	01:18:00	439.3	435.9	442.7	439.30	7.94	28.50
10-03-2014	01:20:00	439.1	435.8	442.3	439.07	7.88	28.45
10-03-2014	01:22:00	438.6	435.2	442	438.60	7.76	28.26
10-03-2014	01:24:00	438.6	435	442.5	438.70	7.79	28.36
10-03-2014	01:26:00	437.9	434.8	442.3	438.33	7.70	28.18
10-03-2014	01:28:00	438.1	435.1	442.6	438.60	7.76	28.32

Study for Voltage During Night Time							
10-03-2014	01:30:00	438.2	435.2	442.7	438.70	7.79	28.21
10-03-2014	01:32:00	438.5	435.5	442.9	438.97	7.85	28.43
10-03-2014	01:34:00	438.6	435.2	442.9	438.90	7.84	28.31
10-03-2014	01:36:00	438.6	434.8	443.1	438.83	7.82	28.44
10-03-2014	01:38:00	438.9	435.2	442.8	438.97	7.85	28.26
10-03-2014	01:40:00	439	435.4	442.7	439.03	7.87	28.35
10-03-2014	01:42:00	439.4	435.9	442.9	439.40	7.96	28.30
10-03-2014	01:44:00	439.7	436.1	443.3	439.70	8.03	28.43
10-03-2014	01:46:00	439.8	436.2	443.3	439.77	8.05	28.36
10-03-2014	01:48:00	440.2	436.3	443.8	440.10	8.13	28.43
10-03-2014	01:50:00	440	436.1	443.9	440.00	8.11	28.38
10-03-2014	01:52:00	440.3	436.7	444.4	440.47	8.22	28.55
10-03-2014	01:54:00	440.6	436.7	444.6	440.63	8.26	28.65
10-03-2014	01:56:00	439.9	436.1	443.8	439.93	8.09	28.45
10-03-2014	01:58:00	439.8	436	443.7	439.83	8.07	28.48
10-03-2014	02:00:00	439.7	435.7	443.5	439.63	8.02	28.50
10-03-2014	02:02:00	439.4	435.7	443.4	439.50	7.99	28.51
10-03-2014	02:04:00	439.6	435.9	443.7	439.73	8.04	28.65
10-03-2014	02:06:00	439.9	436.2	443.8	439.97	8.10	28.59
10-03-2014	02:08:00	439.9	436.4	443.8	440.03	8.12	28.65
10-03-2014	02:10:00	439.7	436.3	443.9	439.97	8.10	28.61
10-03-2014	02:12:00	439.6	436.3	443.9	439.93	8.09	28.79
10-03-2014	02:14:00	439.4	436.1	443.7	439.73	8.04	28.76
10-03-2014	02:16:00	440.1	436.4	444	440.17	8.15	28.93
10-03-2014	02:18:00	440.4	436.5	444.2	440.37	8.20	28.76
10-03-2014	02:20:00	440	436.4	443.9	440.10	8.13	28.78
10-03-2014	02:22:00	440	436.4	444	440.13	8.14	28.79
10-03-2014	02:24:00	440.5	436.4	444.3	440.40	8.21	28.87
10-03-2014	02:26:00	440.6	436.7	444.2	440.50	8.23	28.83
10-03-2014	02:28:00	440.5	436.8	444.5	440.60	8.26	28.84
10-03-2014	02:30:00	440.8	437.3	445.2	441.10	8.38	28.94
10-03-2014	02:32:00	441.2	437.4	445.2	441.27	8.42	29.00
10-03-2014	02:34:00	441.1	437.2	445.1	441.13	8.39	28.88
10-03-2014	02:36:00	440.9	436.8	444.9	440.87	8.32	28.87
10-03-2014	02:38:00	441	437	444.8	440.93	8.34	28.89
10-03-2014	02:40:00	441.2	437.1	445	441.10	8.38	29.12
10-03-2014	02:42:00	441.3	437.2	445	441.17	8.39	29.08
10-03-2014	02:44:00	441.9	437.6	445.3	441.60	8.50	29.11
10-03-2014	02:46:00	442.1	437.6	445.4	441.70	8.53	29.40
10-03-2014	02:48:00	441.8	437.7	445.7	441.73	8.53	29.46
10-03-2014	02:50:00	441.9	437.7	445.3	441.63	8.51	29.56
10-03-2014	02:52:00	442.1	437.5	445.4	441.67	8.52	29.57
10-03-2014	02:54:00	442	437.9	446	441.97	8.59	29.39
10-03-2014	02:56:00	442.2	438.4	446.4	442.33	8.68	29.59
10-03-2014	02:58:00	442.3	438	446.7	442.33	8.68	29.46
10-03-2014	03:00:00	441.9	437.4	446.2	441.83	8.56	29.57
10-03-2014	03:02:00	440.8	436.5	445.3	440.87	8.32	29.26
10-03-2014	03:04:00	441.2	436.7	445.3	441.07	8.37	29.34
10-03-2014	03:06:00	441.4	436.9	445.1	441.13	8.39	29.04
10-03-2014	03:08:00	441.1	436.8	445	440.97	8.35	28.98
10-03-2014	03:10:00	441	436.9	445	440.97	8.35	28.92

Study for Voltage During Night Time							
10-03-2014	03:12:00	441.1	436.6	445.1	440.93	8.34	28.88
10-03-2014	03:14:00	441	436.8	445.1	440.97	8.35	28.74
10-03-2014	03:16:00	440.7	436.6	444.5	440.60	8.26	28.84
10-03-2014	03:18:00	440.8	436.4	444.7	440.63	8.26	28.79
10-03-2014	03:20:00	440.7	436.4	444.8	440.63	8.26	28.75
10-03-2014	03:22:00	440.7	436.5	444.9	440.70	8.28	28.62
10-03-2014	03:24:00	441.2	436.7	445.2	441.03	8.36	28.67
10-03-2014	03:26:00	441.2	436.7	444.5	440.80	8.30	28.68
10-03-2014	03:28:00	440.8	436.3	444.4	440.50	8.23	28.73
10-03-2014	03:30:00	441	436.6	444.7	440.77	8.30	28.75
10-03-2014	03:32:00	440.8	436.5	444.4	440.57	8.25	28.69
10-03-2014	03:34:00	440.4	436.2	444.3	440.30	8.18	28.72
10-03-2014	03:36:00	440.8	436.2	444.3	440.43	8.21	28.97
10-03-2014	03:38:00	440.6	436.2	444.5	440.43	8.21	29.16
10-03-2014	03:40:00	440.6	436.1	444.6	440.43	8.21	29.04
10-03-2014	03:42:00	440.7	436.3	444.8	440.60	8.26	28.97
10-03-2014	03:44:00	440.8	436.4	444.8	440.67	8.27	29.00
10-03-2014	03:46:00	440.8	436.3	445.1	440.73	8.29	29.12
10-03-2014	03:48:00	441.2	436.5	445.2	440.97	8.35	29.26
10-03-2014	03:50:00	441.1	436.5	444.9	440.83	8.31	29.02
10-03-2014	03:52:00	441	436.9	445	440.97	8.35	29.08
10-03-2014	03:54:00	441.1	437	445.1	441.07	8.37	29.01
10-03-2014	03:56:00	440.9	436.8	445	440.90	8.33	29.21
10-03-2014	03:58:00	440.9	436.8	444.4	440.70	8.28	29.07
10-03-2014	04:00:00	440.9	436.8	444.3	440.67	8.27	29.10
10-03-2014	04:02:00	440.5	436.4	443.8	440.23	8.17	28.92
10-03-2014	04:04:00	439.7	435.6	443.6	439.63	8.02	28.92
10-03-2014	04:06:00	439.5	435.2	443.6	439.43	7.97	28.94
10-03-2014	04:08:00	439.4	435.5	443.5	439.47	7.98	28.98
10-03-2014	04:10:00	439.7	436	443.7	439.80	8.06	29.07
10-03-2014	04:12:00	439.9	436.1	443.9	439.97	8.10	29.11
10-03-2014	04:14:00	439.6	436	443.5	439.70	8.03	29.16
10-03-2014	04:16:00	440.1	436	443.7	439.93	8.09	29.18
10-03-2014	04:18:00	440	435.7	443.4	439.70	8.03	29.34
10-03-2014	04:20:00	439.4	435.6	443.3	439.43	7.97	29.14
10-03-2014	04:22:00	439.7	435.7	443.6	439.67	8.03	29.14
10-03-2014	04:24:00	439.8	435.4	443.4	439.53	7.99	29.08
10-03-2014	04:26:00	440.1	435.4	443.6	439.70	8.03	29.11
10-03-2014	04:28:00	440	436	443.6	439.87	8.08	29.09
10-03-2014	04:30:00	440.1	436.3	443.6	440.00	8.11	28.87
10-03-2014	04:32:00	439.9	436.1	443.6	439.87	8.08	28.69
10-03-2014	04:34:00	439.2	435.7	443.1	439.33	7.94	28.39
10-03-2014	04:36:00	438.5	435.6	442.6	438.90	7.84	28.46
10-03-2014	04:38:00	438.2	434.8	442.2	438.40	7.71	28.34
10-03-2014	04:40:00	438.4	434.8	442.3	438.50	7.74	28.51
10-03-2014	04:42:00	438.2	434.4	442.3	438.30	7.69	28.42
10-03-2014	04:44:00	438.5	434.6	442.4	438.50	7.74	28.70
10-03-2014	04:46:00	438.9	434.8	442.5	438.73	7.80	28.67
10-03-2014	04:48:00	438.4	434.4	442	438.27	7.68	28.67
10-03-2014	04:50:00	438.3	434	441.8	438.03	7.62	28.91
10-03-2014	04:52:00	438.2	433.8	442.1	438.03	7.62	28.84

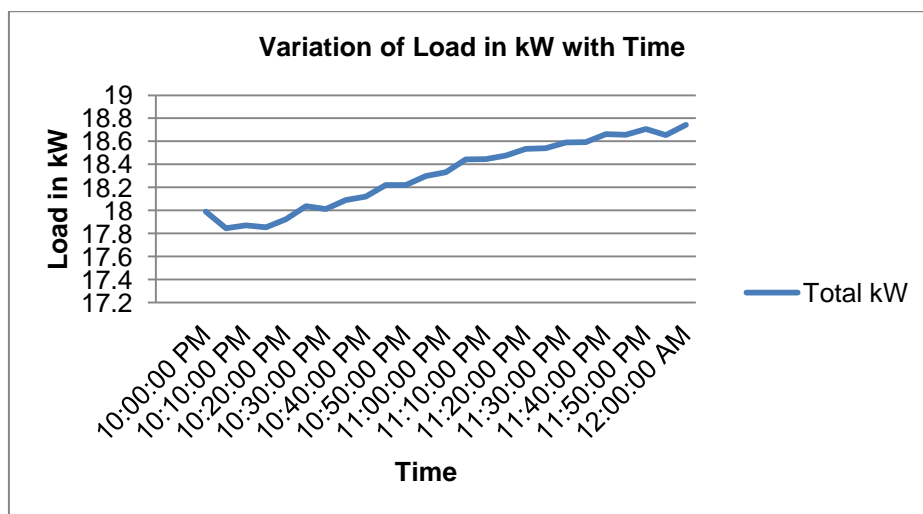
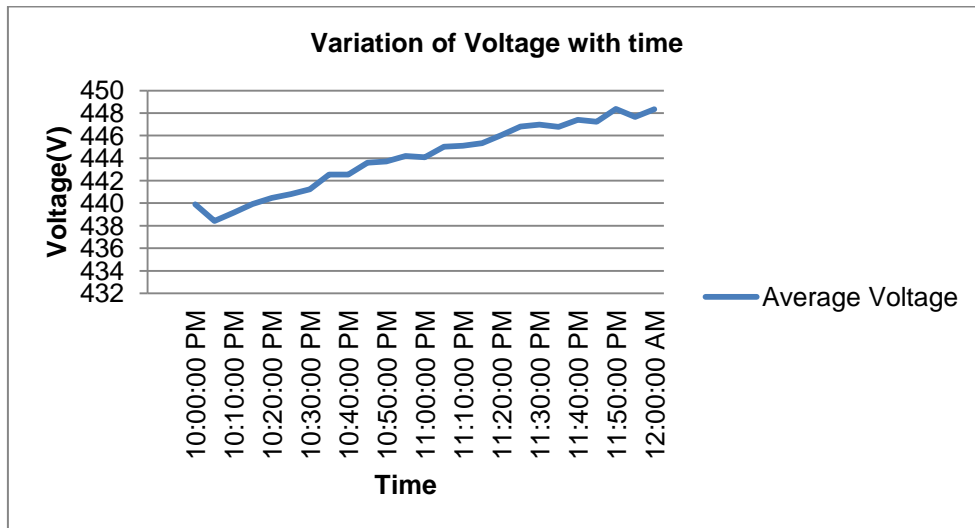
Study for Voltage During Night Time							
10-03-2014	04:54:00	438.4	434.3	442.8	438.50	7.74	28.85
10-03-2014	04:56:00	439.3	434.9	443.1	439.10	7.89	28.65
10-03-2014	04:58:00	439.2	435	443	439.07	7.88	28.71
10-03-2014	05:00:00	438.9	435.1	443	439.00	7.86	28.72
10-03-2014	05:02:00	438.1	434.5	442.5	438.37	7.71	28.67
10-03-2014	05:04:00	437.1	433.8	441.4	437.43	7.48	28.45
10-03-2014	05:06:00	436.7	433	440.6	436.77	7.31	28.25
10-03-2014	05:08:00	436.5	432.5	440.3	436.43	7.23	28.26
10-03-2014	05:10:00	436.6	433.1	440.7	436.80	7.32	28.39
10-03-2014	05:12:00	437.1	433.3	441.2	437.20	7.42	28.45
10-03-2014	05:14:00	436.7	433.2	441.3	437.07	7.39	28.33
10-03-2014	05:16:00	435.9	432.3	441.1	436.43	7.23	28.14
10-03-2014	05:18:00	435.6	431.9	441	436.17	7.17	28.12
10-03-2014	05:20:00	435	431.3	440.3	435.53	7.01	28.11
10-03-2014	05:22:00	435.1	431	440	435.37	6.97	27.99
10-03-2014	05:24:00	434.9	430.8	440	435.23	6.94	28.04
10-03-2014	05:26:00	434.8	431	440	435.27	6.95	27.92
10-03-2014	05:28:00	435.1	430.4	439.8	435.10	6.90	27.99
10-03-2014	05:30:00	434.6	430	439.3	434.63	6.79	27.77
10-03-2014	05:32:00	434.3	429.6	438.9	434.27	6.70	27.72
10-03-2014	05:34:00	434.4	429.4	439	434.27	6.70	27.60
10-03-2014	05:36:00	434.2	429.4	439.1	434.23	6.69	27.64
10-03-2014	05:38:00	434.4	429.8	438.9	434.37	6.72	27.61
10-03-2014	05:40:00	434.3	429.5	439.2	434.33	6.72	27.65
10-03-2014	05:42:00	434.1	429.2	438.8	434.03	6.64	27.45
10-03-2014	05:44:00	435.1	429.8	438.8	434.57	6.77	27.62
10-03-2014	05:46:00	434.4	428.9	437.5	433.60	6.54	27.44
10-03-2014	05:48:00	434	428.7	437.1	433.27	6.45	27.59
10-03-2014	05:50:00	432.8	428.3	436.3	432.47	6.26	27.42
10-03-2014	05:52:00	432.8	427.9	436.3	432.33	6.22	27.47
10-03-2014	05:54:00	433.7	427.9	437.1	432.90	6.36	27.23
10-03-2014	05:56:00	434	428.5	437.7	433.40	6.49	27.30
10-03-2014	05:58:00	433.2	428	437.2	432.80	6.34	27.26
10-03-2014	06:00:00	432.1	427.2	436.6	431.97	6.13	27.39
10-03-2014	06:02:00	431.7	426.6	436.1	431.47	6.01	27.19
10-03-2014	06:04:00	431.7	426	435.5	431.07	5.91	27.38
10-03-2014	06:06:00	431.1	426	435.6	430.90	5.87	27.28
10-03-2014	06:08:00	430.7	426.2	435.3	430.73	5.83	27.31
10-03-2014	06:10:00	431.3	426.5	435.7	431.17	5.94	27.29
10-03-2014	06:12:00	430.9	426.4	435.6	430.97	5.89	27.25
10-03-2014	06:14:00	430.8	425.7	435.2	430.57	5.79	27.06
10-03-2014	06:16:00	430.6	425.3	434.6	430.17	5.69	27.14
10-03-2014	06:18:00	429.9	424.9	434.1	429.63	5.56	26.98
10-03-2014	06:20:00	429.9	424.8	434.2	429.63	5.56	27.34
10-03-2014	06:22:00	430.5	425	435	430.17	5.69	27.43
10-03-2014	06:24:00	430.9	424.9	434.7	430.17	5.69	27.39
10-03-2014	06:26:00	430.2	425	434.2	429.80	5.60	27.36
10-03-2014	06:28:00	430.1	425	433.6	429.57	5.54	27.36
		438.12	434.01	442.06			
AVERAGE					438.06	7.63	28.44



9. Study of Voltage Variation at Night Sagda Sai Switching Point (Till Midnight)

Study for Voltage During Night Load							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
12/14/2013	10:00:00 PM	438.5	444.4	436.8	439.9	8.1	18.0
12/14/2013	10:05:00 PM	436.7	442.9	435.7	438.4	7.7	17.8
12/14/2013	10:10:00 PM	437.2	443.9	436.4	439.2	7.9	17.9
12/14/2013	10:15:00 PM	438.2	444.5	437.1	439.9	8.1	17.9
12/14/2013	10:20:00 PM	438.7	444.8	437.9	440.5	8.2	17.9
12/14/2013	10:25:00 PM	438.9	445.1	438.4	440.8	8.3	18.0
12/14/2013	10:30:00 PM	439.7	445.3	438.7	441.2	8.4	18.0
12/14/2013	10:35:00 PM	441.2	446.7	439.7	442.5	8.7	18.1
12/14/2013	10:40:00 PM	441.2	446.4	440	442.5	8.7	18.1
12/14/2013	10:45:00 PM	442.2	447.4	441.2	443.6	9.0	18.2

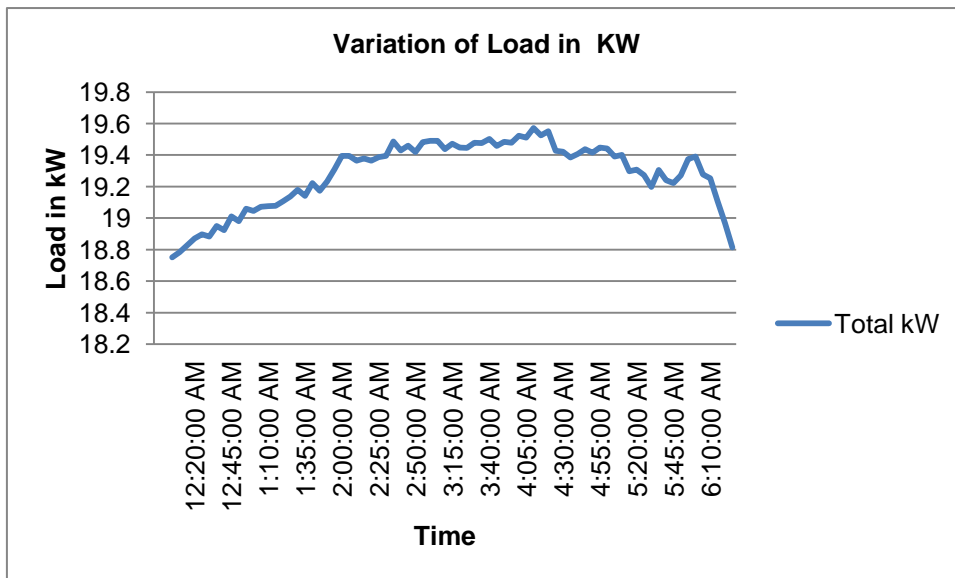
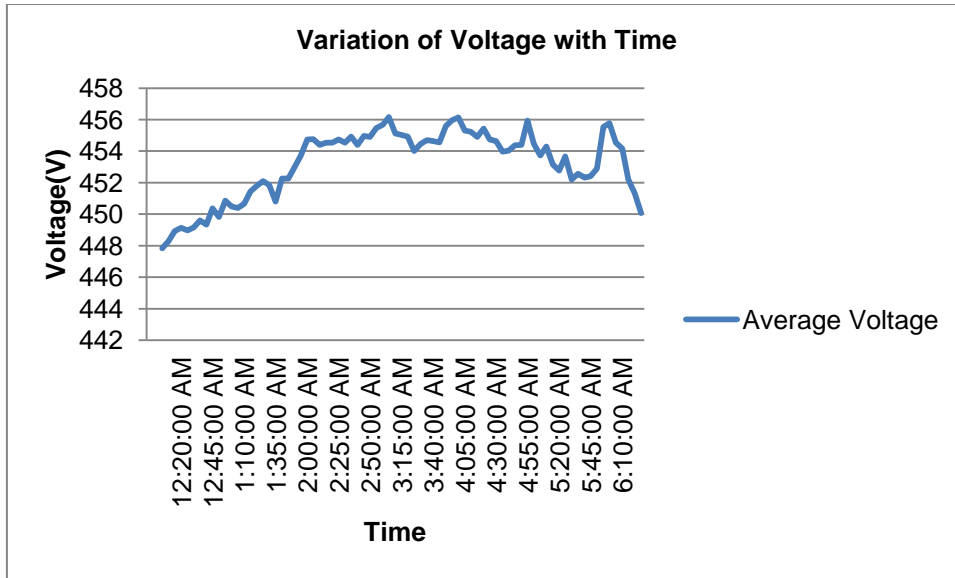
Study for Voltage During Night Load							
12/14/2013	10:50:00 PM	442.4	447.4	441.3	443.7	9.0	18.2
12/14/2013	10:55:00 PM	442.8	448	441.8	444.2	9.1	18.3
12/14/2013	11:00:00 PM	442.8	448.1	441.3	444.1	9.1	18.3
12/14/2013	11:05:00 PM	443.6	448.9	442.5	445.0	9.3	18.4
12/14/2013	11:10:00 PM	443.6	449.2	442.5	445.1	9.4	18.4
12/14/2013	11:15:00 PM	444.2	449.1	442.7	445.3	9.4	18.5
12/14/2013	11:20:00 PM	444.7	449.7	443.7	446.0	9.6	18.5
12/14/2013	11:25:00 PM	445.2	450.7	444.5	446.8	9.8	18.5
12/14/2013	11:30:00 PM	445.2	451.1	444.6	447.0	9.8	18.6
12/14/2013	11:35:00 PM	444.9	450.8	444.6	446.8	9.8	18.6
12/14/2013	11:40:00 PM	445.6	451.4	445.2	447.4	9.9	18.7
12/14/2013	11:45:00 PM	445.3	451.2	445.2	447.2	9.9	18.7
12/14/2013	11:50:00 PM	446.5	452.3	446.3	448.4	10.2	18.7
12/14/2013	11:55:00 PM	446	451.5	445.5	447.7	10.0	18.7
12/15/2013	12:00:00 AM	446.6	452.2	446.2	448.3	10.2	18.7
AVERAGE		442.476	448.12	441.592			
					444.1	9.1	18.3



Study of Voltage Variation at Night Sagda Sai Switching Point (After Midnight)

Study for Voltage During Night Load							
Date	Time	Line Voltage Measurement			Average	Percentage Deviation From Desired Lighting Voltage 407/235	Total kW
		U1 RMS	U2 RMS	U3 RMS			
		V	V	V			
12/15/2013	12:05:00 AM	446.1	451.5	445.9	447.8	10.0	18.8
12/15/2013	12:10:00 AM	446.4	452	446.5	448.3	10.1	18.8
12/15/2013	12:15:00 AM	447	452.8	447	448.9	10.3	18.8
12/15/2013	12:20:00 AM	447.3	452.9	447.2	449.1	10.4	18.9
12/15/2013	12:25:00 AM	447.2	452.8	446.9	449.0	10.3	18.9
12/15/2013	12:30:00 AM	447.2	453.2	447.1	449.2	10.4	18.9
12/15/2013	12:35:00 AM	447.8	453.4	447.6	449.6	10.5	18.9
12/15/2013	12:40:00 AM	447.7	453	447.3	449.3	10.4	18.9
12/15/2013	12:45:00 AM	448.5	454.2	448.4	450.4	10.7	19.0
12/15/2013	12:50:00 AM	448.3	453.5	447.7	449.8	10.5	19.0
12/15/2013	12:55:00 AM	449.2	454.6	448.8	450.9	10.8	19.1
12/15/2013	1:00:00 AM	448.9	454.2	448.4	450.5	10.7	19.0
12/15/2013	1:05:00 AM	448.8	454.2	448.2	450.4	10.7	19.1
12/15/2013	1:10:00 AM	449.2	454.4	448.4	450.7	10.7	19.1
12/15/2013	1:15:00 AM	449.8	455.3	449.2	451.4	10.9	19.1
12/15/2013	1:20:00 AM	450.2	455.8	449.4	451.8	11.0	19.1
12/15/2013	1:25:00 AM	450.5	456	449.8	452.1	11.1	19.1
12/15/2013	1:30:00 AM	450	455.8	449.8	451.9	11.0	19.2
12/15/2013	1:35:00 AM	449	454.5	448.9	450.8	10.8	19.1
12/15/2013	1:40:00 AM	450.5	456.2	450.1	452.3	11.1	19.2
12/15/2013	1:45:00 AM	450.6	456.1	450.1	452.3	11.1	19.2
12/15/2013	1:50:00 AM	451.3	456.9	450.7	453.0	11.3	19.2
12/15/2013	1:55:00 AM	452.2	457.6	451.4	453.7	11.5	19.3
12/15/2013	2:00:00 AM	453	458.6	452.6	454.7	11.7	19.4
12/15/2013	2:05:00 AM	453.1	458.6	452.6	454.8	11.7	19.4
12/15/2013	2:10:00 AM	452.7	458.2	452.3	454.4	11.6	19.4
12/15/2013	2:15:00 AM	452.8	458.4	452.4	454.5	11.7	19.4
12/15/2013	2:20:00 AM	452.8	458.3	452.5	454.5	11.7	19.4
12/15/2013	2:25:00 AM	453.3	458.5	452.4	454.7	11.7	19.4
12/15/2013	2:30:00 AM	453	458.2	452.4	454.5	11.7	19.4
12/15/2013	2:35:00 AM	453.3	458.6	452.9	454.9	11.8	19.5
12/15/2013	2:40:00 AM	452.8	458.2	452.2	454.4	11.6	19.4
12/15/2013	2:45:00 AM	453.5	458.8	452.6	455.0	11.8	19.5
12/15/2013	2:50:00 AM	453.4	458.7	452.6	454.9	11.8	19.4
12/15/2013	2:55:00 AM	453.9	459.2	453.3	455.5	11.9	19.5
12/15/2013	3:00:00 AM	454.2	459.4	453.4	455.7	12.0	19.5
12/15/2013	3:05:00 AM	454.7	460	453.8	456.2	12.1	19.5
12/15/2013	3:10:00 AM	453.7	458.9	452.8	455.1	11.8	19.4
12/15/2013	3:15:00 AM	453.5	458.7	452.9	455.0	11.8	19.5
12/15/2013	3:20:00 AM	453.5	458.6	452.7	454.9	11.8	19.4
12/15/2013	3:25:00 AM	452.5	457.6	451.9	454.0	11.5	19.4
12/15/2013	3:30:00 AM	452.9	458.1	452.4	454.5	11.7	19.5
12/15/2013	3:35:00 AM	453.2	458.5	452.4	454.7	11.7	19.5
12/15/2013	3:40:00 AM	453.1	458.4	452.4	454.6	11.7	19.5
12/15/2013	3:45:00 AM	452.8	458.4	452.5	454.6	11.7	19.5

Study for Voltage During Night Load							
12/15/2013	3:50:00 AM	454	459.5	453.3	455.6	11.9	19.5
12/15/2013	3:55:00 AM	454.3	459.8	453.8	456.0	12.0	19.5
12/15/2013	4:00:00 AM	454.4	460.1	453.9	456.1	12.1	19.5
12/15/2013	4:05:00 AM	453.7	459.2	453	455.3	11.9	19.5
12/15/2013	4:10:00 AM	453.6	458.7	453.4	455.2	11.9	19.6
12/15/2013	4:15:00 AM	453.1	458.5	453.1	454.9	11.8	19.5
12/15/2013	4:20:00 AM	453.5	459.3	453.5	455.4	11.9	19.6
12/15/2013	4:25:00 AM	452.5	458.7	453	454.7	11.7	19.4
12/15/2013	4:30:00 AM	452.5	458.6	452.8	454.6	11.7	19.4
12/15/2013	4:35:00 AM	451.8	458	452.1	454.0	11.5	19.4
12/15/2013	4:40:00 AM	452.2	457.8	452.1	454.0	11.6	19.4
12/15/2013	4:45:00 AM	452.2	458.2	452.7	454.4	11.6	19.4
12/15/2013	4:50:00 AM	452.4	458.4	452.4	454.4	11.6	19.4
12/15/2013	4:55:00 AM	454.1	459.6	454.1	455.9	12.0	19.4
12/15/2013	5:00:00 AM	452.7	458.3	452.4	454.5	11.7	19.4
12/15/2013	5:05:00 AM	452.2	457.4	451.6	453.7	11.5	19.4
12/15/2013	5:10:00 AM	452.5	458	452.4	454.3	11.6	19.4
12/15/2013	5:15:00 AM	451.4	456.9	451.2	453.2	11.3	19.3
12/15/2013	5:20:00 AM	451.1	456.6	450.6	452.8	11.2	19.3
12/15/2013	5:25:00 AM	452	457.2	451.8	453.7	11.5	19.3
12/15/2013	5:30:00 AM	450.2	455.9	450.5	452.2	11.1	19.2
12/15/2013	5:35:00 AM	450.3	456.1	451.3	452.6	11.2	19.3
12/15/2013	5:40:00 AM	449.8	456.3	450.9	452.3	11.1	19.2
12/15/2013	5:45:00 AM	449.5	456.3	451.4	452.4	11.2	19.2
12/15/2013	5:50:00 AM	450.5	456.6	451.6	452.9	11.3	19.3
12/15/2013	5:55:00 AM	453.5	458.9	454.2	455.5	11.9	19.4
12/15/2013	6:00:00 AM	453.6	459.3	454.4	455.8	12.0	19.4
12/15/2013	6:05:00 AM	452.1	458.3	453.2	454.5	11.7	19.3
12/15/2013	6:10:00 AM	452.1	457.8	452.6	454.2	11.6	19.3
12/15/2013	6:15:00 AM	449.9	456.3	450.4	452.2	11.1	19.1
12/15/2013	6:20:00 AM	449.2	455.4	449.4	451.3	10.9	19.0
12/15/2013	6:25:00 AM	448	453.7	448.5	450.1	10.6	18.8
		451.43	457.01	451.23			
Average					453.2	11.4	19.3



Average voltage during night time & deviation from desired voltage for above switching points are tabulated as under

4.3. Summary of the Switching Points for Night Readings

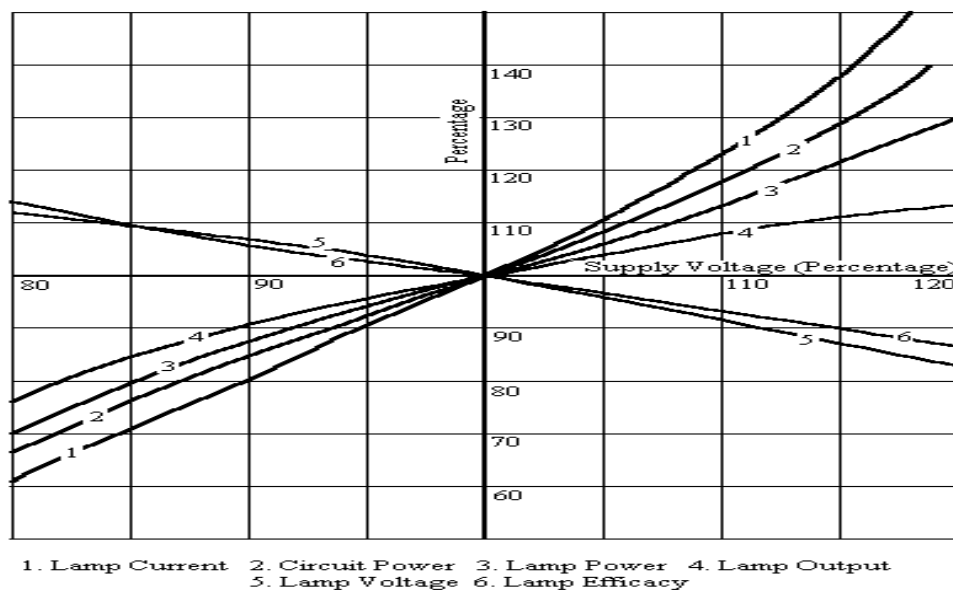
Summary of the Switching Points for Night Readings					
Sr. No.	Name of Switching Point	Study of Voltage Before Midnight		Study of Voltage After Midnight	
		Avg. Voltage	Percentage Deviation From Desired Lighting Voltage 407/235	Avg. Voltage	Percentage Deviation From Desired Lighting Voltage 407/235
1	Dr. Kumar	407.77	0.19	418.61	2.85
2	Golbazar	425.5	4.55	434.7	6.81
3	Labour Chowk	398	-2.21	411.21	1.03
4	Mastana Chowk	420.1	3.22	430.1	5.68
5	Near Hanumantal Police Station	402.44	-1.12	410.52	0.86
6	Bhawani Chowk	420.67	3.36	424.65	4.34
7	Aadhartal Tiraha	409.14	0.53	421.25	3.50
8	Kripal Chowk	431.55	6.03	438.06	7.63
9	Sagda Sai	444.1	9.12	453.2	11.35
AVERAGE		417.70	2.63	426.9	4.89
Total Average Deviation in %			3.76		

The deviation in voltage is found before midnight hours is 2.63% & after midnight hours is 4.89% above, from desired 235 V in single phase and 407 V in three phases at switching points . Hence the average deviation is 3.76%.

High voltage affects life of lamps & control gears adversely & also results in increase in energy consumption. Hence it is proposed to set the voltage at 235 V through automatic voltage regulator provided in street lighting control panel, upto midnight hours.

4.4. Effect of Voltage Variation on Different Lighting fixtures

The graph below shows the effect of variation of voltage on light output and power consumption for fluorescent tube lights. Similar variations are observed on other gas discharge lamps like mercury vapour lamps, metal halide lamps and sodium vapour lamps; table following the figure summarizes the effects. Hence reduction in lighting feeder voltage can save energy, at JMC street lighting LT power voltage is fed to lighting feeder hence reduction in voltage can save energy and also provide the rated light and increase life of lighting component , life of lamp, choke, ignition ,capacitor etc.



Effect of Voltage Variation on Fluorescent Tube light Parameters

Table :-Variation in Power Consumption with Voltage

Particulars	10% lower voltage	10% higher voltage
Fluorescent lamps		
Power input	Decreases by 15 %	Increases by 18%
HPMV lamps		
Power input	Decreases by 16 %	Increases by 17 %
Mercury Blended lamps		
Power input	Decreases by 20 %	Increases by 20 %
Metal Halide lamps		
Power input	Decreases by 20 %	Increases by 20 %
HPSV lamps		
Power input	Decreases by 20 %	Increases by 26 %
LPSV lamps		
Power input	Decreases by 8 %	Increases by 3 %

From above Table it is clear that increased in grid Voltage above rated Voltage result in high energy consumption for

- 1) Metal halide
- 2) HPSV lamp
- 3) Florescent tube light
- 4) HPMV lamp

Also high value leads to more failures of lamps/chokes and Igniters. Hence it is recommended to install automation panel with voltage regulation facility. It will reduce energy consumption with slender reduction in LUX level. Also it will increase the life

of lamps & switchgears which in turn ensures lesser maintenance and lesser failure probability.

Estimation of percentage increase in consumption for different category of fixture are carried out for increase in voltage of 3.76% and tabulated as under

Type of Fitting	Increase in HPSV Consumption due to Increase in 10% Voltage Above Rated Voltage	Contribution of Fixtures in Total Load in %	Percentage Increase in Individual lighting consumption (HPSV/FTL/MH/Other)	Percentage Increase in total lighting consumption
HPSV	26	75.50	9.78	7.38
FTL	18	14.90	6.77	1.01
MH	20	7.54	7.52	0.57
Other	3.51	2.06	3.76	0.08
Average Percentage Increase In Power Consumption Of Total Load				9.03

From the above table it is clear that average percentage increase in power consumption of total load due to increase in 3.76% voltage is 9.03% Hence it is proposed to set the voltage at 235 V through automatic voltage regulator provided in street lighting control panel, upto midnight hours.

During field study it is observed that voltage is considerably high after mid night hours and traffic is found very low during this time hence it is proposed to set voltage at switching points 210 V in single phase & 363 V in three phases which may results into considerable power saving as under

Type of Fitting	Decrease in HPSV Consumption due to Lower in 10% Voltage Below Rated Voltage	Contribution of Fixtures in Total Load in %	Percentage Decrease in Individual lighting consumption (HPSV/FTL/MH/Other)	Percentage Decrease in total lighting consumption
HPSV	20	75.50	21.28	16.1
FTL	15	14.90	15.96	2.4
MH	20	7.54	21.28	1.6
Other	15.25	2.06	16.226	0.3
Average Percentage Decrease In Power Consumption Of Total Load				20.4
Average Percentage Decrease In Power Consumption Of Total Load After Midnight				10.19

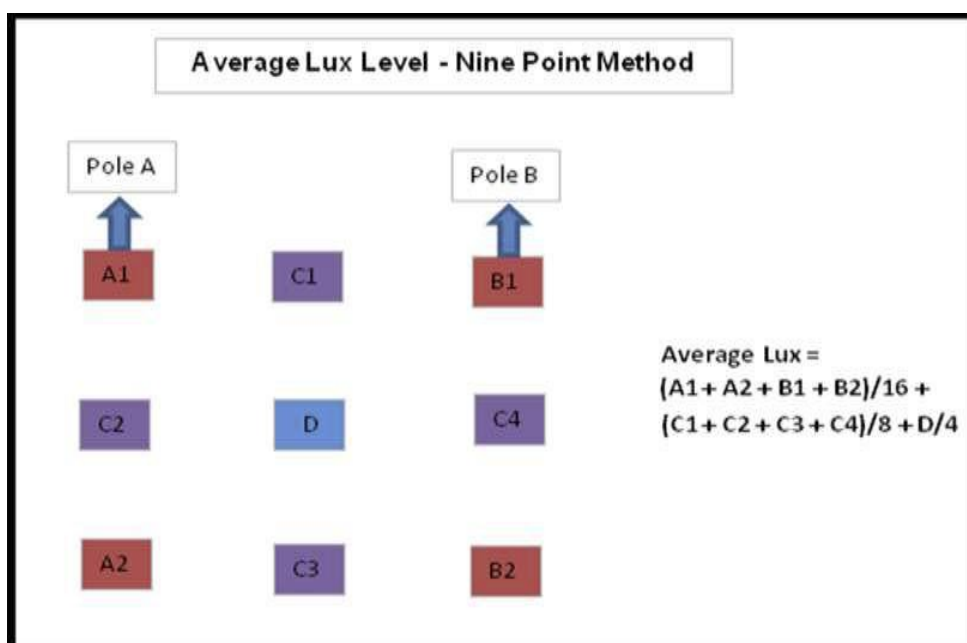
From the above table it is clear that average percentage decrease in power consumption of total load due to decrease in 10.64% voltage is 10.19%

4.5. Lux Measurements

Measurement Methodology

Sample measurement of the lux level at different positions of the road by nine point method. i.e. Along the pole, the lux level is measured under light fittings, middle of the road and both edges of the road. Between two poles, the lux level is measured towards verge, middle of the road and both edges of the road.

For practical on-site sample measurements, the 9-point method is most acceptable. The figure below illustrates the layout of a 9-point measuring grid of the kind sometimes used when checking new road lighting installation. Explained below in figure is the weighting procedure which is followed while calculating average lighting level

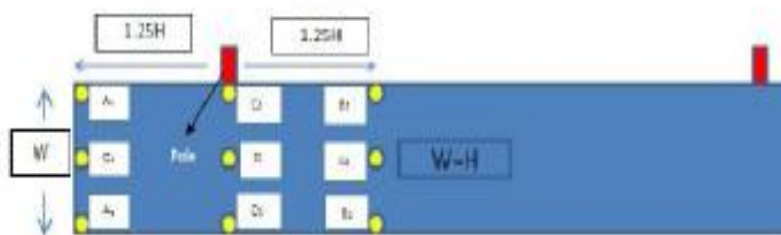


Illumination Levels

The illumination levels are measure in the roads serviced by each of the feeder points. The nine point method is used to measure the illumination levels at different points in the road between for each of the feeder point. As per the nine point method any two poles of street lights are selected and measurements are carried out.

Instead of this method, lux level measurements for scattered lighting arrangements are carried out by modified 9 point method which is explained in below figure. In this method lux level is measured under light fittings, middle of the road and both edges of the road, while taking lux measurements for both the side point of pole, 1.25 times height of mounting fixture is taken

1. Modified lux measurement for road / stretch with lighting on poles placed by the side (single sided pole)



H = Height at which fixture (with lamp) is mounted on the pole, W = Width of road

$$\text{Avg. illuminance, } E_{av} = (A1+A2+B1+B2)/16 + (C1+C2+C3+C4)/8 + D/4$$

Points indicated in yellow dots as A1, A2, B1, B2, C1, C2, C3, C4, D are measurement points.

Illumination levels at different switching points by nine point method & by modified nine point method as shown in the above figures are measure and estimation of average lux level is carried out which are given in Annexure-D

Categorization of Roads for Street Lighting decided as per IS 1944, 1970

Categorization of Roads for Street Lighting		
Group A	Group A1	Very important routes with rapid and dense traffic where the only considerations are the safety and speed of the traffic and the comfort of the driver.
Main Roads	Group A2	Other main roads with considerable mixed traffic like main city streets, arterial roads etc.
Group B	Group B1	Secondary roads with considerable traffic, such as principal local traffic routes, shopping streets etc.
Secondary Roads	Group B2	Secondary roads with light traffic
Group C		Residential and unclassified roads not included in the previous groups
Group D		Bridges and flyovers
Group E		Town and city centers
Group F		Roads with special requirements, such as roads near airfields, railways and docks.

Table : Standard Lux Levels as Per Classification of Roads

Sr. No.	Classification	Details	Average illumination (lux)	Ratio minimum/average illumination
1	Group A1	Important traffic routes	30	0.4
2	Group A2	Main roads carrying mixed traffic like main city roads, arterial road etc	15	0.4
3	Group B1	Principal local traffic routes, shopping streets etc	8	0.3
4	Group B2	Secondary roads with light traffic	4	0.3

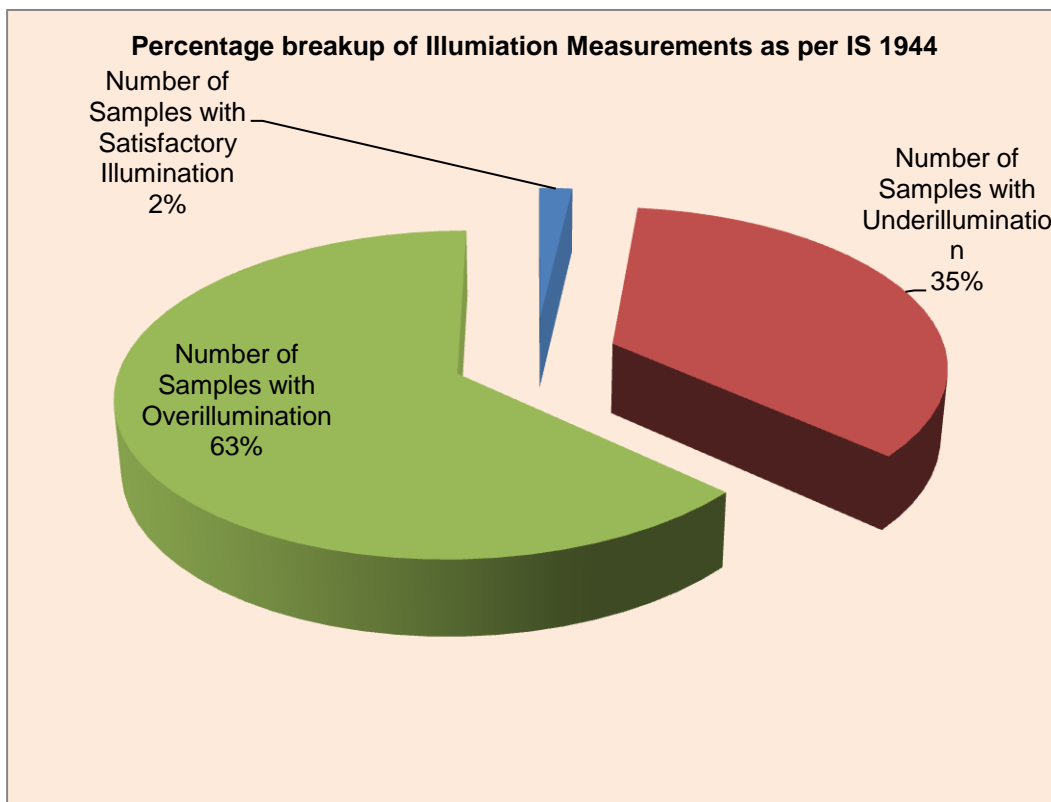
Roads at different switching points are classified according to above criteria, in consultation with JMC and listed in Annexure-A

Switching point wise, total 2775 sample lux measurements are carried out at different category of roads & estimation of average lux level has been carried out. Summary sheet of zone wise samples are taken and no. of samples with Satisfactory Illumination, no. of samples with under illumination & no. of samples with over illumination are tabulated as under

Table –Zone Wise Lux Measurements

Number of Sample Lux Measurements						
Sr.No	Switching Point Name	No of Sample Lux Measurements	Number of Samples with Satisfactory Illumination	Number of Samples with Under illumination	Number of Samples with Over illumination	Total
1	Polipathar Zone	202	2	87	113	202
2	Bilhari Zone	109	2	43	64	109
3	Ranjhi Zone	207	3	64	140	207
4	Garha Zone	217	6	94	117	217
5	Indramarket Zone	613	10	170	433	613
6	Mission Compound Zone	251	4	89	158	251
7	Gorakhpur Zone	249	7	67	175	249
8	Purva zone	222	4	103	115	222
9	Adhartal Zone	281	7	134	140	281
10	Vijay Nagar Zone	424	6	116	302	424
Total		2775	51	967	1757	2775
Percentage			1.84	34.85	63.32	

- ✓ From the above table it is clear that
 - Over illumination level is found at majority of the places i.e. at 1757 points
 - Under illumination level is found at some of the places i.e. at 967 points & satisfactory illumination is found at few places i.e. at 51 points



- ✓ From the above graph it is clear that
 - Over illumination level is found at most of the places i.e. 63.32% of total measurements.
 - Under illumination level is found at some of the places i.e. 34.85% of total measurements & satisfactory illumination is found at few places i.e. 1.84% of total measurements.

4.6 Proposed Fixture for A1,A2,B1,B2 & C Category of Roads

Modern LED based energy efficient lighting systems consume about 45%- 55% less energy than older and inefficient systems. LED technology enables optimization of light sources at minimum intensity. Being directional light sources, LED also help in designs that enhance the quality of light output.

The life of such lighting systems is longer and requires less maintenance, thus reducing O&M costs.

But due to high cost of LED fixtures and subsidized tariff for street lighting, financial viability of replacement of existing fixture by LED is an issue.

Considering all above advantages of LED and financial viability consideration, it is proposed to replace all the FTL, HPSV, CFL and other fixtures at B1, B2 and C category road only, by LED fixtures. Details of proposed replacements are given Annexure-VIII.

For A1 and A2 category road, It is proposed to standardize, 250W HPSV fixtures for A1 category roads and 150W HPSV lamps for A2 category roads. If these fixtures are already there, no replacement is suggested. If other fixtures are there they can be replaced by 250 & 150 W HPSV lamp respectively for A1 & A2 category of roads. Investment for these replacements will not be required as considerable nos. 250W/150W fixtures will be removed from B1, B2 & C category road if proposed LED is installed. Criteria for Selection of Proposed Fixtures is summarized as under

Criteria for Selection of Proposed Fixtures

Sr. No.	Type of Road (Commercial/Residential)	Traffic	Road Category	Type of Fitting To be replaced
1	Commercial	High, Very important routes with rapid and dense traffic	A1	250 W HPSV
2	Commercial	Medium, Main roads with considerable mixed traffic and arterial roads	A2	150 W HPSV
3	Commercial	High, Secondary roads with considerable traffic, such as principal local traffic routes, shopping streets	A2	150 W HPSV
4	Commercial	Low, Secondary roads with light traffic	B1 Category Road with >6 M road width	72 W LED
5	Commercial	Medium, Secondary roads with local traffic	B1 Category Road with ≤6 M road width	45 W LED
6	Commercial/Residential	Medium, Residential Market, Roads	B2& C	25 LED

Details of proposed replacements based on above criteria are given Annexure-VIII.

5. Energy Consumption & Cost Reduction Recommendations With Cost Benefit Analysis

During field study following were the observation related to street light system. Some of them are affecting energy consumption or energy cost of street light system directly and others are affecting their life, performance, and safety.

- 265 no. of switching points are manually made on/off by MPKVCL staff. 20 no. teams are operating around 265 no. switching points.
- Team is also attending customer complaints during their round to switch ON the street lights. These factors contribute to increase in operating hours of street light system.
- Measured power factor is found low at many of switching points and there is no provision of pf improvement capacitor at switching points.
- Voltage is found on higher side at most of the switching points before midnight and it is very high after midnight at many of the switching points. Voltage is as high as 460V in 2 phases and 266V in 1 phase is noted.
- This lead to higher energy consumption and higher failure rate of street light components like lamps, ballast, switching devices etc. Higher voltage results into higher illumination level but it is not required during night time when traffic is very low.
- Safety is issues at many switching point: At some switching points live conductors/terminals are exposed at easily approachable heights and may lead to accidents.
- Whether protection to switching point is an issue at many switching points. At some of the switching points MCB/Fuse grips are open and exposed to atmosphere, no weather protection is provided.
- Measured load is found higher than installed load at some of the switching points which indicate some misuse of electricity.
- Billing units are much higher than units corresponding to installed load or measured load with correction for burnt out lamp. This indicates lapses in metering & reading system. Excess billing units of 55% are noted at 302 nos. of switching points.
- Sanctioned load of switching point is much more than the required sanctioned load at most of the switching points. Hence excess monthly fixed charges are being paid by JMC.
- Protection to street light feeders is in very bad shapes. It is observed that no electrical protection devices i.e. fuse, MCB etc are provided at many switching

points & many other switching points, they are not in healthy condition. Many switching points are having broken fuse kit-kat or not having fuse grips. Fuses are bypassed using thick conductors at many of the switching points.

- Load is unbalanced in 3 phases at most of the switching point.
- Overheating of switching components or connection are found at many of switching points.

To overcome above problems following cost effective measures are suggested

ECM 1: Potential Saving in Energy Cost by Rationalization & Enhancement of Existing Sanctioned Load

Billing data for last two year for Energy Charges & consumption is collected from MPEB. Switching point wise billing data is analyzed. During bill analysis it is found that, Sanctioned load of switching point is much more than the required sanctioned load at most of the switching points. Hence excess monthly fixed charges are being paid by JMC. Comparison of sanctioned load with connected load has been carried out and From this comparison, it is clear that sanctioned load from MPPKVVCL is more than installed load at many of the switching points, Hence it recommended to rationalized existing sanctioned load where the sanctioned load is more & enhanced the existing sanctioned load where the sanctioned load is less with MPPKVVCL which can result into considerable saving in fixed monthly charges. Proposed Sanctioned Load is considered the 130% of Existing Installed Load for street lighting & same as installed load for high Mast. Switching point wise potential saving details of this ECM for 302 nos of switching points for which billing data is received is given in Annexure-V

Table- Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load

Sr No.	Zone Name	Remark on Billing Status	Installed Load in kW	Sanctioned Load with MPKVVCL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Polipathar	31	164.8	657.5	1854065	214	604098	1249967
2	Bilhari	10	48.6	152.3	429458	63.13	169754	259704
3	Ranjhi	16	190.5	880.0	2481600	248	698355	1549915
4	Garha	35	353.0	792.0	2233299	459	1249211	984088
5	Indramarket	36	784.0	1017.0	2869322	1019	2749020	120302
6	Mission Compound	15	461.5	438.5	1236570	600	1606548	-369978
7	Gorakhpur	19	343.0	551.0	1554046	446	1256327	297718
8	Purva	26	244.97	296.5	836102	318	898049	-61947
9	Aadhartal	30	210.4	301.3	849694	273	771235	74511
10	Vijaynagar	40	523.4	786.1	2216802	682	1805360	411442
11	Highmast	43	260.0	278.3	784806	301	767558	17248
Total		301	3584	6150	17345764	4623	12575514	4532971

At Daroga ghat from one service connection two switching points are operating, one for street light & other for highmast at Polypather zone.

From the above table it is clear that Annual potential saving by rationalization & enhancement in existing sanctioned load with MPPKVVCL is **Rs. 45,32,971/-**

❖ Note:- Proposed Sanctioned Load is considered the 130% of Existing Installed Load, for Street Lighting

ECM 2: Potential Saving by Provision of Street Light Control Panel and Centralized Monitoring System for Existing Load

To overcome different problems & excess energy consumption & cost associated with present system it proposed to provide Street Lighting Control Panel with following features

1. Provision of astronomical time switch for avoiding unnecessary operation of street lights.
2. Provision of proper MCCB/MCB for electrical protection.
3. Provision of electrical components having 200% or more capacity than estimated load for reliability of system & avoiding overheating, burning due to overload.
4. Provision of fixed capacitors according to rating of connected load, which will operate along with street light load.
5. Provision of online monitoring of electrical parameters to avoid misuse of electricity and to avoid mismatch of actual units & billing units. This will be done through multifunction energy meter & GSM connectivity module with centralize monitoring system.
6. Provision of voltage regulation and dimming facility to avoid excess consumption due to high voltage and for dimming light output after midnight when traffic is low.

But wherever switching point connected load is less than 2.5kW, such investment for panel with above all features will not be financially viable. Hence, it is suggested to provide control panel with all above features except online monitoring & voltage regulation/dimming facility at these switching points.

Wherever switching point connected load is more than 25 kW, it is suggested to divide the connected load into two nos switching points, hence provision of two nos street lighting control panel is considered while preparing estimate for investment.

In future, in consultation with MPPKVVCL switching point with less connected load may be clubbed together or connected with nearby other switching point. These switching points with considerable load can be connected with central monitoring system and can also be provided voltage regulation & dimming facility.

Switching point wise Investment & Potential saving details of this ECM is given in Annexure-VI & Technical Specification for Street Lighting control panel is given in Annexure-XI

Zonewise potential saving & investment required for installation of street lighting control panel for existing system is tabulated as under

Potential Saving by Provision of Street Lighting Control Panel for Existing System

Sr. No.	Zone	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Polipathar	59985	227942	66110	251217	35387	134469	118729	118729	161481	851085
2	Bhilari	19144	72748	21099	80177	10434	39648	34425	34425	50677	261422
3	Ranjhi	75232	285881	82914	315073	41001	155805	135279	135279	199147	1027317
4	Garha	139146	528753	153354	582744	70139	266530	251288	251288	362639	1880603
5	Indramarket	308898	1173813	340440	1293673	161280	612866	556792	556792	810619	4193935
6	Mission Compound	181928	691325	200504	761917	96066	365050	327721	327721	478498	2473735
7	Gorakhpur	133588	507633	148885	565765	71322	271025	243639	243639	353796	1831701
8	Purva	95933	364545	105729	401769	46528	176806	173596	173596	248190	1290313
9	Aadhartal	82930	315133	91398	347312	43500	165301	149443	149443	217828	1126634
10	Vijay Nagar	207339	787888	228511	868340	94582	359412	376328	376328	530432	2768296
11	High Mast	102479	389422	106865	406086			189231	189231	209344	1173970
Total		1406602	5345083	1545809	5874073	670240	2546913	2556472	2556472	3622651	18879010

Sr. No.	Zone Name	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months
1	Polipathar	165	329.6	3484410	161481	851085	156000	65408	629676	66
2	Bilhari	49	97.1	1157115	50677	261422	54600	21722	185100	75
3	Ranjhi	191	381	2803130	198780	1025422	124800	52903	847720	40
4	Garha	353	705.6	5781505	362639	1880603	280800	109068	1490733	47
5	Indramarket	784	1567	8682395	810619	4193935	304200	164948	3724788	28
6	Mission Compound	462	923	4511960	478498	2473735	124800	86539	2262395	24
7	Gorakhpur	343	685	3715675	353796	1831701	132600	70194	1628907	27
8	Purva	245	490	4311345	248190	1290313	202800	80907	1006606	51
9	Aadhartal	210	421	4020505	217828	1126634	195000	75570	856063	56
10	Vijaynagar	526	1052	6940385	530432	2768296	312000	130306	2325988	36
11	High Mast	260	520	6656115	209344	1173970	358800	127002	688168	116
Total		3587	7171	52064540	3622284	18877115	2246400	723471	15646145	40

By implementing this measure, there is potential of energy saving of **36, 22,284 kWh** per annum which will save **Rs.1,56,46,145/-** per annum.

ECM 3: Potential Saving in Energy Cost by Proper Monitoring of Energy Consumption

During bill analysis it is observed that, there is a huge difference in energy consumption corresponding to Installed & Measured load with Billing Unit from MPPKVVCL. During field study it is observed that, meters are not found at 102 switching points out of 323 switching points. At 17 switching points meters are found defective and at most of the switching point average billing is carried out by MPPKVVCL. Hence by proper monitoring of energy consumption & billing unit JMC can save considerable amount of excess energy charges. Switching point wise potential saving details of this ECM is given in Annexure-VII. Zone wise potential saving by proper monitoring of energy consumption and avoiding excess billing units & charges is tabulated as under for 302 no of switching points for which billing data is received.

Table Potential Saving By Proper Monitoring

Summary of Installed, Measured & Billing Unit Consumption for 302 Nos of Switching Point							
Sr.No	Name of Zone	Annual Unit Consumption As per Installed Load in kWh for 302 Switching Points	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh for 302 Switching Points	Units Considered for calculating excess billing	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh for 302 Switching Points	Excess Billing Unit in kWh per annum	Excess Energy Charges in Rs. Per annum
1	Polipathar	821200	961459	997195	3136085	2138890	8127784
2	Bilhari	221069	205924	224842	723966	499124	1896670
3	Ranjhi	949126	761220	932327	2813414	1881087	7148129
4	Garha	1626837	1674313	1801923	3582298	1780375	6765423
5	Indramarket	3580025	3333899	3716775	3782416	65641	249436
6	Mission Compound	2092193	1702944	2113698	1649374	-464324	-1764429
7	Gorakhpur	1636104	1435374	1683344	1183270	-500074	-1900281
8	Purva	1080072	1129565	1244242	1368525	124283	472275
9	Aadhartal	976147	741473	978884	3450999	2394706	9099884
10	Vijaynagar	2345345	1985039	2400526	4012169	1611643	6124242
11	Highmast	1165898	808183	1149288	1097298	27471	104392
Total		16494016	14739395	17243045	26799813	9558822	36323524

From the above table it is clear that, By implementing above suggested measure, there is potential of **95,58,822 kWh** per annum which will save **Rs. 3,63,23,524 /-** per annum.

Remark:-

- Annual Billing unit is compared with annual calculated energy consumption considering Installed load of switching point & 9 % additional consumption due to increase in voltage and Annual Unit Consumption calculated from measured load Considering Total Fixtures are in working (Measured load + Not Working Fixtures), whichever is higher. Excess billing units are estimated by deducting consumption corresponding to higher of the installed & corrected measure load consumption from billing units.

ECM 4: Provision of LED Fixtures for B1, B2 & C category roads

Modern LED based energy efficient lighting systems consume about 45%- 55% less energy than older and inefficient systems...: LED technology enables optimization of light sources at minimum intensity. Being directional light sources, LED also help in designs that enhance the quality of light output.

The life of such lighting systems is longer and requires less maintenance, thus reducing O&M costs.

Considering all above advantages of LED and financial viability consideration, it is proposed to replace all the FTL, HPSV, CFL and other fixtures at B1, B2 and C category road only, by LED fixtures. It is proposed to replace all the fixtures at B2 & C category of Road with Energy Efficient 25 W LED fixtures & B1 Category road with less than or equal to 6 meter road width, by 45 W LED fixture & B1 Category road with greater than 6 meter road width, by 72 W LED fixture. Details of proposed replacements are given Annexure-VIII.

Switching point wise Investment & potential saving details of this ECM is given in Annexure-IX & Technical Specification for LED Fixtures is given in Annexure-XI. Zone wise potential saving by provision of LED fixtures in B1, B2 & C Category of Road is tabulated as under

Potential Saving by Replacement of Existing Fixtures with Energy Efficient LED Fixtures on B1, B2, & C Category of Roads

Sr. No.	Zone Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Total Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Insurance Premium in RS.	Net saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Polipathar	7241370	521242	1980719	387987	2368706	120443	2248263	39
2	Bilhari	2382545	139932	531743	102410	634152	41491	592661	48
3	Ranjhi	8301935	638979	2428119	471965	2900084	139719	2760365	36
4	Garha	13872795	1025227	3895863	848859	4744722	235696	4509026	37
5	Indramarket	26945970	2295550	8723090	1712546	10435636	458759	9976876	32
6	Mission Compound	13349125	1153800	4384442	864538	5248980	233591	5015389	32
7	Gorakhpur	8144975	904079	3435502	679856	4115358	4795214	3977962	25
8	Purva	8162275	410716	1560720	296807	1857526	136670	1720857	57
9	Aadhartal	8459595	601280	2284866	447270	2732136	139864	2592272	39
10	Vijaynagar	16412505	1392687	5292212	1041298	6333510	274682	6058828	33
Total		113273090	9083493	34517275	6853535	41370810	6576127	39452500	34

From the above table it is clear that, By implementing above suggested measure, there is potential of **90,83,493 kWh** per annum which will save **Rs. 3,94,52,500/-** per annum with simple payback period of 34 months only.

ECM 5: Centralized Street Lighting Monitoring & Control System through Automation Panel for Proposed System

LED works on wide voltage range of 90 to 270 V without affecting their light output. Also non-dimmable LED fixtures are proposed at B1, B2 & C category of roads, from financial viability point of view. Hence it is suggested to provide street light control panel with all the features as in ECM no.3 except facility of voltage regulation and voltage dimming.

A) It is proposed to provide Street Lighting Control Panel with following features for switching points with B1, B2 & C Category of Roads.

- Provision of astronomical time switch for avoiding unnecessary operation of street lights.
- Provision of proper MCCB/MCB for electrical protection.
- Provision of electrical components having 200% or more capacity than estimated load for reliability of system & avoiding overheating, burning due to overload.
- Provision of fixed capacitors according to rating of corrected load, which will operate along with street light load.
- Provision of online monitoring of electrical parameters to avoid misuse of electricity and to avoid mismatch of actual units & billing units. This will be done through multifunction energy meter & GSM connectivity module with centralize monitoring system.

But wherever switching point connected load is less than 2.5kW, such investment for panel with above all features will not be financially viable. Hence, it is suggested to provide control panel with all above features except online monitoring & voltage regulation/dimming facility at these switching points

In future, in consultation with MPPKVCL switching point with less connected load may be clubbed together or connected with nearby other switching point. These switching points with considerable load can be connected with central monitoring system and can also be provided voltage regulation & dimming facility

Switching point wise Investment & potential saving details of this ECM is given in Annexure-X & Technical Specification for Street Lighting control panel is given in Annexure-XI. Zone wise potential saving & investment required for installation of street lighting control panel for proposed load is tabulated as under

Potential Saving by Installation of Street Lighting Control Panel for Proposed Load for Switching Points with B1,B2 & C Category of Roads

Sr No.	Zone Name	Proposed Installed Load in kW after LED replacement	Rating of Street Lighting Panel For Proposed Load in kW	Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months
1	Polipathar	53.89	107.772	1351577	13178	50076	42340	42340	13178	134756	54600	23752	56404	288
2	Bilhari	16.66	33.32	393367	4004	15216	13086	13086	4004	41387	15600	6907	18880	250
3	Ranjhi	62	124	1094566	15102	57387	48522	48522	15102	154432	54600	19711	80121	164
4	Garha	103.28	206.56	2335180	25243	95922	81104	81104	25243	258131	156000	43184	58947	475
5	Indramarket	248	496	3532484	60704	230674	195040	195040	60704	620754	226200	65290	329264	129
6	Mission Compound	211	421	1931966	50279	191059	165417	165417	50279	521893	117000	35639	369254	63
7	Gorakhpur	145	290.868	1634657	35566	135150	114273	114273	35566	363696	93600	29753	240343	82
8	Purva	61.42	122.84	1444944	15005	57018	48210	48210	15005	153439	70200	25858.88	57380	302
9	Aadhartal	69.75	139.5	1461273	17057	64818	54805	54805	17057	174428	70200	26025	78203	224
10	Vijaynagar	165.3	331	4309628	40435	153653	129917	129917	40435	413486	171600	81553	160333	323
Total		1136	2273	19489642	276572	1050973	892714	892714	276572	2836402	1029600	357673	1449129	161

From the above tables it is clear that, By implementing above suggested measure, there is potential of **2,76,572 kWh per annum** which will save **Rs. 14,49,129/- per annum** with simple payback period of 161 months only.

B) It is proposed to provide Street Lighting Control Panel with following features for exclusive switching points with A1 & A2 Category of Roads, which are 31 in numbers.

1. Provision of astronomical time switch for avoiding unnecessary operation of street lights.
2. Provision of proper MCCB/MCB for electrical protection.
3. Provision of electrical components having 200% or more capacity than estimated load for reliability of system & avoiding overheating, burning due to overload.
4. Provision of fixed capacitors according to rating of connected load, which will operate along with street light load.
5. Provision of online monitoring of electrical parameters to avoid misuse of electricity and to avoid mismatch of actual units & billing units. This will be done through multifunction energy meter & GSM connectivity module with centralize monitoring system.
6. Provision of voltage regulation and dimming facility to avoid excess consumption due to high voltage and for dimming light output after midnight when traffic is low.

Provision of this panel may leads to following savings in unit consumption & energy cost:-

- Saving due to reduction in operating hours by automatic on or off.
- Saving by avoiding high voltage and corresponding over consumption by voltage regulation.
- Saving by voltage dimming after mid-night when traffic is low.
- Saving due to power factor incentive.
- Saving due to 5% incentive by Installation of energy Saving Devices

Potential Saving by Installation of Street Lighting Control Panel for Proposed Load for Switching Point with exclusive A1 & A2 Category Roads & Highmast

Sr No.	Zone Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh (Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs. (Due to Automatic On & Off)	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months
1	Polipathar	6	12	159855	1420	5397	2290	8700	2523	9589	4564	4564	6233	32813	7800	3037	21976	87
2	Bilhari	4	8	121476	1033	3925	1665	6327	1835	6973	3319	3319	4533	23864	7800	2230	13835	105
3	Ranjhi	(No exclusive switching point with A1 & A2 Category Roads)																
4	Garha	46	93	626614	4827	18344	18231	69278	20093	76352	36339	36339	43151	236651	39000	11652	185999	40
5	Indramarket	70	140	840105	8817	33505	27601	104884	30419	115594	55016	55016	66838	364014	39000	15742	309272	33
6	Mission Compound	11	22	163855	9114	34631	4335	16475	4778	18157	8642	8642	18227	86546	7800	3037	75709	26
7	Gorakhpur	23	46	327710	2965	11269	9004	34216	9924	37710	17948	17948	21893	119091	15600	6074	97417	40
8	Purva	103	205	1252255	15952	60618	39831	151357	43898	166812	72716	72716	99681	524219	54600	23365	446254	34
9	Aadhartal	24	47	479565			9338	35484	10291	39107	18613	18613	19629	111816	23400	9111	79304	73
10	Vijaynagar	86	171	907000			33794	128417	37245	141530	67360	67360	71039	404666	39000	16940	348726	31
11	Highmast	260	520	6656115			102479	389422	106865	406086	189231	189231	209344	1173970	358800	127002	688168	116
Total		632	1264	11534550	44128	167690	248569	944559	267871	1017910	473747	473747	560568	3077650	592800	218191	2266659	61

From the above tables it is clear that, By implementing above suggested measure, there is potential of **5,60,568 kWh per annum** which will save **Rs. 22,66,659/-** per annum with simple payback period of 61 months only.

Summary of Investment & Saving for Street Lighting Control Panel for Proposed Load at A1,A2,B1,B2,C Category roads & Highmast

Sr No.	Particular	Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Total Saving in kWh	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months
1	Provision of Street Light Control Panel For Switching Point with B1,B2 & C Category roads	19489642	276572	1449129	161
2	Provision of Street Light Control Panel For Switching Point exclusive A1, A2 Category Roads & Highmast	11534550	560568	2266659	61
	Total	31024192	837140	3715789	100

From the above tables it is clear that, By implementing above suggested measure, there is potential of **8,37,140 kWh per annum** which will save **Rs. 37,15,789/-** per annum with simple payback period of **100 months** only.

Options to implement above suggested ECM's

Above ECM's can be implemented in two options. ECM-2 & ECM-5 are for provision of street lighting control panel for existing load & proposed load respectively.

If LED fixtures are not being installed for switching points in near future, ECM-2 should be opted for existing load.

If LED fixtures are being provided then ECM-2 will not be valid & ECM-5 will be opted which provision of street lighting panel for proposed load with LED fixtures. These options are summarized as under

Option-I				
Sr.No.	Energy & Energy Cost Saving Measures	Total Investment in Rs.	Total Saving in Rs.	Simple Payback Period in Months
1	ECM 1: Potential Saving in Energy Cost by Rationalization & Enhancement of Existing Sanctioned Load		4532971	
2	ECM 2: Potential Saving by Provision of Street Light Control Panel and Centralized Monitoring System for Existing Load	52064540	15646145	40
3	ECM 3: Potential Saving in Energy Cost by Proper Monitoring of Energy Consumption (for 302 Switching points)		36323524	
Total		52064540	56502640	11.06

Option-II				
Sr.	Energy & Energy Cost Saving Measures	Total Investment in Rs.	Total Saving in Rs.	Simple Payback Period in Months
1	ECM 1: Potential Saving in Energy Cost by Rationalization & Enhancement of Existing Sanctioned Load		4532971	
2	ECM 3: Potential Saving in Energy Cost by Proper Monitoring of Energy Consumption (for 302 Switching points)		36323524	
3	ECM 4: Provision of LED Fixtures for B1, B2 & C category roads	113273090	39452500	34
4	ECM 5: Centralized Street Lighting Monitoring & Control System through Automation Panel for Proposed System	31024192	3715789	100
Total		144297282	84024784	20.61

6. Development & improvement in Street Lighting infrastructure

Street lighting has always been an effective tool for promoting a city. It is not only a functional requirement which provides safety and security to motorists and residents as well as pedestrians, but it helps in creating an identity and image.

Fixed lighting of public ways for both vehicles and pedestrians can create a night time environment in which people can see comfortably, and can quickly and accurately identify objects on the roadway being travelled. Roadway lighting can improve traffic safety, achieve efficient traffic movement, and promote the general use of the facility during darkness and under a wide variety of weather conditions.

From the observation during filed study and discussion with JMC Officers, it is proposed to develop inadequate street lighting infrastructure at some of the roads in areas at the periphery/expansion zone of the city as under

- Shahanala to Tilwara Brigde
- Pisanhari to Dhanwantari Nagar
- St. agastin to Baypass
- Adhartal Tiraha to Maharajpur
- ITI Tiraha to Karmeta Bus Stop
- ITI Tiraha to Katangi Road (Rimjha)

Details of these roads with proposed poles and lighting fixtures, in consultation with JMC officers, are tabulated as under

List of Proposed Road with details, for development of Street Lighting Infrastructure for areas in the periphery/expansion zone of the city								
S. No.	Name of Road	Approx. Length of Road	Pole Height	Wattage of LED fitting	No. of Pole	No. of Fitting	Road Width (M)	Road Category (A1,A2,B1,B2)
1	Shahnala to Tilwara Jabalpur	5.4 KM	9 Mtr	130	135	135	8	A1
2	Pisanhari Madia to Dhanwantari Nagar chowk Jabalpur.	1.5 KM	9 Mtr	130	63	126	10	A1
3	St. agastin to bypass	1.8 KM	7 Mtr	90	90	90	7	A2
4	Adhartal Tiraha to Maharajpur	3.6 KM	9 Mtr	130	175	175	7.7	A1
5	ITI Tiraha to Karmeta Bus Stop	1.4 KM	8 Mtr	130	70	70	8	A1
6	ITI Tiraha to Katangi Road (Rimjha)	3.00 KM	8 Mtr	130	150	150	7.5	A1
					Total	683	746	

A budgetary estimate for development of street lighting infrastructure on above main roads where street lighting infrastructure is insufficient, is given Annexure-XIII.

From the observation during filed study and discussion with JMC Officers, it is proposed that street lighting infrastructure arrangement needs improvement in following important areas of the city.

- Golbajar Road
- Ambedakar Chowk to Malgodawn
- Taiyab Ali Chowk to Chandanvan
- Chandanvan to Bridge No. 3
- Income Tax to Bridge No. 2
- Tinpatti to Writetaun Stadium
- Katanga Tiraha to Gavarighat
- Satpula Bridge to Chungi Chouki Ranjhi.
- Adhartal to Shobhapur bridge

Details of these roads with proposed poles and lighting fixtures in consultation with JMC, are tabulated as under

List of Proposed Road with details, for improvement of Street Lighting Infrastructure in city								
S. No.	Name of Road	Length of Road	Pole height	Wattage of fitting	No. of Pole	No. of Fitting	Road Width (M)	Road Category (A1,A2,B1,B2)
1	Golbajar Road	3.8 KM	8 Mtr	130	115	115	8	A1
2	Ambedakar Chowk to Malgodawn	0.45 KM	9 Mtr	130	23	23	7.5	A1
3	Taiyab Ali Chowk to Chandanvan	0.45 KM	9 Mtr	130	23	23	6	A2
4	Chandanvan to Bridge No. 3	0.55 KM	9 Mtr	130	28	28	7.5	A1
5	Income Tax to Bridge No. 2	0.55 KM	9 Mtr	130	28	28	7.5	A1
6	Tinpatti to Writetaun Stadium	1.3 KM	9 Mtr	130	65	65	6.5	A1
7	Katanga Tiraha to Gavarighat	5.6 KM	9 Mtr	130	234	468	11	A1
8	Satpula Bridge to Chungi Chouki Ranjhi.	4.00 KM	9 Mtr	130	167	334	7.5	A1
9	Adhartal to Shobhapur bridge	2.4 KM	8 Mtr	130	120	120	7.2	A2
				Total	803	1204		

A budgetary estimate for improvement of street lighting infrastructure on above main roads where street lighting infrastructure is insufficient, is given Annexure-XIV.

Annexure-I, Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit for 323 Switching Points

1. Polypathar Zone

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at Polypathar Zone									
Sr.No	Zone Name	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Polypathar	Adarsh Nagar Near Dr. Kumar	15.09	0.56	13.21	13.77	72043	60313	142397
2	Polypathar	Adarsh Nagar	8.90	2.06	8.54	10.60	42490	46428	127633
3	Polypathar	Ashok Vihar Near Lodhi Samudayak Bhavan	5.81	3.70	2.73	6.43	27729	28146	13248
4	Polypathar	Awanti Vihar	1.22	0.00	1.43	1.43	5844	6263	94957
5	Polypathar	Bital Gaeneral Store Ke Pass	5.20	0.86	4.75	5.61	24845	24572	127633
6	Polypathar	Brajmohan Nagar Sociey	0.80	0.00	0.42	0.42	3819	1840	18247
7	Polypathar	Chote Hanuman	9.78	1.60	9.9	11.50	46711	50352	171057
8	Polypathar	Chungi Naka Rampur, Near Sule Nursing Home	1.91	0.38	1.16	1.54	9109	6763	98509
9	Polypathar	Daroga Ghat	2.64	0.00	16.47	16.47	12604	72140	140838
10	Polypathar	Durga Nagar Sent Alayasis School	0.87	0.61	0.81	1.42	4163	6228	82762
11	Polypathar	Tagore Nagar, Forest Gate	2.42	0.00	3.72	3.72	11554	16294	97315
12	Polypathar	Jai Bheem Nagar Society	3.57	0.44	2.59	3.03	17034	13254	44234
13	Polypathar	Jihari Ghat Station	3.98	0.35	6.55	6.90	18982	30231	104659
14	Polypathar	Jalahrigaon Narmada Road	0.70	0.26	0.501	0.76	3323	3333	155585

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15	Polypathar	Jogney Nagar Chui Khadan	0.77	0.16	0.61	0.77	3667	3355	84544
16	Polypathar	Kalariwala Polipathar	4.96	0.38	5.68	6.06	23661	26560	116207
17	Polypathar	Lalpur	1.21	0.10	0.6	0.70	5767	3084	102077
18	Polypathar	Polipathar Near Homiopathic Aaushadhalaya/MPHBPP Colony	3.39	0.10	3.1	3.20	16194	14034	155338
19	Polypathar	Murddaya Ghat	4.51	1.94	2.45	4.39	21513	19211	110811
20	Polypathar	Near Chhapar of Ganesh Yadav	6.43	0.51	10.99	11.50	30679	50361	165990
21	Polypathar	Patel Mohalla, Rampur	10.89	0.51	14.34	14.85	52001	65034	100062
22	Polypathar	Polipathar Gwarighat Bigbazar	7.03	1.04	10.76	11.80	33553	51684	114076
23	Polypathar	PWD Colony	7.89	1.16	6.36	7.52	37659	32938	20735
24	Polypathar	Ravidas Nagar	9.34	0.49	8.92	9.41	44572	41207	84153
25	Polypathar	Rewa Colony	7.62	0.44	9.28	9.72	36399	42556	91848
26	Polypathar	Santnagar New PP Colony	1.46	0.05	0	0.05	6989	228	
27	Polypathar	Sant Shiromani Ashram	3.09	0.00	6.948	6.95	14762	30432	121371
28	Polypathar	Satyanand Vihar Garden, Durga Nagar	5.29	0.28	9.17	9.45	25246	41391	95115
29	Polypathar	Shankar Nagar Corporation	0.64	0.10	0.74	0.84	3075	3697	33799
30	Polypathar	Sidhanath	0.54	0.00	0.57	0.57	2578	2497	58417
31	Polypathar	Vijaynagar Chhapar	5.76	0.26	6.57	6.83	27490	29915	136317
32	Polypathar	Jhanda Chowk Gwarighat	21.08	1.43	29.93	31.36	100659	137348	126151
Total			164.78	19.76	199.80	219.56	786712	961687	3136085

2. Bilhari Zone

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at Bilhari Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Corrected Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Dhobi Ghat Near New Time Telor	5.016	0.724	5.12	5.84	23947	25597	86541
2	Govt. Primary School Kajarwara	2.84	0.468	1.85	2.32	13559	10153	68126
3	Janta Medical Hall	14.1	0.604	14.97	15.57	67316	68214	103493
4	Khermai Mandir, Dixit Ata Chakki	2.756	0.26	2.08	2.34	13158	10249	47548
5	Purani Kalahari Ke Piche	5.712	0.828	4.69	5.52	27270	24169	52799
6	Temar Bita Road	1.804	0.432	1.13	1.57	8613	6862	50155
7	Post Office Gali Ke Andar Vijay Tailor Ke Pass	8.233	0.418	8.14	8.56	39306	37484	74213
8	Shivpuri Kajarwara	1.868	0.536	1.78	2.32	8918	10144	53704
9	Gaur Thane Opp	2.992	0.344	1.6	1.94	14284	8515	90492
10	Gupta Tent House, Ekta Market, Gauraiya Ghat	0.984	0.276	0.76	1.04	4698	4538	96895
11	Durga Mandir Kajarwara	2.26	0.708	1.20	1.91	10790	8373	
Total		48.57	5.598	43.33	48.93	231859	214297	723966

3. Ranjhi Zone

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at Ranjhi Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	75 H Bhagat Singh Ward	17.43	1.363	12.18	13.54	83210	59318	274688
2	72-G Infront Of Akansha Silai Center	17.10	2.588	15.62	18.21	81658	79751	202501
3	Chandan Colony	12.19	1.068	12.25	13.32	58188	58333	176467
4	Gokalpur Marghatai	4.90	0.468	3.31	3.78	23394	16548	151824
5	Main Road Gokalpur	15.25	1.504	14.25	15.75	72797	69003	252187
6	Mastana Chowk Ranjhi	33.43	1.752	30.19	31.94	159592	139904	207346
7	Major Kirana Store Ganesh Ganj	11.77	0.78	13.19	13.97	56207	61189	132624
8	Merghatai Road ,Khairmai Mandir	19.35	0.956	1.59	2.55	92376	11151	197400
9	Police Thana	19.76	2.632	15.87	18.50	94357	81039	292603
10 (A)	Raksha nagar New	3.20	0.612	3.98	4.59	15297	20113	
10 (B)	Raksha nagar Colony	3.67	0.404	3.32	3.72	17531	16311	53868
	Total	6.876	1.016	7.3	8.316	32827	36424.08	53868
11	Ranjhi Bazar Colony	6.91	0.332	6.83	7.16	32980	31370	46420

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12	Ravan Park Ranjhi	8.09	0.196	7.34	7.54	38614	33008	201259
13	Shanti Nagar Ranghi (S-29)	1.74	0.384	0	0.38	8326	1682	151368
14	Sharda Nagar Ranghi (S-1)	4.36	0.26	4.52	4.78	20816	20936	259200
15	Neutral Garden Ranghi/Sharda Nagar Park	5.14	0.176	7.97	8.15	24558	35679	15659
16 (A)	Uday Nagar	5.90	1.868	3.71	5.58	28168	24432	198000
16 (B)	Uday Nagar - 3,(E29)	0.64	0.332	0	0.33	3075	1454	
	Total	6.544	2.2	3.71	5.91	31242	25886	198000
	Total	190.85	17.68	156.12	173.79	911142	761220	2813414

4. Garha Zone

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at Garha Zone									
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVVCL Billing Unit in kWh
1	Amanpur Nursing ward	11.68	0.79	13.67	14.46	55763	63326	63326	173527
2	Bedi Nagar Near Gurudwara Area & Central lighting	7.00	0.42	2.03	2.45	33438	10713	33438	51876
3	Bedi nagar	4.82	0.44	5.52	5.96	23012	26087	26087	95572
4	Brajmohan nagar supatal	3.12	0.28	3.84	4.12	14896	18046	18046	109930
5	Choti bagariya shree ram mandir ke samne	13.56	1.18	15.4	16.58	64719	72638	72638	65556
6	Dargah Road	5.11	1.47	5.13	6.60	24387	28917	28917	
7	Devtal Ayodayapuri	6.25	0.40	7.1	7.50	29829	32868	32868	87210
8	Ekta chowk	3.48	0.16	9.89	10.05	16633	44001	44001	58764
9	Ganga Sagar	5.32	0.42	5.75	6.17	25399	27007	27007	132050
10	Garha Bazar maszid ke pass	24.32	2.03	28.67	30.70	116089	134475	134475	90639
11	Near of Gullah Chouraha	10.11	0.56	10.66	11.22	48267	49144	49144	119391
12	Gupteshwar Near Babbu Vidhayak House	2.24	0.23	2.05	2.28	10713	9978	10713	81928
13	HP Petrol Pump Sharda Chowk	9.87	0.00	7.23	7.23	47121	31667	47121	76210
14	Indira nagar	7.12	0.46	3.35	3.81	33983	16679	33983	

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15	In Front Of Dr. Loth Hospital	8.74	0.85	8.22	9.07	41736	39709	41736	88127
16	In front of Triveni Complex LIC Chowk	7.90	0.00	7.65544	7.66	37697	33531	37697	75431
17	Kachpura Overbridge	7.05	1.69	0	1.69	33658	7411	33658	107896
18	Khudabaksh Garha Bazar	4.70	0.33	5.42	5.75	22420	25194	25194	101622
19	Kripal Chowk	17.82	2.49	18.29	20.78	85095	91008	91008	147977
20	LIC Office	12.67	1.20	12.75	13.95	60489	61119	61119	57241
21	Main Road Ratan Nagar	3.66	0.35	4.25	4.60	17454	20157	20157	43827
22	Near Bank Of Maharashtra Gautam Madhia	22.01	2.55	20.94	23.49	105071	102895	105071	138249
23	Near Geological Survey Of India	16.29	1.26	15.48	16.74	77781	73304	77781	112286
24	Near H.K. Engg. Work	8.92	0.89	8.66	9.55	42605	41838	42605	95178
25	Near Supatal Sulabh Complex	3.46	0.87	1.84	2.71	16538	11879	16538	103606
26	Panday Vyas Chowk	4.70	0.26	7.37	7.63	22420	33419	33419	93400
27	Pishanhari Ki Madiya	9.61	0.61	8.21	8.82	45890	38640	45890	42450
28	Ranidurgavati	8.96	1.92	9.36	11.28	42777	49406	49406	79900
29	Ratan Nagar Gupteshwar	8.38	1.17	9.47	10.64	40008	46612	46612	122707
30	Sanjivani Nagar Beside Rly Track	7.95	1.30	11.5	12.80	37964	56046	56046	236933
31	Sainik Society	11.75	2.76	9.18991	11.95	56087	52341	56087	86802
32	Shakti Nagar Chowk	10.13	0.44	9.36	9.80	48372	42906	48372	120210

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33	Shakti Nagar Shree Sai Palace Barat Ghar	10.94	0.44	21.58	22.02	52230	96430	96430	84958
34	Sharda Mandir Road	7.01	1.97	3.93	5.90	33477	25833	33477	110606
35	Shukla Nagar	12.37	0.87	13.428	14.30	59066	62634	62634	172716
36	Subhash Chowk Shakti Nagar	21.27	1.89	20.36	22.25	101538	97446	101538	125782
37	Supatal Talab	12.69	0.56	9.62	10.18	60585	44606	60585	91741
Total		352.98	35.50	357.17		1685207	1719909	1864823	3582298

5. Indramarket Zone

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at Indramarket Zone									
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Measured Load in Kwh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Adarsh Nursing Home	7.614	0.564	9.29	9.85	36351	40690	43161	32574
2	Allahabad Bank Chowk	21.404	0.241	21.74	21.98	102187	95221	96277	106634
3	Bai Ka Bagicha Nandani Foundation	53.51	5.204	45.43	50.63	255467	198983	221777	183718
4	Baldi Kori Ki Dafai	15.154	1.944	21.10885	23.05	72348	92457	100971	84509
5	Besides Kotawali	16.824	0.808	15.82	16.63	80321	69292	72831	63538
6	Bhawani Chowk Sidh Baba Road	32.728	7.196	20.12	27.32	156250	88126	119644	128210
7	Bohara Bag Chowk	23.206	2.476	22.17	24.65	110790	97105	107949	174956
8	Chandmari Talaiya Near Durga Mandir	14.416	1.112	12.7	13.81	68825	55626	60497	64167
9	CharKhabha	22.809	1.029	22.72	23.75	108895	99514	104021	32391
10	Choti Madar Tekari	9.62	0.468	8.34	8.81	45928	36529	38579	66073
11	Chui Khadan	5.058	0.508	5.47	5.98	24148	23959	26184	118117

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12	Civil Line, Near police station	10.208	0	5.59187	5.59	48735	24492	24492	
13	Civil Lines Thana	4.713	0.58	4.38	4.96	22501	19184	21725	
14	Deepak dairy sidbaba road,hanuman hotel.	28.28	2.832	23.03	25.86	135014	100871	113276	136242
15	Ekta Transport Services, Sanjivani Hospital	1.452	0.364	1.98	2.34	6932	8672	10267	48029
16	Ghamapur Chowk , Arvind ward	23.516	2.064	25.31	27.37	112270	110858	119898	186327
17	Gopal Hotel	34.146	1.694	40.3717	42.07	163020	176828	184248	175158
18	Haddi Godam	8.592	2.208	6.45	8.66	41020	28251	37922	71131
19	Hanumantal Thana Ke Pass	50.755	2.789	35.08	37.87	242315	153650	165866	185889
20	In Front of Agrawal Traders	19.176	0	17.22397	17.22	91550	75441	75441	54813
21	Inside Galagala Shiv mandir	21.34	0.736	25.09867	25.83	101881	109932	113156	108498
22	Kachghar Chowk	26.516	1.432	22.72	24.15	126593	99514	105786	188679
23	Futhatal Mazar Ke Samne , L/148	24.08	5.232	22.34	27.57	114963	97849	120765	112928
24	Lohia Pool	27.02	2.072	26.46	28.53	128999	115895	124970	30953
25	Lohia Ward	10.696	0.376	13.4	13.78	51065	58692	60339	70603
26	Mominpura Talaiya	7.448	1.576	5.37	6.95	35558	23521	30423	70386
27	Mothi Nalla	13.692	0.384	13.55	13.93	65368	59349	61031	207530
28	Near Bridge No 1	16.556	1.638	16.27	17.91	79042	71263	78437	62557
29	Near Empire Talkies	13.903	0.73	12.25	12.98	66376	53655	56852	61194

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30	Near IPS Office	3.872	0	5.41	5.41	18486	23696	23696	
31	Near Kharmai Gate	14.368	0.944	19.91	20.85	68596	87206	91341	90218
32	Near Maulana Abdul Kalam Ward Gate,Rajja Chowk	28.142	5.162	22.61	27.77	134356	99032	121641	179504
33	Near RTO Office	13.728	0	8.14	8.14	65540	35653	35653	39141
34	16 Quarter Thkkargram	11.652	4.5	6.86	11.36	55629	30047	49757	45083
35	Sathiya Kuva	20.566	0.352	23.32	23.67	98186	102142	103683	118552
36	Science College	7.428	0.456	7.96	8.42	35463	34865	36862	30200
37	Shiv Mandir, Kadam Taliya	38.112	2.756	41.32	44.08	181954	180982	193053	154807
38	Tahasil Chowk	33.542	2.11	29.74	31.85	160136	130261	139503	139229
39	Thakur Electronic Kachghar Colony	32.82	2.994	22.54	25.53	156689	98725	111839	159878
40	Vyoharbagh Central Lighting	14.946	5.076	9.23232	14.31	71355	40438	62670	
Total		783.608	72.607	718.83	791.43	3741101	3148463.924	3466483	3782416

6. Mission Compound Zone

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at Mission Compound Zone								
Sr. No.	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Bada Fuhara	66.64	7.44	50.51	57.95	318153	253821	230898
2	Baldev Bag Agrawal Petrol Pump Ke Samne	47.45	5.02	43.84	48.86	226536	213989	161143
3	Golbazar Near Ranital Chowk	52.832	4.01	32.45	36.46	252231	159686	145312
4	Gopal Vihar Colony	20.332	1.38	17.96	19.34	97069	84709	148841
5	Gurunakanak School & College Karamchand Chowk	10.998	0.00	11.90	11.90	52507	52122	34574
6	Karamchand Chowk Near Baglai Culb	30.426	3.16	24.13	27.29	145260	119530	123132
7	Kotwali Thana	43.003	3.88	47.90	51.78	205305	226810	218976
8	Madhavtal Yatayat Thana	28.624	2.62	21.30	23.92	136657	104770	106794
9	Milauniganj Chowk	23.282	1.00	26.65	27.65	111153	121125	
10	Mission Compound Chouraha	32.712	4.22	17.80	22.02	156174	96456	77410
11	Near Gohalpur Thana	28.094	4.29	17.63	21.92	134126	96023	59997
12	Near Kachyaana Chowk	11.66	0.18	12.08	12.26	55667	53681	120491
13	Russel Chowk Near State Bank of Patiala	17.9	1.18	8.95	10.13	85458	44369	64202

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14	Russel Chowk Opposite Anmol Auto Mobiles	3.36	0.00	3.53	3.53	16041	15461	13200
15	Shastri Bridge ICICI Bank	16.516	0.74	13.82	14.56	78851	63755	45099
16	Telegraph gate no.2	27.68	1.04	25.85	26.89	132159	117761	99305
Total		461.51	40.15	376.30	416.45	2203346	1824069	1649374

7. Gorakhpur Zone

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at Gorakhpur Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Ambey Traders Shethi Nagar	13.24	1.52	12.49	14.01	63210	61381	52524
2	Anand Enterprises Choti Lines Fatak	1.89	0.05	1.59	1.64	9023	7192	6474
3	Madan Mahal BSNL Office Ke Pass	9.57	0.51	7.55	8.06	45689	35294	29414
4	Esai Mohalla Chowk	15.98	1.09	14.60	15.69	76301	68722	47165
5	Employment Office	38.85	2.42	33.27	35.69	185487	156314	136420
6	Ghantaghar Omati Thana Ke Samne	25.28	1.76	21.43	23.19	120701	101562	84760
7	J.K.Complex Gorakhpur	39.04	1.94	47.55	49.49	186404	216784	118881
8	Katanga Tiraha	24.41	1.60	18.92	20.52	116548	89869	101895
9	Madan Mahal Thana	18.28	0.81	19.75	20.56	87282	90044	77819
10	Navbhrat Press(Near of santnavent motor mitra)	1.92	0.18	0.00	0.18	9186	771	26890
11	Near BPCL Petrol Pump Medical Road,Main Bus Stand	12.13	0.00	10.56	10.56	57892	46240	44853
12	Near Narmada Traders	33.87	0.64	25.31	25.95	161702	113679	102374
13	Near Shri Guru Tegh Bahadur Khalsa College	10.72	0.00	7.65	7.65	51160	33525	32850
14	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	29.09	0.49	22.79	23.28	138891	101958	73550

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15	Rishi Vihar Colony	9.47	0.05	8.93	8.98	45197	39341	38864
16	Saluja Tyres Madhotal Road	14.66	3.18	8.58	11.76	69990	51509	52189
17	Santosh Garage	10.61	1.10	9.47	10.57	50645	46297	42987
18	Teenpatti Chauraha	14.19	0.97	16.85	17.82	67727	78066	66001
19	Wright Town Pankaj Palace	19.49	1.44	20.67	22.11	93068	96826	47360
Total		343	20	308	328	1636104	1435374	1183270

8. Purva Zone

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at Purva Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Corrected Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Baznamath Mandir Road	5.19	1.46	4.13	5.60	24788	24506	38687
2	Bhairav Baba Road	4.59	0.87	3.00	3.87	21923	16959	18161
3	Shastri Nagar Sai Mandir Ke Samne/Bhairav Nagar Bada Pathar	15.23	0.00	11.60	11.60	72702	50808	73243
4A)	Bhairav Nagar Near Sub Station MPEB Purva	1.82	0.33	1.10	1.43	8708	6272	
4B)	Neharu Nagar Near Apex Hospital	4.85	0.67	8.55	9.22	23164	40392	64400
4	Bhairav Nagar Near Sub Station MPEB Purva & Neharu Nagar Near Apex Hospital	6.68	1.00	9.65	10.65	31873	46665	64400
5	Bhukamp Colony	5.25	1.30	5.10	6.40	25074	28032	59000
6	Devtal Main Road, Sharn Park	3.18	0.16	3.10	3.26	15201	14261	83040
7	Dr.Colony-I, Type Medical Quarter Ke Samne	3.00	1.22	2.96	4.18	14323	18291	
8A)	Ganga Nagar Road	18.77	3.12	19.94	23.06	89621	100985	81451
8B)	Rajul City	3.24	0.61	1.43	2.04	15488	8944	
8	Ganga Nagar Road & Rajul City	22.02	3.728	21.37	25.098	105109	109929	81451
9	Garha Thana , Near Medical College	15.23	0.00	14.02	14.02	68642	57979	41039

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10A)	Gupta Nagar	1.48	0.49	0.96	1.45	7085	6342	
10B)	Near Sagda Sai Mandir,Opposite Ananad Krushi Kendra	16.92	2.82	18.27	21.09	80779	92374	89927
10	Gupta Nagar & Near Sagda Sai Mandir,Opposite Ananad Krushi Kendra	18.404	3.308	19.23	22.538	87864	98716	89927
11	LIG Colony,Near Akarshan Beauty parlor	6.85	2.08	5.06	7.14	32713	31273	87210
12	Lodhi Mohalla Shastri Nagar	4.52	1.08	3.76	4.84	21560	21182	79890
13	Medical Colony (Dr.Colony)	5.79	1.51	6.35	7.87	27633	34453	42387
14	Near Gyanganga College	15.79	3.95	9.04	12.99	75394	56887	36790
15	Near Hotel Maruti Mandapam	11.00	2.26	7.25	9.51	52507	41636	58552
16	Near Jain Mandir	13.54	0.00	13.40	13.40	61015	55431	53746
17	Near of Jasuja City	14.95	0.56	11.59	12.15	71355	53235	50875
18	Near Kangi House (Chungi Naka)	9.58	2.06	10.89	12.95	45746	56733	
19	Near Shahi Naka	8.05	0.94	10.89	11.83	38423	51833	39104
20	Near Samudayak Bhawan	15.04	4.20	12.11	16.31	71809	71438	40211
21	Near Water Tank Tripura Chowk	1.82	0.00	1.75	1.75	8708	7665	13700
22	Paraswada Colony	4.73	1.92	1.84	3.76	22592	16486	42183
23	Ram Nagar - 1	1.88	1.32	0.49	1.81	8975	7928	
24	Ram Nagar-2	0.62	0.26	0.53	0.79	2979	3460	

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25	Sagda Sai Mandir	2.48	0.38	2.01	2.39	11840	10486	58494
26	Sagar Colony	2.04	0.33	1.68	2.01	9758	8813	
27	Sai Colony	1.32	0.23	1.48	1.71	6302	7481	4704
28	Shahnala	0.87	0.16	2.32	2.48	4163	10845	24000
29A)	Shastri Nagar Chouraha I	4.32	0.38	10.44	10.82	20644	47409	90460
29B)	Shastri Nagar-2	7.36	4.35	16.57	20.92	35157	91638	
29	Shastri Nagar Chouraha I & Shastri Nagar-2	11.69	4.736	27.01	31.746	55801	139047	90460
30	Tilwara Ghat Road	10.47	1.21	12.41	13.62	49976	59664	37391
31	Tripuri Chowk	3.16	0.59	2.30	2.89	15106	12667	59880
Total		244.97	42.83	238.33	281.163	1161854	1224789	1368525

9. Adhartal Zone

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at Adhartal Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Corrected Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Adhartal Tiraha	22.024	3.268	19.04	22.31	105147	97709	156765
2	Gaji Nagar	15.616	1.556	9.01	10.57	74554	46279	149113
3	Chokse Hotel (New Kanchanpur)	5.008	0.944	3.28	4.22	23909	18501	79632
4	Ram Nagar (New R-11)	16.236	1.744	14.12	15.86	77514	69484	74038
5	Afak Bekari Makka Nagar Gali no-3	4.404	1.04	3.48	4.52	21026	19798	89844
6	Agrawal Kirana Store Shankar Chowk	3.658	0.594		0.59	17464	2602	117611
7	Anand Nagar, Near Dr Ansari Clinic	7.896	0.564	6.88	7.44	37697	32605	139826
8	Dr Ambedkar Colony	11.976	1.7	7.77	9.47	57176	41479	87620
9	G. C. F. Colony	15.82	2.552	11.92	14.47	75528	63387	127529
10	Gandhi Chowk Katra, Near Vishwkarma Electric	2.2	0.104	2.34	2.44	10503	10705	117598
11	Gayatri Nagar	2.616	0.208	2.79	3.00	12489	13131	138502
12	Hussainiya masjid , Rajja chowk	1.112	0.312	0.4	0.71	5309	3119	150426
13	Housing Board in Pump House	6.836	1.08	0	1.08	32636	4730	18546
14	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass	1.388	0.352	1.06	1.41	6627	6185	77500

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15	Industrial Area Near Power House	5.156	0.052	5.05	5.10	24616	22347	147693
16	Jawahar Nagar , Hussain Masjid	4.72	0.88		0.88	22534	3854	92578
17	Katra Sabji Mandi	4.384	0.644	4.24	4.88	20930	21392	141701
18	Main Road Adhartal Near Nilesh Computer	7.896	0.564	5.88	6.44	37697	28225	118663
19 (A)	Shankar Mandir Neharu Nagar	1.056	0.104		0.10	5042	456	
19 (B)	Vivek Colony	0.944	0.156	1.09	1.25	4507	5457	87907
	Total	2.00	0.26	1.09	1.35	9548	5913	87907
20	New Ramnagar NR5	4.632	1.068	2.94	4.01	22114	17555	144042
21	New Ram Nagar NR/10/5	2.633	0.332	0.65	0.98	12570	4301	75131
22	Old Kanchanpur Samudayik Bhavan	2.244	0.208	2.12	2.33	10713	10197	
23	Pandey Gas Agency	1.4	0	0.96	0.96	6684	4205	127535
24	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	7.408	0.156	5.55	5.71	35367	24992	108536
25	Rain Baysara, Anand Nagar	10.804	1.44	7.19	8.63	51580	37799	146165
26	Sanjay Nagar Industrial Arya Chand Mari Road	1.224	0.104	1.34	1.44	5844	6325	79619
27	Sanjay Nagar	2.928	1.08		1.08	13979	4730	127853
28	SBI ATM New Kanchanpur	11.044	0.884	8.34	9.22	52726	40401	118587
29	Sharda Colony New Kanchanpur	3.668	0.56	4	4.56	17512	19973	
30	Shobapur Railway Fatak	10.324	0.384	9.91	10.29	49289	45088	128719

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31	Xlean Bharat Gas Agency	7.896	0.564	6.66	7.22	37697	31641	152066
32	Zenda Chowk J.P. Nagar	3.224	0.176	2.79	2.97	15392	12991	129654
Total		210.4	25.4	150.8	176.2	1004372	771642	3450999

10. Vijay Nagar Zone

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at Vijay Nagar Zone									
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Measured Load in Kwh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Agrawal Madpump	9.43	2.03	9.31	11.34	45021	40778	49647	
2	Amkhera Sanjay Telecom	12.30	1.79	9.92	11.71	58723	43450	51281	176802
3	Basti No-1 Amarkhera Gohalapur	6.44	0.57	7.59	8.16	30765	33244	35750	179886
4	Central Lighting Works,Kamla Nehru Nagar,Near Mobile Shoppee	17.48	0.00	13.50	13.50	83472	59130	59130	66891
5	Central Street Light Ranital	15.23	0.00	13.32	13.32	72702	58359	58359	50038
6	Damuh Naka Chowk Z33 & Near Damoh Naka Chowk	42.48	3.36	33.57	36.93	202827	147037	161762	138669
7	Dindayal Chowk	10.69	4.67	10.88	15.55	51046	47654	68118	60814
8	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha	6.88	2.24	5.70	7.94	32846	24966	34782	63553
9	Dr.Atul Sharma	11.34	0.74	7.80	8.54	54154	34164	37392	54092
10	Global Hospital Ukhaari	16.49	0.44	11.53	11.97	78731	50501	52411	55640
11	Hat Bajar	2.65	0.53	0.42	0.95	12642	1840	4152	137049
12	ITI Near Swastik Hospital	17.48	0.00	14.94	14.94	83472	65437	65437	31860
13	Jain Mandir Mather Theresa	4.90	2.13	0.00	2.13	23379	0	9338	43080
14	Jankey Nagar	8.39	1.24	10.04	11.28	40075	43975	49424	154731

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15	Kasodhan Colony Green City	4.25	0.36	0.00	0.36	20286	0	1594	167160
16	Labour Chowk	9.51	0.58	9.67	10.25	45393	42355	44895	128941
17	Mandi Area In Front of Baba Sai Clinic	14.66	0.28	12.33	12.61	70009	54005	55241	36876
18	Near Rose Beauty salon Ekta Tilhara	14.60	2.74	7.96	10.70	69722	34865	46848	59391
19	Om Enterprises	2.50	0.23	1.83	2.06	11916	8015	9014	10755
20	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk	3.12	0.79	3.84	4.63	14896	16819	20279	166079
21	Pili Building Ke Samne Near Deligh Mariage.Com	20.87	0.56	18.19	18.76	99628	79677	82148	118875
22	BH/08 Pushp Nagar	2.08	0.42	2.41	2.83	9911	10556	12413	43200
23	Sarvaday Nagar	9.86	4.40	4.28	8.68	47083	18746	38027	75590
24	Shanti Nagar	21.19	1.02	17.94	18.96	101184	78577	83036	127394
25	Sneha Nagar Jayaswal Treders	20.87	1.97	20.79	22.76	99647	91060	99680	22935
26	Trimurti Nagar Madhotal	16.62	1.96	10.29	12.25	79347	45070	53673	178024
27	Varsa Kirana Store	5.11	1.50	2.50	4.00	24387	10950	17538	153413
28	Shiv Nagar Near APT Machine	13.89	1.51	10.15	11.66	66314	44457	51053	109837
29	Damoha Naka Road	21.27	1.98	16.35	18.33	101557	71613	80303	127253
30	Chota Fuhara Chowk	21.90	1.78	17.59	19.37	104545	77044	84823	121572
31	DR.Vijay Jain	6.66	2.18	5.62	7.80	31806	24616	34173	152390
32	Hat Bazar	10.85	1.71	10.61	12.32	51814	46472	53970	114044

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33	Namdav Brother Ke Pass S.B.I. Colony	15.83	1.69	14.25	15.94	75595	62415	69826	121342
34	Rameshvaram Colony	11.32	1.32	0.00	1.32	54025	0	5764	
35	ITI Madital	5.98	0.47	3.12	3.59	28559	13666	15715	152427
36	Sagam Colony	10.44	2.11	9.22	11.33	49833	40384	49634	36852
37	Thana Vijay Nagar	2.26	0.53	2.67	3.20	10799	11695	14007	130649
38	P.No.66 Tulsi Nagar	13.33	0.42	10.58	11.00	63645	46340	48162	102135
39	Union Bank Ke Pass	6.60	1.84	3.89	5.73	31491	17038	25080	30437
40	Yadav Colony	16.54	0.58	17.37	17.95	78975	76081	78621	86389
41	Yadav Colony	25.26	3.17	21.98	25.15	120577	96272	110166	62157
42	Disha Sanchi Corner	11.44	3.26	7.45	10.71	54607	32631	46910	
43	Lal bahadur Shastri Colony	2.43	0.52	3.54	4.06	11592	15505	17783	162947
Total		523.44	61.62	414.95	476.57	2498998	1817460	2087360	4012169

11. Highmast

Summary of Annual unit Consumption Corresponding to Installed & Measured Load & Billing unit at High Mast								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVVCL Billing Unit in kWh
1	Adarsh Market Ranjhi	3.38	0.56	2.55	3.11	16156	13639	13463
2	Ranjhi Badapathar	5.30	0.00	3.19	3.19	25322	13972	12960
3	Vehicle Mode Ranjhi	3.38	0.56	2.62	3.18	16156	13946	14831
4	Sharda Nagar Park	7.96				37984		
5	Near Saraswati School Rajhi	5.30	0.88	2.26	3.14	25322	13771	20193
6	Katanga Tiraha Near Kundan Jewellers	3.38	1.69			16156		6240
7	Main Bus Stand	7.96		4.6	4.60	37984	20148	19981
8	Rajiv Gandhi chowk	3.38	0.28	2.25	2.53	16156	11090	7643
9	Chothi Lines Fathak Gorakpur	3.38	0.28	2.62	2.90	16156	12711	11450
10	Madan Mahal	5.08		6.66	6.66	24234	29171	14219
11	Welfare Association & Tow bhaisasur Road	3.38	0.56		0.56	16156	2470	15995
12	Madan Mahal Chowk Station Road	3.38	1.13	5.12	6.25	16156	27366	31236
13	Baburao Paranjpe Near Ranital Gate	5.30	0.88	3.26	4.14	25322	18151	11691

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No.2								
14	Pa.Kunjilal Dube Marg Nepiar Town	3.38	0.00	3.18	3.18	16156	13928	7146
15	Malviya Chowk	7.96	0.88	6.76	7.64	37984	33481	21675
16	Russel Chowk	7.96	0.44	4.88	5.32	37984	23310	20482
17	Nagrath Chowk	3.38	0.56			16156		24830
18	Omati Thana	3.38	0.00	2.78	2.78	16156	12176	43820
19	Bada Fuhara	3.38	0.28	2.23	2.51	16156	11003	9834
20	Lardganj Tiraha	3.38	0.00	0.95	0.95	16156	4146	8565
21	Mal Godam Railway station	7.96	0.88	6.11	6.99	37984	30634	14949
22	Allahabad Bank Chowk	7.96	0.44	5.01	5.45	37984	23880	32391
23	Kanchghar Chowk	5.30	0.44	3.46	3.90	25322	17091	9919
24	Tahasil Chowk /Ambedkar Chowk	3.38	0.56	1.51	2.07	16156	9084	7724
25	Ghamapur Chowk	3.38	1.13	0.71	1.84	16156	8050	
26	Raddi Chowki	7.96	1.77	2.94	4.71	37984	20621	8811
27	Collectorate Chowk High Court	5.30	0.88	2.65	3.53	25322	15479	
28	GCF CJ Building	3.38	0.56			16156		7212
29	Gwarighat-1	27.33	1.33	19.22	20.55	130469	89991	122797
	Gwarighat-2							

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	Gwarighat-3							
	Gwarighat -4							
30	Gwarighat-5 Near Daroga Ghat	8.69		3.47	3.47	41478	15199	
31	Jilahari Ghat Ke Pass	7.07		5.35	5.35	33763	23433	
32	Rampur Chowk	5.30		4.23	4.23	25322	18527	115144
33	Medical Colony	7.96	1.33	5.03	6.36	37984	27839	42450
34	Tilwara Ghat	8.20	0.88	20.65	21.53	39148	94319	28324
35	Tripuri Chowk Near gahara thana pass	3.38		20.65	20.65	16156	90447	59880
36	Dhanatwari Nagar Chowk	3.38		3.53	3.53	16156	15461	30563
37	Andhamukh School Ke pass	7.00		6.21	6.21	33400	27200	1272
38	Gullaua Chowk	3.38	0.28	1.82	2.10	16156	9207	6947
39	Transport Nagar-1	5.08		4.6	4.60	24234	20148	15048
40	Transport nagar - 2	3.38	1.69			16156		31222
41	Transport Nagar -3	3.38	1.69			16156		41067
42	Dindayal Chowk	7.96	0.44	5.050	5.49	37984	24055	41069
43	Samata Colony Shanti Nagar	3.38				16156		7768
44	Bus Stand Z38	7.96	7.96			37984		31022
45	Kattiyaghat Mini High Mast	1.13				5385		7768

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46	Aadhartal Tiraha High mast	7.96	7.96			37984		117697
	Total	260	39	178	195	1241139	855145	1097298

Annexure-II Summary of Annual Unit Consumption Corresponding to Installed & Measured Load & Billing Units for 302 switching points for which, billing data is received

1. Polypathar Zone

Summary of Annual Unit Consumption Corresponding to Installed & Measured Load & Billing Units at Polypathar Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Adarsh Nagar Near Dr. Kumar	15.09	0.56	13.21	13.77	72043	60313	142397
2	Adarsh Nagar	8.90	2.06	8.54	10.60	42490	46428	127633
3	Ashok Vihar Near Lodhi Samudayak Bhavan	5.81	3.70	2.73	6.43	27729	28146	13248
4	Awanti Vihar	1.22	0.00	1.43	1.43	5844	6263	94957
5	Bital Gaeneral Store Ke Pass	5.20	0.86	4.75	5.61	24845	24572	127633
6	Brajmohan Nagar Sociey	0.80	0.00	0.42	0.42	3819	1840	18247
7	Chote Hanuman	9.78	1.60	9.9	11.50	46711	50352	171057
8	Chungi Naka Rampur, Near Sule Nursing Home	1.91	0.38	1.16	1.54	9109	6763	98509
9	Daroga Ghat	2.64	0.00	16.47	16.47	54082	72140	140838
10	Durga Nagar Sent Alayasis School	0.87	0.61	0.81	1.42	4163	6228	82762
11	Tagore Nagar, Forest Gate	2.42	0.00	3.72	3.72	11554	16294	97315
12	Jai Bheem Nagar Society	3.57	0.44	2.59	3.03	17034	13254	44234
13	Jihari Ghat Station	3.98	0.35	6.55	6.90	18982	30231	104659

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14	Jalahrigaon Narmada Road	0.70	0.26	0.501	0.76	3323	3333	155585
15	Jogney Nagar Chui Khadan	0.77	0.16	0.61	0.77	3667	3355	84544
16	Kalariwala Polipathar	4.96	0.38	5.68	6.06	23661	26560	116207
17	Lalpur	1.21	0.10	0.6	0.70	5767	3084	102077
18	Polipathar Near Homiopathic Aaushadhalaya/MPHBPP Colony	3.39	0.10	3.1	3.20	16194	14034	155338
19	Murddaya Ghat	4.51	1.94	2.45	4.39	21513	19211	110811
20	Near Chhapar of Ganesh Yadav	6.43	0.51	10.99	11.50	30679	50361	165990
21	Patel Mohalla, Rampur	10.89	0.51	14.34	14.85	52001	65034	100062
22	Polipathar Gwarighat Bigbazar	7.03	1.04	10.76	11.80	33553	51684	114076
23	PWD Colony	7.89	1.16	6.36	7.52	37659	32938	20735
24	Ravidas Nagar	9.34	0.49	8.92	9.41	44572	41207	84153
25	Rewa Colony	7.62	0.44	9.28	9.72	36399	42556	91848
26	Sant Shiromani Ashram	3.09	0.00	6.948	6.95	14762	30432	121371
27	Satyanand Vihar Garden,Durga Nagar	5.29	0.28	9.17	9.45	25246	41391	95115
28	Shankar Nagar Corporation	0.64	0.10	0.74	0.84	3075	3697	33799
29	Sidhanath	0.54	0.00	0.57	0.57	2578	2497	58417
30	Vijaynagar Chhapar	5.76	0.26	6.57	6.83	27490	29915	136317
31	Jhanda Chowk Gwarighat	21.08	1.43	29.93	31.36	100659	137348	126151
Total		163.32	19.71	199.80	219.51	821200	961459	3136085

2. Bilhari Zone

Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Dhobi Ghat Near New Time Telor	5.016	0.724	5.12	5.84	23947	25597	25597	86541
2	Govt. Primary School Kajarwara	2.84	0.468	1.85	2.32	13559	10153	13559	68126
3	Janta Medical Hall	14.1	0.604	14.97	15.57	67316	68214	68214	103493
4	Khermai Mandir, Dixit Ata Chakki	2.756	0.26	2.08	2.34	13158	10249	13158	47548
5	Purani Kalahari Ke Piche	5.712	0.828	4.69	5.52	27270	24169	27270	52799
6	Temar Bitra Road	1.804	0.432	1.13	1.57	8613	6862	8613	50155
7	Post Office Gali Ke Andar Vijay Tailor Ke Pass	8.233	0.418	8.14	8.56	39306	37484	39306	74213
8	Shivpuri Kajarwara	1.868	0.536	1.78	2.32	8918	10144	10144	53704
9	Gaur Thane Opp	2.992	0.344	1.6	1.94	14284	8515	14284	90492
10	Gupta Tent House, Ekta Market, Gauraiya Ghat	0.984	0.276	0.76	1.04	4698	4538	4698	96895
Total		46.31	4.89	42.12	47.01	221069	205924	224842	723966

3. Ranjhi Zone

Summary of Annual Unit Consumption Corresponding to Installed & Measured Load & Billing Units at Ranjhi Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	75 H Bhagat Singh Ward	17.43	1.363	12.18	13.54	83210	59318	274688
2	72-G Infront Of Akansha Silai Center	17.10	2.588	15.62	18.21	81658	79751	202501
3	Chandan Colony	12.19	1.068	12.25	13.32	58188	58333	176467
4	Gokalpur Marghatai	4.90	0.468	3.31	3.78	23394	16548	151824
5	Main Road Gokalpur	15.25	1.504	14.25	15.75	72797	69003	252187
6	Mastana Chowk Ranjhi	33.43	1.752	30.19	31.94	159592	139904	207346
7	Major Kirana Store Ganesh Ganj	11.77	0.78	13.19	13.97	56207	61189	132624
8	Merghatai Road ,Khairmai Mandir	19.35	0.956	1.59	2.55	92376	11151	197400
9	Police Thana	19.76	2.632	15.87	18.50	94357	81039	292603
10 (A)	Raksha nagar New	3.20	0.612	3.98	4.59	15297	20113	

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10 (B)	Raksha nagar Colony	3.67	0.404	3.32	3.72	17531	16311	53868
	Total	6.876	1.016	7.3	8.316	32827	36424	53868
11	Ranjhi Bazar Colony	6.91	0.332	6.83	7.16	32980	31370	46420
12	Ravan Park Ranjhi	8.09	0.196	7.34	7.54	38614	33008	201259
13	Shanti Nagar Ranghi (S-29)	1.74	0.384	0	0.38	8326	1682	151368
14	Sharda Nagar Ranghi (S-1)	4.36	0.26	4.52	4.78	20816	20936	259200
15	Neutral Garden Ranghi/Sharda Nagar Park	5.14	0.176	7.97	8.15	62542	35679	15659
16 (A)	Uday Nagar	5.90	1.868	3.71	5.58	28168	24432	198000
16 (B)	Uday Nagar - 3,(E29)	0.64	0.332	0	0.33	3075	1454	
	Total	6.544	2.2	3.71	5.91	31242	25886	198000
Total		190.85	17.68	156.12	173.79	949126	761220	2813414

4. Garha Zone

Summary of Annual Unit Consumption Corresponding to Installed & Measured Load & Billing Units at Garha Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Amanpur Nursing ward	11.68	0.79	13.67	14.46	55763	63326	173527
2	Bedi Nagar Near Gurudwara Area & Central lighting	7.00	0.42	2.03	2.45	33438	10713	51876
3	Bedi nagar	4.82	0.44	5.52	5.96	23012	26087	95572
4	Brajmohan nagar supatal	3.12	0.28	3.84	4.12	14896	18046	109930
5	Choti bagariya shree ram mandir ke samne	13.56	1.18	15.4	16.58	64719	72638	65556
6	Devtal Ayodayapuri	6.25	0.40	7.1	7.50	29829	32868	87210
7	Ekta chowk	3.48	0.16	9.89	10.05	16633	44001	58764
8	Ganga Sagar	5.32	0.42	5.75	6.17	25399	27007	132050
9	Garha Bazar maszid ke pass	24.32	2.03	28.67	30.70	116089	134475	90639
10	Near of Gullah Chouraha	10.11	0.56	10.66	11.22	48267	49144	119391
11	Gupteshwar Near Babbu Vidhayak House	2.24	0.23	2.05	2.28	10713	9978	81928
12	HP Petrol Pump Sharda Chowk	9.87	0.00	7.23	7.23	47121	31667	76210

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13	In Front Of Dr. Loth Hospital	8.74	0.85	8.22	9.07	41736	39709	88127
14	In front of Triveni Complex LIC Chowk	7.90	0.00	7.65544	7.66	37697	33531	75431
15	Kachpura Overbridge	7.05	1.69	0	1.69	33658	7411	107896
16	Khudabaksh Garha Bazar	4.70	0.33	5.42	5.75	22420	25194	101622
17	Kripal Chowk	17.82	2.49	18.29	20.78	85095	91008	147977
18	LIC Office	12.67	1.20	12.75	13.95	60489	61119	57241
19	Main Road Ratan Nagar	3.66	0.35	4.25	4.60	17454	20157	43827
20	Near Bank Of Maharastra Gautam Madhia	22.01	2.55	20.94	23.49	105071	102895	138249
21	Near Geological Survey Of India	16.29	1.26	15.48	16.74	77781	73304	112286
22	Near H.K. Engg. Work	8.92	0.89	8.66	9.55	42605	41838	95178
23	Near Supatal Sulabh Complex	3.46	0.87	1.84	2.71	16538	11879	103606
24	Panday Vyas Chowk	4.70	0.26	7.37	7.63	22420	33419	93400
25	Pishanhari Ki Madiya	9.61	0.61	8.21	8.82	45890	38640	42450
26	Ranidurgavati	8.96	1.92	9.36	11.28	42777	49406	79900
27	Ratan Nagar Gupteshwar	8.38	1.17	9.47	10.64	40008	46612	122707
28	Sanjivani Nagar Beside Rly Track	7.95	1.30	11.5	12.80	37964	56046	236933
29	Sainik Society	11.75	2.76	9.18991	11.95	56087	52341	86802
30	Shakti Nagar Chowk	10.13	0.44	9.36	9.80	48372	42906	120210

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31	Shakti Nagar Shree Sai Palace Barat Ghar	10.94	0.44	21.58	22.02	52230	96430	84958
32	Sharda Mandir Road	7.01	1.97	3.93	5.90	33477	25833	110606
33	Shukla Nagar	12.37	0.87	13.428	14.30	59066	62634	172716
34	Subhash Chowk Shakti Nagar	21.27	1.89	20.36	22.25	101538	97446	125782
35	Supatal Talab	12.69	0.56	9.62	10.18	60585	44606	91741
Total		340.76	33.57	348.69		1626837	1674313	3582298

5. Indramarket Zone

Summary of Annual Unit Consumption Corresponding to Installed & Measured Load & Billing Units at Indramarket Zone									
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Adarsh Nursing Home	7.614	0.564	9.29	9.85	36351	43161	43161	32574
2	Allahabad Bank Chowk	21.404	0.241	21.74	21.98	102187	96277	102187	106634
3	Bai Ka Bagicha Nandani Foundation	53.51	5.204	45.43	50.63	255467	221777	255467	183718
4	Baldi Kori Ki Dafai	15.154	1.944	21.10885	23.05	72348	100971	100971	84509
5	Besides Kotawali	16.824	0.808	15.82	16.63	80321	72831	80321	63538
6	Bhawani Chowk Sidh Baba Road	32.728	7.196	20.12	27.32	156250	119644	156250	128210
7	Bohara Bag Chowk	23.206	2.476	22.17	24.65	110790	107949	110790	174956
8	Chandmari Talaiya Near Durga Mandir	14.416	1.112	12.7	13.81	68825	60497	68825	64167
9	CharKhabha	22.809	1.029	22.72	23.75	108895	104021	108895	32391
10	Choti Madar Tekari	9.62	0.468	8.34	8.81	45928	38579	45928	66073
11	Chui Khadan	5.058	0.508	5.47	5.98	24148	26184	26184	118117
12	Deepak dairy sidbaba road,hanuman hotel.	28.28	2.832	23.03	25.86	135014	113276	135014	136242

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13	Ekta Transport Services, Sanjivani Hospital	1.452	0.364	1.98	2.34	6932	10267	10267	48029
14	Ghamapur Chowk , Arvind ward	23.516	2.064	25.31	27.37	112270	119898	119898	186327
15	Gopal Hotel	34.146	1.694	40.3717	42.07	163020	184248	184248	175158
16	Haddi Godam	8.592	2.208	6.45	8.66	41020	37922	41020	71131
17	Hanumantal Thana Ke Pass	50.755	2.789	35.08	37.87	242315	165866	242315	185889
18	In Front of Agrawal Traders	19.176	0	17.22397	17.22	91550	75441	91550	54813
19	Inside Galagala Shiv mandir	21.34	0.736	25.09867	25.83	101881	113156	113156	108498
20	Kachghar Chowk	26.516	1.432	22.72	24.15	126593	105786	126593	188679
21	Futhatal Mazar Ke Samne , L/148	24.08	5.232	22.34	27.57	114963	120765	120765	112928
22	Lohia Pool	27.02	2.072	26.46	28.53	128999	124970	128999	30953
23	Lohia Ward	10.696	0.376	13.4	13.78	51065	60339	60339	70603
24	Mominpura Talaiya	7.448	1.576	5.37	6.95	35558	30423	35558	70386
25	Mothi Nalla	13.692	0.384	13.55	13.93	65368	61031	65368	207530
26	Near Bridge No 1	16.556	1.638	16.27	17.91	79042	78437	79042	62557
27	Near Empire Talkies	13.903	0.73	12.25	12.98	66376	56852	66376	61194
28	Near Kharmai Gate	14.368	0.944	19.91	20.85	68596	91341	91341	90218
29	Near Maulana Abdul Kalam Ward Gate,Rajja Chowk	28.142	5.162	22.61	27.77	134356	121641	134356	179504

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30	Near RTO Office	13.728	0	8.14	8.14	65540	35653	65540	39141
31	16 Quarter Thkkargram	11.652	4.5	6.86	11.36	55629	49757	55629	45083
32	Sathiya Kuva	20.566	0.352	23.32	23.67	98186	103683	103683	118552
33	Science College	7.428	0.456	7.96	8.42	35463	36862	36862	30200
34	Shiv Mandir, Kadam Taliya	38.112	2.756	41.32	44.08	181954	193053	193053	154807
35	Tahasil Chowk	33.542	2.11	29.74	31.85	160136	139503	160136	139229
36	Thakur Electronic Kachghar Colony	32.82	2.994	22.54	25.53	156689	111839	156689	159878
Total		749.869	66.951	694.21	761.16	3580025	3333899	3716775	3782416

6. Mission Compound

Summary of Annual Unit Consumption Corresponding to Installed & Measured Load & Billing Units at Mission Compound Zone								
Sr. No.	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Measured Load in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Bada Fuhara	66.64	7.44	50.51	57.95	318153	221234	230898
2	Baldev Bag Agrawal Petrol Pump Ke Samne	47.45	5.02	43.84	48.86	226536	192019	161143
3	Golbazar Near Ranital Chowk	52.832	4.01	32.45	36.46	252231	142131	145312
4	Gopal Vihar Colony	20.332	1.38	17.96	19.34	97069	78665	148841
5	Gurunanak School & College Karamchand Chowk	10.998	0.00	11.90	11.90	52507	52122	34574
6	Karamchand Chowk Near Baglai Culb	30.426	3.16	24.13	27.29	145260	105689	123132
7	Kotwali Thana	43.003	3.88	47.90	51.78	205305	209802	218976
8	Madhavtal Yatayat Thana	28.624	2.62	21.30	23.92	136657	93294	106794
9	Mission Compound Chouraha	32.712	4.22	17.80	22.02	156174	77964	77410
10	Near Gohalpur Thana	28.094	4.29	17.63	21.92	134126	77233	59997
11	Near Kachyaana Chowk	11.66	0.18	12.08	12.26	55667	52910	120491
12	Russel Chowk Near State Bank of Patiala	17.9	1.18	8.95	10.13	85458	39201	64202
13	Russel Chowk Opposite Anmol Auto Mobiles	3.36	0.00	3.53	3.53	16041	15461	13200

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14	Shastri Bridge ICICI Bank	16.516	0.74	13.82	14.56	78851	60532	45099
15	Telegraph gate no.2	27.68	1.04	25.85	26.89	132159	113223	99305
Total		438.23	39.15	349.65	388.80	2092193	1531480	1649374

7. Gorakhpur

Summary of Annual Unit Consumption Corresponding to Installed & Measured Load & Billing Units at Gorakhpur Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Correted Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Ambey Traders Shethi Nagar	13.24	1.52	12.49	14.01	63210	61381	52524
2	Anand Enterprises Choti Lines Fatak	1.89	0.05	1.59	1.64	9023	7192	6474
3	Madan Mahal BSNL Office Ke Pass	9.57	0.51	7.55	8.06	45689	35294	29414
4	Esai Mohalla Chowk	15.98	1.09	14.60	15.69	76301	68722	47165
5	Employment Office	38.85	2.42	33.27	35.69	185487	156314	136420
6	Ghantaghar Omati Thana Ke Samne	25.28	1.76	21.43	23.19	120701	101562	84760
7	J.K.Complex Gorakhpur	39.04	1.94	47.55	49.49	186404	216784	118881
8	Katanga Tiraha	24.41	1.60	18.92	20.52	116548	89869	101895
9	Madan Mahal Thana	18.28	0.81	19.75	20.56	87282	90044	77819
10	Navbhrat Press(Near of santnavent motor mitra)	1.92	0.18	0.00	0.18	9186	771	26890
11	Near BPCL Petrol Pump Medical Road,Main Bus Stand	12.13	0.00	10.56	10.56	57892	46240	44853
12	Near Narmada Traders	33.87	0.64	25.31	25.95	161702	113679	102374

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13	Near Shri Guru Tegh Bahadur Khalsa College	10.72	0.00	7.65	7.65	51160	33525	32850
14	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	29.09	0.49	22.79	23.28	138891	101958	73550
15	Rishi Vihar Colony	9.47	0.05	8.93	8.98	45197	39341	38864
16	Saluja Tyres Madhotal Road	14.66	3.18	8.58	11.76	69990	51509	52189
17	Santosh Garage	10.61	1.10	9.47	10.57	50645	46297	42987
18	Teenpatti Chauraha	14.19	0.97	16.85	17.82	67727	78066	66001
19	Wright Town Pankaj Palace	19.49	1.44	20.67	22.11	93068	96826	47360
Total		343	20	308	328	1636104	1435374	1183270

8. Purva

Summary of Annual Unit Consumption Corresponding to Installed & Measured Load & Billing Units at Purva Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Corrected Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Baznamath Mandir Road	5.19	1.46	4.13	5.6	24788	24506	38687
2	Bhairav Baba Road	4.59	0.87	3	3.87	21923	16959	18161
3	Shastri Nagar Sai Mandir Ke Samne/Bhairav Nagar Bada Pathar	15.23	0	11.6	11.6	72702	50808	73243
4A)	Bhairav Nagar Near Sub Station MPEB Purva	1.82	0.33	1.1	1.43	8708	6272	0
4B)	Neharu Nagar Near Apex Hospital	4.85	0.67	8.55	9.22	23164	40392	64400
4	Bhairav Nagar Near Sub Station MPEB Purva & Neharu Nagar Near Apex Hospital	6.68	1	9.65	10.65	31873	46665	64400
5	Bhukamp Colony	5.25	1.3	5.1	6.4	25074	28032	59000
6	Devtal Main Road, Sharn Park	3.18	0.16	3.1	3.26	15201	14261	83040
7A)	Ganga Nagar Road	18.77	3.12	19.94	23.06	89621	100985	81451
7B)	Rajul City	3.24	0.61	1.43	2.04	15488	8944	0
7	Ganga Nagar Road & Rajul City	22.02	3.728	21.37	25.098	105109	109929	81451
8	Garha Thana , Near Medical College	15.23	0	14.02	14.02	68642	57979	41039

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9A)	Gupta Nagar	1.48	0.49	0.96	1.45	7085	6342	0
9B)	Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra	16.92	2.82	18.27	21.09	80779	92374	89927
9	Gupta Nagar & Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra	18.404	3.308	19.23	22.538	87864	98716	89927
10	LIG Colony, Near Akarshan Beauty parlor	6.85	2.08	5.06	7.14	32713	31273	87210
11	Lodhi Mohalla Shastri Nagar	4.52	1.08	3.76	4.84	21560	21182	79890
12	Medical Colony (Dr.Colony)	5.79	1.51	6.35	7.87	27633	34453	42387
13	Near Gyanganga College	15.79	3.95	9.04	12.99	75394	56887	36790
14	Near Hotel Maruti Mandapam	11	2.26	7.25	9.51	52507	41636	58552
15	Near Jain Mandir	13.54	0	13.4	13.4	61015	55431	53746
16	Near of Jasuja City	14.95	0.56	11.59	12.15	71355	53235	50875
17	Near Shahi Naka	8.05	0.94	10.89	11.83	38423	51833	39104
18	Near Samudayak Bhawan	15.04	4.2	12.11	16.31	71809	71438	40211
19	Near Water Tank Tripura Chowk	1.82	0	1.75	1.75	8708	7665	13700
20	Paraswada Colony	4.73	1.92	1.84	3.76	22592	16486	42183
21	Sagda Sai Mandir	2.48	0.38	2.01	2.39	11840	10486	58494
22	Sai Colony	1.32	0.23	1.48	1.71	6302	7481	4704
23	Shahnala	0.87	0.16	2.32	2.48	4163	10845	24000
24A)	Shastri Nagar Chouraha I	4.32	0.38	10.44	10.82	20644	47409	90460
24B)	Shastri Nagar-2	7.36	4.35	16.57	20.92	35157	91638	0

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24	Shastri Nagar Chouraha I & Shastri Nagar-2	11.69	4.736	27.01	31.746	55801	139047	90460
25	Tilwara Ghat Road	10.47	1.21	12.41	13.62	49976	59664	37391
26	Tripuri Chowk	3.16	0.59	2.3	2.89	15106	12667	59880
						1080072	1129565	1368525

9. Aadhartal

Sr. No.	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Corrected Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Adhartal Tiraha	22.024	3.268	19.04	22.31	105147	97709	156765
2	Gaji Nagar	15.616	1.556	9.01	10.57	74554	46279	149113
3	Chokse Hotel (New Kanchanpur)	5.008	0.944	3.28	4.22	23909	18501	79632
4	Ram Nagar (New R-11)	16.236	1.744	14.12	15.86	77514	69484	74038
5	Afak Bekari Makka Nagar Gali no-3	4.404	1.04	3.48	4.52	21026	19798	89844
6	Agrawal Kirana Store Shankar Chowk	3.658	0.594		0.59	17464	2602	117611
7	Anand Nagar, Near Dr Ansari Clinic	7.896	0.564	6.88	7.44	37697	32605	139826
8	Dr Ambedkar Colony	11.976	1.7	7.77	9.47	57176	41479	87620
9	G. C. F. Colony	15.82	2.552	11.92	14.47	75528	63387	127529
10	Gandhi Chowk Katra, Near Vishwkarma Electric	2.2	0.104	2.34	2.44	10503	10705	117598
11	Gayatri Nagar	2.616	0.208	2.79	3	12489	13131	138502
12	Hussainiya masjid , Rajja chowk	1.112	0.312	0.4	0.71	5309	3119	150426
13	Housing Board in Pump House	6.836	1.08	0	1.08	32636	4730	18546
14	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass	1.388	0.352	1.06	1.41	6627	6185	77500

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15	Industrial Area Near Power House	5.156	0.052	5.05	5.1	24616	22347	147693
16	Jawahar Nagar , Hussain Masjid	4.72	0.88		0.88	22534	3854	92578
17	Katra Sabji Mandi	4.384	0.644	4.24	4.88	20930	21392	141701
18	Main Road Adhartal Near Nilesh Computer	7.896	0.564	5.88	6.44	37697	28225	118663
19 (A)	Shankar Mandir Neharu Nagar	1.056	0.104		0.1	5042	456	
19 (B)	Vivek Colony	0.944	0.156	1.09	1.25	4507	5457	87907
		2	0.26	1.09	1.35	9548	5913	87907
20	New Ramnagar NR5	4.632	1.068	2.94	4.01	22114	17555	144042
21	New Ram Nagar NR/10/5	2.633	0.332	0.65	0.98	12570	4301	75131
22	Pandey Gas Agency	1.4	0	0.96	0.96	6684	4205	127535
23	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	7.408	0.156	5.55	5.71	35367	24992	108536
24	Rain Baysara, Anand Nagar	10.804	1.44	7.19	8.63	51580	37799	146165
25	Sanjay Nagar Industrial Arya Chand Mari Road	1.224	0.104	1.34	1.44	5844	6325	79619
26	Sanjay Nagar	2.928	1.08		1.08	13979	4730	127853
27	SBI ATM New Kanchanpur	11.044	0.884	8.34	9.22	52726	40401	118587
28	Shobapur Railway Fatak	10.324	0.384	9.91	10.29	49289	45088	128719
29	Xlean Bharat Gas Agency	7.896	0.564	6.66	7.22	37697	31641	152066
30	Zenda Chowk J.P. Nagar	3.224	0.176	2.79	2.97	15392	12991	129654
						976147	741473	3450999

10. Vijaynagar

Summary of Annual Unit Consumption Corresponding to Installed & Measured Load & Billing Units at Vijay Nagar Zone								
Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Corrected Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Amkhera Sanjay Telecom	12.30	1.79	9.92	11.71	58723	51281	176802
2	Basti No-1 Amarkhera Gohalapur	6.44	0.57	7.59	8.16	30765	35750	179886
3	Central Lighting Works,Kamla Nehru Nagar,Near Mobile Shopee	17.48	0.00	13.50	13.50	83472	59130	66891
4	Central Street Light Ranital	15.23	0.00	13.32	13.32	72702	58359	50038
5	Damuh Naka Chowk Z33 & Near Damoh Naka Chowk	42.48	3.36	33.57	36.93	202827	161762	138669
6	Dindayal Chowk	10.69	4.67	10.88	15.55	51046	68118	60814
7	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha	6.88	2.24	5.70	7.94	32846	34782	63553
8	Dr.Atul Sharma	11.34	0.74	7.80	8.54	54154	37392	54092
9	Global Hospital Ukhaari	16.49	0.44	11.53	11.97	78731	52411	55640
10	Hat Bajar	2.65	0.53	0.42	0.95	12642	4152	137049

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11	ITI Near Swastik Hospital	17.48	0.00	14.94	14.94	83472	65437	31860
12	Jain Mandir Mather Theresa	4.90	2.13	0.00	2.13	23379	9338	43080
13	Jankey Nagar	8.39	1.24	10.04	11.28	40075	49424	154731
14	Kasodhan Colony Green City	4.25	0.36	0.00	0.36	20286	1594	167160
15	Labour Chowk	9.51	0.58	9.67	10.25	45393	44895	128941
16	Mandi Area In Front of Baba Sai Clinic	14.66	0.28	12.33	12.61	70009	55241	36876
17	Near Rose Beauty salon Ekta Tilhara	14.60	2.74	7.96	10.70	69722	46848	59391
18	Om Enterprises	2.50	0.23	1.83	2.06	11916	9014	10755
19	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk	3.12	0.79	3.84	4.63	14896	20279	166079
20	Pili Building Ke Samne Near Deligh Mariage.Com	20.87	0.56	18.19	18.76	99628	82148	118875
21	BH/08 Pushp Nagar	2.08	0.42	2.41	2.83	9911	12413	43200
22	Sarvaday Nagar	9.86	4.40	4.28	8.68	47083	38027	75590
23	Shanti Nagar	21.19	1.02	17.94	18.96	101184	83036	127394
24	Sneha Nagar Jayaswal Treders	20.87	1.97	20.79	22.76	99647	99680	22935
25	Trimurti Nagar Madhotal	16.62	1.96	10.29	12.25	79347	53673	178024
26	Varsa Kirana Store	5.11	1.50	2.50	4.00	24387	17538	153413

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27	Shiv Nagar Near APT Machine	13.89	1.51	10.15	11.66	66314	51053	109837
28	Damoha Naka Road	21.27	1.98	16.35	18.33	101557	80303	127253
29	Chota Fuhara Chowk	21.90	1.78	17.59	19.37	104545	84823	121572
30	DR.Vijay Jain	6.66	2.18	5.62	7.80	31806	34173	152390
31	Hat Bazar	10.85	1.71	10.61	12.32	51814	53970	114044
32	Namdav Brother Ke Pass S.B.I. Colony	15.83	1.69	14.25	15.94	75595	69826	121342
33	ITI Madital	5.98	0.47	3.12	3.59	28559	15715	152427
34	Sagam Colony	10.44	2.11	9.22	11.33	49833	49634	36852
35	Thana Vijay Nagar	2.26	0.53	2.67	3.20	10799	14007	130649
36	P.No.66 Tulsi Nagar	13.33	0.42	10.58	11.00	63645	48162	102135
37	Union Bank Ke Pass	6.60	1.84	3.89	5.73	31491	25080	30437
38	Yadav Colony	16.54	0.58	17.37	17.95	78975	78621	86389
39	Yadav Colony	25.26	3.17	21.98	25.15	120577	110166	62157
40	Lal bahadur Shastri Colony	2.43	0.52	3.54	4.06	11592	17783	162947
Total		491.25	55.02	398.19	453.21	2345345	1985039	4012169

11. Highmast

Sr.No	Switching Point Name	Installed Load in kW	Load Corresponding to Burn Out Lamps in kW	Measured Load in kW	Corrected Measured Load Considering Total fixtures are working in kW	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh
1	Adarsh Market Ranjhi	3.38	0.56	2.55	3.11	16156	13639	13463
2	Ranjhi Badapathar	5.30	0.00	3.19	3.19	25322	13972	12960
3	Vehicle Mode Ranjhi	3.38	0.56	2.62	3.18	16156	13946	14831
4	Sharda Nagar Park	7.96	0.00	0	0.00	37984	0	
5	Near Saraswati School Rajhi	5.30	0.88	2.26	3.14	25322	13771	20193
6	Katanga Tiraha Near Kundan Jewellers	3.38	1.69			16156	0	6240
7	Main Bus Stand	7.96	0.00	4.6	4.60	37984	20148	19981
8	Rajiv Gandhi chowk	3.38	0.28	2.25	2.53	16156	11090	7643
9	Chothi Lines Fathak Gorakpur	3.38	0.28	2.62	2.90	16156	12711	11450
10	Madan Mahal	5.08	0.00	6.66	6.66	24234	29171	14219
11	Welfare Association & Tow bhaisasur Road	3.38	0.56		0.56	16156	2470	15995
12	Madan Mahal Chowk Station Road	3.38	1.13	5.12	6.25	16156	27366	31236
13	Baburao Paranjpe Near Ranital Gate No.2	5.30	0.88	3.26	4.14	25322	18151	11691
14	Pa.Kunjilal Dube Marg Nepiar Town	3.38	0.00	3.18	3.18	16156	13928	7146

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15	Malviya Chowk	7.96	0.88	6.76	7.64	37984	33481	21675
16	Russel Chowk	7.96	0.44	4.88	5.32	37984	23310	20482
17	Nagrath Chowk	3.38	0.56	0		16156	0	24830
18	Omati Thana	3.38	0.00	2.78	2.78	16156	12176	43820
19	Bada Fuhara	3.38	0.28	2.23	2.51	16156	11003	9834
20	Lardganj Tiraha	3.38	0.00	0.95	0.95	16156	4146	8565
21	Mal Godam Railway station	7.96	0.88	6.11	6.99	37984	30634	14949
22	Allahabad Bank Chowk	7.96	0.44	5.01	5.45	37984	23880	32391
23	Kanchghar Chowk	5.30	0.44	3.46	3.90	25322	17091	9919
24	Tahasil Chowk /Ambedkar Chowk	3.38	0.56	1.51	2.07	16156	9084	7724
25	Raddi Chowki	7.96	1.77	2.94	4.71	37984	20621	8811
26	GCF CJ Building	3.38	0.56	0		16156	0	7212
27	Gwarighat-1	27.33	1.33	19.22	20.55	130469	89991	122797
	Gwarighat-2							
	Gwarighat-3							
	Gwarighat -4							
28	Gwarighat-5 Near Daroga Ghat	8.69	0.00	3.47	3.47	41478	15199	
29	Rampur Chowk	5.30	0.00	4.23	4.23	25322	18527	115144
30	Medical Colony	7.96	1.33	5.03	6.36	37984	27839	42450
31	Tilwara Ghat	8.20	0.88	20.65	21.53	39148	94319	28324
32	Tripuri Chowk Near gahara thana pass	3.38	0.00	20.65	20.65	16156	90447	59880
33	Dhanatwari Nagar Chowk	3.38	0.00	3.53	3.53	16156	15461	30563
34	Andhamukh School Ke pass	7.00	0.00	6.21	6.21	33400	27200	1272

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35	Gullaua Chowk	3.38	0.28	1.82	2.10	16156	9207	6947
36	Transport Nagar-1	5.08	0.00	4.6	4.60	24234	20148	15048
37	Transport nagar - 2	3.38	1.69	0		16156	0	31222
38	Transport Nagar - 3	3.38	1.69			16156	0	41067
39	Dindayal Chowk	7.96	0.44	5.050	5.49	37984	24055	41069
40	Samata Colony Shanti Nagar	3.38	0.00		0.00	16156	0	7768
41	Bus Stand Z38	7.96	7.96	0		37984	0	31022
42	Kattiyaghat Mini High Mast	1.13	0.00	0.00	0	5385	0	7768
43	Aadhartal Tiraha High mast	7.96	7.96	0		37984	0	117697
		244	37	169	185	1165898	808183	1097298

Annexure-III, Metering Status at switching points

1. Polipathar Zone

Metering Status For Polipathar Zone						
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Remark on Metering	Meter Number as per field data
1	Adarsh Nagar Near Dr. Kumar	44470311-34-91-341824	Bill Received	Meter is found		MEZ01060
2	Adarsh Nagar	44470305-29-91-341940	Bill Received	Meter is found		3589871
3	Ashok Vihar Near Lodhi Samudayak Bhavan	1444700349227	Bill Received	Meter is found		1309432
4	Awanti Vihar	144470058154	Bill Received	Meter is found		3090857
5	Bital Gaeneral Store Ke Pass	44470313-36-92-463036	Bill Received	Meter is found		9808521
6	Brajmohan Nagar Sociey	44470306-21-91-281645	Bill Received	Meter is found	Burnt	965854
7	Chote Hanuman	44470305-29-91-341563	Bill Received	Meter is found		MEZ00882
8	Chungi Naka Rampur, Near Sule Nursing Home	44470305-29-91-441077	Bill Received	Meter is found		MEZ983402
9	Daroga Ghat	44470312-35-91-341903	Bill Received	Meter is found		MEZ00936
10	Durga Nagar Sent Alayasis School	1444700341710.00	Bill Received	Meter is found		5094770
11	Tagore Nagar, Forest Gate	44470311-34-91-341850	Bill Received	Meter Not Found		
12	Jai Bheem Nagar Society	44470306-21-91-548455	Bill Received	Meter is found		9808518
13	Jihari Ghat Station	44470312-35-91-463048	Bill Received	Meter is found		608962
14	Jalahrigaon Narmada Road	44470313-36-92-401511	Bill Received	Meter is found		611088
15	Jogney Nagar Chui Khadan	1444700341812.00	Bill Received	Meter is found		9806697
16	Kalariwala Polipathar	44470312-35-91-341885	Bill Received	Meter is found		3589875
17	Lalpur	1444700341680.00	Bill Received	Meter is found		6909643

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Metering Status For Polipathar Zone						
18	Polipathar Near Homiopathic Aaushadhalaya/MPHBPP Colony	44470312-35-91-9067644	Bill Received	Meter is found		9887566
19	Murddaya Ghat	44470312-35-91-341915	Bill Received	Meter is found		9803399
20	Near Chhapar of Ganesh Yadav	44470305-29-91-341939	Bill Received	Meter is found		3589876
21	Patel Mohalla, Rampur	44470305-29-91-464235	Bill Received	Meter is found		MEZ201173
22	Polipathar Gwarighat Bigbazar	44470311-34-91-341666	Bill Received	Meter Not Found		
23	PWD Colony	1444700349215.00	Bill Received	Meter is found		7624343
24	Ravidas Nagar	44470311-34-91-341794	Bill Received	Meter Not Found		
25	Rewa Colony	44470306-21-91-341836	Bill Received	Meter is found		3588506
26	Santnagar New PP Colony	Direct		Meter Not Found		
27	Sant Shiromani Ashram	44470312-35-91-600763	Bill Received	Meter is found		3588501
28	Satyanand Vihar Garden,Durga Nagar	44470305-29-91-341733	Bill Received	Meter is found		3589870
29	Shankar Nagar Corporation	44470305-29-91-349239	Bill Received	Meter Not Found	Burnt	
30	Sidhanath	44470306-21-91-341952	Bill Received	Meter is found		9803404
31	Vijaynagar Chhapar	44470305-29-91-342257	Bill Received	Meter is found		MEZ00876
32	Jhanda Chowk Gwarighat	44470312-35-91-341551	Bill Received	Meter is found		MEZ00947

2. Bilhari Zone

Metering Status For Bilhari Zone						
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Remark on Metering	Meter Number as per field data
1	Dhobi Ghat Near New Time Telor	342075	Bill Received	Meter not found		
2	Govt. Primary School Kajarwara	342105	Bill Received	Meter found	Burned	611869
3	Janta Medical Hall	342130	Bill Received	Meter not found		
4	Khermai Mandir, Dixit Ata Chakki	341988	Bill Received	Meter not found		
5	Purani Kalahari Ke Piche	342166	Bill Received	Meter not found		
6	Temar Bitra Road	342154	Bill Received	Meter not found		
7	Post Office Gali Ke Andar Vijay Tailor Ke Pass	342129	Bill Received	Meter not found		
8	Shivpuri Kajarwara	342117	Bill Received	Meter not found		
9	Gaur Thane Opp	342002	Bill Received	Meter found		611268
10	Gupta Tent House, Ekta Market, Gauraiya Ghat	342014	Bill Received	Meter found		611279
11	Durga Mandir Kajarwara		Bill Not Received	Meter found		

3. Ranjhi Zone

Metering Status For Ranjhi Zone						
Sr. No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Remark on Metering	Meter Number as per field data
1	75 H Bhagat Singh Ward	44420301-2-98-53752	Bill Received	Meter is found		MPE 89973
2	72-G Infront Of Akansha Silai Center	44420301-2-98-53740	Bill Received	Meter is not found		
3	Chandan Colony	44420302-3-98-339209	Bill Received	Meter is found		18421
4	Gokalpur Marghatai	44420303-1-98-73623	Bill Received	Meter is found		30880414
5	Main Road Gokalpur	44420303-1-98-51780	Bill Received	Meter is found		MEZ 35203
6	Mastana Chowk Ranjhi	44420302-3-98-51860	Bill Received	Meter is found		MPE 35205
7	Major Kirana Store Ganesh Ganj	2198/123638	Bill Received	Meter is found		MPE 35201
8	Merghatai Road ,Khairmai Mandir	44420301-2-98-54252	Bill Received	Meter is found		MPB90675
9	Police Thana	44420302-3-98-129112	Bill Received	Meter is found		MPE 35202
10	Raksha nagar New		Bill Not Received	Meter is found		18680
11	Raksha nagar Colony	44420301-2-98-80639	Bill Received	Meter is not found		
12	Ranjhi Bazar Colony	44420302-3-98-272310	Bill Received	Meter is found		3580076
13	Ravan Park Ranjhi	44420302-3-98-51895	Bill Received	Meter is found		MEZ 984
14	Shanti Nagar Ranghi (S-29)	44420301-2-98-152870	Bill Not Received	Meter is found		2539833
15	Sharda Nagar Ranghi (S-1)	44420301-2-98-53739	Bill Received	Meter is found		17223
16	Neutral Garden Ranghi/Sharda Nagar Park	44420301-2-98-336750	Bill Received	Meter is not found		
17	Uday Nagar	44420303-1-98-51792	Bill Received	Meter is not found		
18	Uday Nagar - 3,(E29)		Bill Not Received	Meter is not found		

4. Garha Zone

Metering Status For Garha Zone						
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Remark on Metering	Meter Number as per field data
1	Amanpur Nursing ward	344679	Bill Received	Meter found		MEZ02561
2	Bedi Nagar Near Gurudwara Area & Central lighting	44470214-33-93-488306	Bill Received	Meter Not Found		
3	Bedi nagar	44470214-33-93-462329	Bill Received	Meter found		MEZ01010
4	Brajmohan nagar supatal	344473	Bill Received	Meter found		MEZ02700
5	Choti bagariya shree ram mandir ke samne		Bill Not Received	Meter Not found		
6	Dargah Road		Bill Not Received	Meter Not found		
7	Devtal Ayodayapuri	469518	Bill Received	Meter found		MEZ00919
8	Ekta chowk		Bill Not Received	Meter found		MEZ201021
9	Ganga Sagar	39-93-344539	Bill Received	Meter found		MEZ02734
10	Garha Bazar masjid ke pass	44470201-17-93-344461	Bill Received	Meter found		MPB90341
11	Near of Gullah Chouraha	344655	Bill Received	Meter found		MEZ00932
12	Gupteshwar Near Babbu Vidhayak House	402217	Bill Received			
13	HP Petrol Pump Sharda Chowk	44470201-17-93-544530	Bill Received	Meter found		MEZ01084
14	Indira nagar		Bill Not Received	Meter Not found		
15	In Front Of Dr. Loth Hospital	44470214-33-93-469520	Bill Received	Meter found		MEZ01005
16	In front of Triveni Complex LIC Chowk	44470214-33-93-469531	Bill Received	Meter found		MEZ00950
17	Kachpura Overbridge	344618	Bill Received	Meter found		MEZ00084
18	Khudabaksh Garha Bazar	544681	Bill Received	Meter Not found		
19	Kripal Chowk	344540	Bill Received	Meter found		MEZ01148

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Metering Status For Garha Zone						
20	LIC Office	544670	Bill Received	Meter found		MEZ00970
21	Main Road Ratan Nagar	44470206-23-93-384460	Bill Received	Meter found		3077106
22	Near Bank Of Maharastra Gautam Madhia	4470204-20-92-344515	Bill Not Received	Meter Not Found		
23	Near Geological Survey Of India	344576	Bill Received	Meter found		MEZ01043
24	Near H.K. Engg. Work	344552	Bill Received	Meter found		MEZ00916
25	Near Supatal Sulabh Complex	344448	Bill Received	Meter found		MEZ01106
26	Panday Vyas Chowk	402205	Bill Received	Meter found		16462
27	Pishanhari Ki Madiya	44470211-31-92-368702	Bill Not Received	Meter found		954855
28	Ranidurgavati		Bill Not Received	Meter found		MEZ01051
29	Ratan Nagar Gupteshwar	44470206-23-93-344485	Bill Received	Meter Not Found		
30	Sanjivani Nagar Beside Rly Track	44470204-20-92-344588	Bill Received	Meter Not Found		
31	Sainik Society	44470218-40-93-344527	Bill Received	Meter found		MEZ00926
32	Shakti Nagar Chowk	344680	Bill Received	Meter found		MEZ02721
33	Shakti Nagar Shree Sai Palace Barat Ghar	384458	Bill Received	Meter found		MEZ01054
34	Sharda Mandir Road	4470214-33-93-344643	Bill Received	Meter Not found		
35	Shukla Nagar		Bill Not Received	Meter found		3238628
36	Subhash Chowk Shakti Nagar	344692	Bill Received	Meter found		MEZ01022
37	Supatal Talab	436902	Bill Received	Meter found		MEZ01030

5. Indramarket Zone

Metering Status For Indramarket Zone						
Sr. No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Remark on Metering	Meter number as per field data
1	Adarsh Nursing Home	44420208-21-94-70440	Bill Received	Meter is Found		MPB90044
2	Allahabad Bank Chowk	44420105-9-98-70816	Bill Received	Meter is Found		MPB90345
3	Bai Ka Bagicha Nandani Foundation	44420104-8-94-71377	Bill Received	Meter is Found		MPB90403
4	Baldi Kori Ki Dafai	44420107-12-94-70725	Bill Received	Meter is Found		MPB90685
5	Besides Kotawali	44420201-13-94-71122	Bill Received	Meter is Found		MPB90045
6	Bhawani Chowk Sidh Baba Road	44420203-17-94-70385	Bill Received	Meter is Found		MPB90623
7	Bohara Bag Chowk	44420205-19-94-70439	Bill Received	Meter is Found		90622
8	Chandmari Talaiya Near Durga Mandir	44420107-12-94-70713	Bill Received	Meter is Found		MPB90217
9	CharKhabha	44420208-21-94-70452	Bill Received	Meter is Found		MPB89972
10	Choti Madar Tekari	44420205-19-94-70464	Bill Received	Meter is Not Found		
11	Chui Khadan	44420106-10-94-71353	Bill Received	Meter is Found	Meter is burned.	9139260
12	Civil Line, Near police station		Bill Not Received	Meter is Not Found	Not Connected	
13	Civil Lines Thana		Bill Not Received	Meter is Not Found		
14	Deepak dairy sidbaba road,hanuman hotel.	44420203-17-94-70373	Bill Not Received	Meter is Found		MPB90581
15	Ekta Transport Services, Sanjivani Hospital	44420205-19-94-70488	Bill Received	Meter is Found		MPB90029
16	Ghamapur Chowk , Arvind ward	44420201-13-94-71092	Bill Received	Meter is Found		MPB90598
17	Gopal Hotel	44420107-12-94-70701	Bill Received	Meter is Found		MPB90060
18	Haddi Godam	70415	Bill Received	Meter is Found		MPB90385
19	Hanumantal Thana Ke Pass	44420202-16-94-71080	Bill Received	Meter is Found		MPE58441
20	In Front of Agrawal Traders	44420102-6-94-358228	Bill Received	Meter is Found		3855388

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Metering Status For Indramarket Zone						
21	Inside Galagala Shiv mandir	44420206-20-94-70658	Bill Received	Meter is Found		MEZ00001
22	Kachghar Chowk	44420107-12-94-70683	Bill Received	Meter is Found		MEZ01425
23	Futhatal Mazar Ke Samne , L/148	44420201-13-94-71110	Bill Received	Meter is Found		MPB90353
24	Lohia Pool	44420102-6-94-159487	Bill Not Received	Meter is Found	Meter is CT Type and Name Plate is Not found	
25	Lohia Ward	44420102-7-0841	Bill Not Received	Meter is Found		18462
26	Mominpura Talaiya	44420208-21-94-310724	Bill Received	Meter is Found		MPE37496
27	Mothi Nalla	44420208-21-94-70476	Bill Received	Meter is Found		MPB90638
28	Near Bridge No 1	44420209-26-94-70646	Bill Received	Meter is Found		3847473
29	Near Empire Talkies	44420105-9-94-70853	Bill Received	Meter is Found		MEZ00014
30	Near IPS Office		Bill Not Received	Meter is Not Found		
31	Near Kharmai Gate	44420202-16-94-71079	Bill Received	Meter is Found		MPB90384
32	Near Maulana Abdul Kalam Ward Gate,Rajja Chowk	44420207-15-94-70348	Bill Received	Meter is Found		MPB90097
33	Near RTO Office	44420109-23-98-190317	Bill Received	Meter is Found		3238094
34	16 Quarter Thkkargram	70324	Bill Received	Meter is Found		MPB90086
35	Sathiya Kuva	44420201-13-94-71109	Bill Received	Meter is Found		MEZ00123
36	Science College	44420111-25-94-71043	Bill Received	Meter is Found		9139000
37	Shiv Mandir, Kadam Taliya	44420206-20-94-70671	Bill Received	Meter is Found	Not Working	MPB90682
38	Tahasil Chowk		Bill Not Received	Meter is Not Found	Burned	
39	Thakur Electronic Kachghar Colony	44420107-12-94-71389	Bill Received	Meter is Found		MPB90047
40	Vyoharbagh Central Lighting		Bill Not Received	Meter is Not Found	Not Connected	

6. Mission Compound Zone

Metering Status For Mission Compound Zone						
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Remark on Metering	Meter Number as per field data
1	Bada Fuhara	44505106-1-97-100171	Bill Received	Meter is found		MPB90683
2	Baldev Bag Agrawal Petrol Pump Ke Samne	44505103-61-97-100183	Bill Received	Meter is found		MPB90141
3	Golbazar Near Ranital Chowk	44505107-18-97-100237	Bill Received	Meter is found		MPB90644
4	Gopal Vihar Colony	44505101-6-99-150022	Bill Received	Meter is found		MPB34913
5	Gurunanak School & College Karamchand Chowk	44505204-14-98-242720	Bill Received	Meter is found		30726976
6	Karamchand Chowk Near Baglai Culb	44505301-10-99-100468	Bill Received	Meter is found		MEZ00201
7	Kotwali Thana	44505309-23-99-100481	Bill Received	Meter is found		MEZ01579
8	Madhavtal Yatayat Thana	44505301-10-98-179279	Bill Received	Meter is found		MPE34964
9	Milauniganj Chowk		Bill Received			
10	Mission Compound Chouraha	44505302-13-98-100407	Bill Received	Meter is found		MEZ00172
11	Near Gohalpur Thana	44505304-12-99-100493	Bill Received	Meter is found		MEZ01090
12	Near Kachyaana Chowk	44505107-18-97-150769	Bill Received	Meter is found		MPZ01829
13	Russel Chowk Near State Bank of Patiala	44505307-20-98-100286	Bill Received	Meter is found		MEZ01080
14	Russel Chowk Opposite Anmol Auto Mobiles		Bill Not Received			15971
15	Shastri Bridge ICICI Bank	44505307-20-98-100420	Bill Received	Meter is found		MEZ00041
16	Telegraph gate no.2	44505102-4-99-100262	Bill Not Received	Meter is found		MEZ01196

7. Gorakhpur Zone

Metering Status For Gorakhpur Zone						
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Remark on Metering	Meter Number as per field data
1	Ambey Traders Shethi Nagar	44505203-9-28-309783	Bill Received	Meter is found	Working	3588487
2	Anand Enterprises Choti Lines Fatak	44505203-9-99-323688	Bill Received	Meter is not found		
3	Madan Mahal BSNL Office Ke Pass	44505202-7-99-292436	Bill Received	Meter is found	Working	MPB90693
4	Esai Mohalla Chowk	44505202-7-99-100614	Bill Received	Meter is found	Working	MPB90637
5	Employment Office	44505203-9-25-100699	Bill Received	Meter is found	Working	MPB90307
6	Ghantaghar Omati Thana Ke Samne	44505206-24-99-100559	Bill Received	Meter is found	Working	MPB90701
7	J.K.Complex Gorakhpur	44505205-17-99-100640	Bill Received	Meter is found	Working	MPB90071
8	Katanga Tiraha	44505205-17-99-418079	Bill Received	Meter is found	Working	MPB90584
9	Madan Mahal Thana	44505201100584.00	Bill Received	Meter is found	Working	MEZ02729
10	Navbhrat Press(Near of santnavent motor mitra)	44505307-20-98-100419	Bill Received	Meter is found	Working	MEZ01111
11	Near BPCL Petrol Pump Medical Road,Main Bus Stand	44505201-16-98-408852	Bill Received	Meter is found	Working	14910
12	Near Narmada Traders	44505203-9-25-100729	Bill Received	Meter is found	Working	MPB90091
13	Near Shri Guru Tegh Bahadur Khalsa College	44505202-7-99-227547	Bill Received	Meter is found	Working	MPB90018
14	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	44505202-7-99-100602	Bill Received	Meter is found	Working	MPB90020
15	Rishi Vihar Colony	44505207-21-98-169018	Bill Received	Meter is found	Working	MPB90218
16	Saluja Tyres Madhotal Road	44505201-16-99-100560	Bill Received	Meter is found	Working	MPB90078
17	Santosh Garage	44505202-7-99-100596	Bill Received	Meter is found	Working	MPB90661
18	Teenpatti Chauraha	44505204-14-99-100547	Bill Received	Meter is found	Working	MPB90011
19	Wright Town Pankaj Palace	44505201-16-99-183519	Bill Received	Meter is found	Working	MPE35164

8. Purva Zone

Metering Status For Purva Zone						
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Remark on Metering	Meter Number as per field data
1	Baznamath Mandir Road	44470208-25-91-368696	Bill Received	Meter is found	Working	5042053
2	Bhairav Baba Road		Bill not Received			
3	Shastri Nagar Sai Mandir Ke Samne/Bhairav Nagar Bada Pathar	44470208-25-91-744750	Bill Received	Meter is found	Working	3708988
4	Bhairav Nagar Near Sub Station MPEB Purva		Bill not Received	Meter is not found		
5	Bhukamp Colony	44470216-38-91-368660	Bill Received	Meter is found	Working	3236859
6	Devtal Main Road, Sharn Park	44470212-32-91-344564	Bill Received	Meter is found	Working	5810350
7	Dr.Colony-I, Type Medical Quarter Ke Samne	44470201-17-93-469518	Bill Received	Meter is not found		
8	Ganga Nagar Road	44470207-24-91-368593	Bill Received	Meter is found	Working	MPE98121
9	Garha Thana , Near Medical College		Bill Not Received	Meter found		3588178
10	Gupta Nagar		Bill Not Received	Meter is not found		
11	LIG Colony,Near Akarshan Beauty parlor		Bill Not Received	Meter is not found		
12	Lodhi Mohalla Shastri Nagar		Bill Not Received	Meter Not found		
13	Medical Colony (Dr.Colony)		Bill Not Received	Meter is found	Working	16729
14	Near Gyanganga College	44470208-25-91-742867	Bill Received	Meter is found	Working	3708987
15	Near Hotel Maruti Mandapam	44470212-32-91-584873	Bill Received	Meter is not found		
16	Near Jain Mandir		Bill Not Received	Meter found		3588180
17	Near of Jasuja City	44470215-37-92-725171	Bill Received	Meter is found	Working	3580222
18	Near Kangi House (Chungi Naka)		Bill Not Received	Meter is not found		

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Metering Status For Purva Zone						
19	Near Shahi Naka	44470205-22-93-344590	Bill Received	Meter is found	Working	MPB90440
20	Near Samudayak Bhawan	44470215--37-91-368570	Bill Received	Meter is found	Working	992757
21	Near Water Tank Tripura Chowk	44470211-31-92-549721	Bill Received	Meter is found	Working	3587943
22	Neharu Nagar Near Apex Hospital	44470211-31-92-272462	Bill Received	Meter is found	Disconnected	3589123
23	Paraswada Colony		Bill Not Received	Meter is found	Working	3589123
24	Rajul City		Bill Not Received	Meter is not found		
25	Ram Nagar - 1		Bill Not Received	Meter is not found		
26	Ram Nagar-2		Bill Not Received	Meter is found	Working	16729
27	Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra	44470208-25-91-742880	Bill Received	Meter is found	Meter is burn	
28	Sagda Sai Mandir		Bill Not Received	Meter is not found		
29	Sagar Colony	44470216-38-92-644055	Bill Received	Meter is found	Working	9922651
30	Sai Colony		Bill Not Received	Meter is found	Working	182676
31	Shahnala	44470208-25-91-368684	Bill Received	Meter is found	Not Working	517465
32	Shastri Nagar Chouraha I	44470208-25-91-368635	Bill Received	Meter is not found		
33	Shastri Nagar-2		Bill Not Received	Meter is not found	Working	
34	Tilwara Ghat Road	444-70208-25-91-368532	Bill Received	Meter is found	Working	3388173
35	Tripuri Chowk	44470211-31-92-368714	Bill Received	Meter is not found	Working	

9. Adharta Zone

Metering Status For Adharta Zone						
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Remark on Meter	Meter Number as per field data
1	Adharta Tiraha	44470102-7-93-352159	Bill Received	Meter Not Found		
2	Gaji Nagar	44470111-47-91-825372	Bill Received	Meter Not Found		
3	Chokse Hotel (New Kanchanpur)	44470102-7-93-665836	Bill Received	Meter Not Found		
4	Ram Nagar (New R-11)		Bill Not Received	Meter Not Found		
5	Afak Bekari Makka Nagar Gali no-3		Bill Not Received	Meter Not Found		
6	Agrawal Kirana Store Shankar Chowk	44470104-9-90-352123	Bill Received	Meter Found		MPB90708
7	Anand Nagar, Near Dr Ansari Clinic	44470101-6-91-505535	Bill Received	Meter Found		3077277
8	Dr Ambedkar Colony	44470102-7-93-663463	Bill Received	Meter Not Found		
9	G. C. F. Colony	44470111-47-91-352330	Bill Received	Meter Not Found		
10	Gandhi Chowk Katra, Near Vishwkarma Electric	44470101-6-91-352100	Bill Received	Meter Not Found		
11	Gayatri Nagar		Bill Not Received	Meter Not Found		
12	Hotel, Near Sulemani masjid , Rajja chowk		Bill Not Received	Meter Not Found		
13	Housing Board in Pump House		Bill Not Received	Meter Not Found		
14	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass		Bill Not Received	Meter Found	Not Working	6979048
15	Industrial Area Near Power House	44470104-9-90-352251	Bill Received	Meter Not Found	Meter Disconnected	
16	Jawahar Nagar , Hussain Masjid	44470102-7-93-663554	Bill Received	Direct Poles		
17	Katra Sabji Mandi		Bill Not Received	Meter Found		MPB90534
18	Main Road Adharta Near Nilesh Computer	44470101-6-91-505547	Bill Received	Meter Found		3077282
19	Shankar Mandir Neharu Nagar		Bill Not Received	Meter Not Found		

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Metering Status For Aadhartal Zone						
20	New Ramnagar NR5	44470111-47-91-448485	Bill Received	Meter Not Found		
21	New Ram Nagar NR/10/5		Bill Not Received	Meter Not Found		
22	Old Kanchanpur Samudayik Bhavan		Bill Not Received	Meter Not Found		
23	Pandey Gas Agency	44470110-16-90-352214	Bill Received	Meter Not Found		
24	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	44470102-7-93-352342	Bill Received	Meter Not Found	Burnt	
25	Rain Baysara, Anand Nagar	44470102-7-93-352329	Bill Received	Meter Not Found		
26	Sanjay Nagar Industrial Arya Chand Mari Road		Bill Not Received	Meter Not Found		
27	Sanjay Nagar		Bill Not Received	Meter Found		MPB89977
28	SBI ATM New Kanchanpur		Bill Not Received	Meter Found		MPB90443
29	Sharda Colony New Kanchanpur		Bill Not Received	Meter Found		90510
30	Shobapur Railway Fatak	44470104-9-90-352263	Bill Received	Meter Found		MPE00231
31	Vivek Colony			Meter Found		5048235
32	Xlean Bharat Gas Agency	44470101-6-91-505523	Bill Received	Meter Found		3077087
33	Zenda Chowk J.P. Nagar	44470111-47-91-665782	Bill Received	Meter Not Found		

10. Vijay Nagar

Metering Status For Vijay Nagar						
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Remark on Metering	Meter Number as per field data
1	Agrawal Madpump		Bill Not received	Meter not found		
2	Amkhera Sanjay Telecom	44470109-15-98-352275	Bill Received	Meter found		MPZ00983
3	Basti No-1 Amarkhera Gohalapur	44470109-15-98-406089	Bill Received	Meter found		MPZ00954
4	Central Lighting Works,Kamla Nehru Nagar,Near Mobile Shopee	44505102-4-99-411565	Bill Received	Meter found		9199249
5	Central Street Light Ranital	44505102-4-99-398901	Bill Received	Meter found		3713648
6	Damuh Naka Chowk Z33 & Near Damoh Naka Chowk	44505305-15-99-100500	Bill Received	Meter found		78756
7	Dindoyal Chowk		Bill not received	Meter found		LEZ00961
8	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha		Bill not received	Meter found	Meter found in burn condition	
9	Dr.Atul Sharma		Bill not received	Meter not found		
10	Global Hospital Ukhaari		Bill not received	Meter found		MEZ00922
11	Green City		Bill not received	Meter found		MPB-308534
12	Hat Bajar		Bill not received	Meter found	Meter found not worked.	MP472135
13	ITI Near Swastik Hospital	44470112-45-98-894874	Bill Received	Meter found		16521
14	Jain Mandir Mather Theresa		Bill not received	Meter found		8989265
15	Jankey Nagar	44470116-44-98-352299	Bill Received	Meter found		MEZ008811
16	Kasodhan Colony Green City	44470113-48-98-581227	Bill Received	Meter not found		
17	Labour Chowk	44505104-3-99-100274	Bill Received	Meter not found		
18	Mandi Area In Front of Baba Sai Clinic		Bill not received	Meter found		16662

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Metering Status For Vijay Nagar						
19	Near Rose Beauty salon Ekta Tilhara		Bill not received	Meter not found		
20	Om Enterprises		Bill not received	Meter not found		
21	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk		Bill not received	Meter not found		
22	Pili Building Ke Samne Near Deligh Mariage.Com	44505105-2-99-446786	Bill Received	Meter found		9138464
23	BH/08 Pushp Nagar	44505102310372	Bill Received	Meter not found		
24	Sarvaday Nagar	44505102-4-99-356104	Bill Received	Meter found		17209
25	Shanti Nagar	44505308-22-99-149974	Bill Received	Meter found		MPE34815
26	Sneha Nagar Jayaswal Treders	44505104-3-99-97962	Bill Received	Meter not found		
27	Trimurti Nagar Madhotal	44470113-48-98-352202	Bill Received	Meter found		MEZ1197
28	Varsa Kirana Store	44470116-44-98-352172	Bill Received	Meter not found		
29	Shiv Nagar Near APT Machine	44505105100225	Bill Received	Meter not found		
30	Damoha Naka Road	44505105-2-95-100213	Bill Received	Meter found		MPB90695
31	Chota Fuhara Chowk	44505305-15-99-100511	Bill Received	Meter not found		
32	DR.Vijay Jain	44470114-43-98-352184	Bill Received	Meter found		MEZ00948
33	Hat Bazar	44470112-45-98-539855	Bill Received	Meter not found		
34	Namdav Brother Ke Pass S.B.I. Colony	44470112-45-98-352240	Bill Received	Meter found		MEZ01178
35	Rameshvaram Colony		Bill not received	Meter not found		
36	ITI Madital	44470112-45-98-352196	Bill Received	Meter not found		
37	Sagam Colony		Bill not received	Meter not found		
38	Thana Vijay Nagar		Bill not received	Meter not found		

Metering Status For Vijay Nagar						
39	P.No.66 Tulsi Nagar	44505105-2-95-174762	Bill Received	Meter found		MPE35120
40	Union Bank Ke Pass		Bill not received	Meter found		3848590
41	Yadav Colony	44505102-4-97-100250	Bill Received	Meter found		MPB 90602
42	Yadav Colony	44505102-4-97-129884	Bill Received	Meter found		MPB 90702
43	Disha Sanchi Corner		Bill not received	Meter found	Meter found in burn condition	
44	Lal bahadur Shastri Colony	44470113-48-98-586675	Bill Received	Meter not found		

11. Highmast

Metering Status For High Mast					
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data
Ranji Zone					
1	Adarsh Market Ranji	4442030251949	Bill Received	Meter is found	3580238
2	Ranji Badapathar	4442030153764	Bill Received	Meter is not found	
3	Ranji Near Bappa Swaets		Bill Not Received	Meter is not found	
4	Vehicle Mode Ranji	4442030251901	Bill Received	Meter is found	3580237
5	Sharda Nagar Park		Bill Not Received	Meter is found	3772550
6	Near Saraswati School Rajhi		Bill Not Received	Meter is not found	
Gorakhpur Zone					
7	Katanga Tiraha Near Kundan Jewellers	44505205-17-97-100663	Bill Received	Meter is found	9199217
8	Main Bus Stand	44505201-16-99-100572	Bill Received	Meter is found	13789
9	Rajiv Gandhi chowk	44505204-14-97-100523	Bill Received	Meter is found	9199109
10	Chothi Lines Fathak Gorakpur	44505203100687	Bill Received	Meter is not found	
11	Madan Mahal	44505202100675	Bill Received	Meter is not found	
Mission Compound Zone					
12	Baburao Paranjpe Near Ranital Gate No.2	44505306-19-98-290520	Bill Received	Meter is found	3235837
13	Pa.Kunjilal Dube Marg Nepiar Town		Bill Not Received	Meter is not found	9199010
14	Malviya Chowk	44505301-10-99-100470	Bill Received	Meter is found	MPE54097
15	Russel Chowk	44505307-20-98-100432	Bill Received	Meter is found	9199138

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Metering Status For High Mast					
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data
16	Nagrath Chowk		Bill Not Received	Meter is found	3843068
17	Omati Thana	44505307-20-98-979790	Bill Received	Meter is found	1103421
18	Bada Fuhara	44505106100201	Bill Received	Meter is found	3235045
19	Lardganj Tiraha		Bill Received	Meter is found	3708696
Indramarket Zone					
20	Mal Godam Railway station	44420209-26-94-70610	Bill Received	Meter is found	3238804
21	Allahabad Bank Chowk	44420110-24-94-70828	Bill Received	Meter is found	
22	Kanchghar Chowk	44420107-12-94-70660	Bill Received	Meter is not found	9233872
23	Tahasil Chowk /Ambedkar Chowk	4442020934617	Bill Received	Meter is not found	3589644
24	Ghamapur Chowk		Bill Not Received	Meter is not found	
25	Raddi Chowki	4442020573957	Bill Received	Meter is not found	
26	Collectorate Chowk High Court		Bill Not Received	Meter is not found	
Polipathhar Zone					
27	Gwarighat-1	44470312-35-91-442628	Bill Received	Meter is found	3588502
28	Gwarighat-2				
29	Gwarighat-3				
30	Gwarighat -4				
31	Gwarighat-5 Near Daroga Ghat		Bill Not Received	Meter is found	
32	Jilahari Ghat Ke Pass		Bill Not Received	Meter is not found	

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Metering Status For High Mast					
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data
33	Rampur Chowk		Bill Not Received	Meter is found	3712830
Purva Zone					
34	Medical Colony		Bill Not Received	Meter is found	967999
35	Tilwara Ghat	44470208-25-91-789409	Bill Received	Meter is found	3772426
36	Tripuri Chowk Near gahara thana pass	44470211-31-92-368714	Bill Received	Meter is found	3587858
37	Dhanatwari Nagar Chowk	44470215-37-91-368726	Bill Received	Meter is found	3587945
38	Andhamukh School Ke pass		Bill Not Received	Meter is found	3581400
Garha Zone					
39	Gullaua Chowk	44470204-20-92-344606	Bill Received	Meter is found	30291246
Vijay nagar Zone					
40	Transport Nagar-1		Bill Received	Meter is not found	
41	Transport nagar - 2		Bill Not Received	Meter is not found	
42	Transport Nagar -3		Bill Not Received	Meter is not found	
43	Dindayal Chowk	4447-0112352317	Bill Received	Meter is found	3239058
44	Samata Colony Shanti Nagar		Bill Not Received	Meter is found	17717
45	GCF CJ Building		Bill Not Received	Meter is found	3708623
Aadhartal Zone					
46	Aadhartal Tiraha High mast		Bill Not Received	Meter is found	

Annexure-IV, Detailed Power Measurements at 9 nos Switching Point during Night Time

□ Study of Power Parameter and Harmonics Measurements at Dr. Kumar Switching Point

Data logging is carried out for different power parameters like voltage, current, PF, kW, Current unbalance, Voltage unbalance, THD, etc. and tabulated as under:

Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
03-Apr-14	8:08:00 PM	49.92	404.9	407.5	408.9	43.29	34.84	0.47	9.83	8.05	0.08	17.96	0.879
03-Apr-14	8:10:00 PM	49.97	405.3	407.9	409.6	43.33	34.86	0.46	9.84	8.02	0.08	17.94	0.88
03-Apr-14	8:12:00 PM	50	405.6	408.3	409.9	43.37	34.86	0.45	9.86	8.03	0.07	17.96	0.882
03-Apr-14	8:14:00 PM	50.01	406.6	409.1	410.7	43.52	35.03	0.45	9.91	8.09	0.07	18.08	0.88
03-Apr-14	8:16:00 PM	50.02	406.5	408.8	410.6	43.57	34.5	0.45	9.92	7.96	0.07	17.95	0.878
03-Apr-14	8:18:00 PM	50.02	406.4	409.2	411.3	43.56	34.18	0.43	9.92	7.89	0.07	17.89	0.873
03-Apr-14	8:20:00 PM	50.03	406.4	409.6	411.2	43.63	35.2	0.43	9.94	8.13	0.07	18.14	0.882
03-Apr-14	8:22:00 PM	49.99	406.5	409.6	411	43.63	35.03	0.43	9.94	8.09	0.07	18.10	0.885
03-Apr-14	8:24:00 PM	49.96	406.5	409.5	410.8	44.12	34.97	0.44	10.05	8.08	0.07	18.20	0.883
03-Apr-14	8:26:00 PM	49.83	405.5	408.5	409.6	43.89	34.83	0.43	9.96	8.03	0.07	18.06	0.883
03-Apr-14	8:28:00 PM	49.82	405.9	408.7	410	43.9	34.75	0.44	9.98	8.01	0.07	18.06	0.883
03-Apr-14	8:30:00 PM	49.87	406.3	408.8	409.8	43.86	34.61	0.45	9.97	7.99	0.07	18.03	0.883
03-Apr-14	8:32:00 PM	49.96	407	409.2	410.4	43.84	34.66	0.45	9.98	8.01	0.08	18.07	0.885
03-Apr-14	8:34:00 PM	50.06	407.7	409.5	410.8	43.85	34.65	0.45	10.00	8.02	0.08	18.10	0.885
03-Apr-14	8:36:00 PM	50.06	407.3	409.1	410.4	43.65	34.69	0.44	9.95	8.02	0.08	18.05	0.888
03-Apr-14	8:38:00 PM	49.96	407.2	408.8	410.2	43.91	34.03	0.45	10.01	7.87	0.07	17.95	0.881
03-Apr-14	8:40:00 PM	49.91	406.7	408.3	409.6	43.78	35.13	0.44	9.96	8.11	0.08	18.15	0.887
03-Apr-14	8:42:00 PM	49.94	406.9	408.3	409.8	43.72	34.77	0.45	9.95	8.03	0.07	18.05	0.883
03-Apr-14	8:44:00 PM	49.97	407	408.7	410	43.77	34.82	0.44	9.97	8.04	0.07	18.08	0.884
03-Apr-14	8:46:00 PM	49.97	406.9	409.2	410.1	43.93	34.64	0.44	9.99	8.01	0.08	18.08	0.888
03-Apr-14	8:48:00 PM	49.94	407.1	409.1	409.8	43.96	34.42	0.45	10.00	7.96	0.08	18.04	0.888
03-Apr-14	8:50:00 PM	49.93	407.2	409.4	409.8	44	34.45	0.44	10.01	7.98	0.08	18.06	0.89
03-Apr-14	8:52:00 PM	49.95	407.6	409.6	410	43.85	34.83	0.44	9.99	8.06	0.07	18.13	0.886

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Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
03-Apr-14	8:54:00 PM	49.95	408.1	409.7	410	43.75	34.85	0.45	9.97	8.08	0.08	18.12	0.886
03-Apr-14	8:56:00 PM	49.87	407.4	409	409.4	43.92	34.81	0.45	9.99	8.05	0.08	18.12	0.886
03-Apr-14	8:58:00 PM	49.82	407.3	409	409.2	44.01	34.81	0.44	10.01	8.05	0.07	18.14	0.887
03-Apr-14	9:00:00 PM	49.74	407.2	408.5	409	44.04	34.86	0.44	10.02	8.06	0.07	18.15	0.885
03-Apr-14	9:02:00 PM	49.76	407.1	408.6	409.1	43.99	34.74	0.44	10.01	8.03	0.07	18.11	0.883
03-Apr-14	9:04:00 PM	49.83	407.3	409	409.6	43.93	34.7	0.43	10.00	8.03	0.07	18.10	0.884
03-Apr-14	9:06:00 PM	49.89	407.5	409.4	410.1	43.95	34.6	0.43	10.01	8.01	0.07	18.09	0.884
03-Apr-14	9:08:00 PM	49.94	407.5	409.8	409.8	44.01	34.5	0.43	10.01	7.99	0.07	18.08	0.889
03-Apr-14	9:10:00 PM	49.89	407	409.9	409.8	44.04	34.61	0.42	10.01	8.01	0.07	18.09	0.887
03-Apr-14	9:12:00 PM	49.85	407.3	409.7	410.6	44.05	34.65	0.42	10.03	8.02	0.07	18.12	0.881
03-Apr-14	9:14:00 PM	49.88	407.9	409.7	411.2	43.98	34.85	0.41	10.04	8.07	0.07	18.18	0.877
03-Apr-14	9:16:00 PM	49.89	408.1	410.1	411.8	43.93	35.04	0.42	10.04	8.11	0.07	18.22	0.874
03-Apr-14	9:18:00 PM	49.93	408.6	410.2	411.5	43.9	34.88	0.42	10.03	8.09	0.07	18.19	0.876
03-Apr-14	9:20:00 PM	50	409.2	410.5	411.8	43.81	34.92	0.42	10.03	8.11	0.07	18.20	0.876
03-Apr-14	9:22:00 PM	50.04	409.5	410.8	412.2	43.8	35.05	0.42	10.04	8.14	0.07	18.25	0.878
03-Apr-14	9:24:00 PM	50.02	409.7	410.5	412.1	43.81	35.04	0.43	10.05	8.14	0.07	18.25	0.878
03-Apr-14	9:26:00 PM	49.98	409.4	410.7	412	43.95	34.86	0.43	10.07	8.10	0.07	18.23	0.882
03-Apr-14	9:28:00 PM	49.98	409.1	410.4	411.5	43.94	34.72	0.43	10.05	8.06	0.07	18.18	0.886
03-Apr-14	9:30:00 PM	49.99	408.8	410.9	411	44.02	34.77	0.43	10.05	8.08	0.07	18.20	0.888
03-Apr-14	9:32:00 PM	50.02	408.9	410.6	410.5	43.95	34.68	0.42	10.03	8.05	0.07	18.16	0.889
03-Apr-14	9:34:00 PM	50.05	409.2	410.5	411	43.88	34.53	0.43	10.03	8.02	0.07	18.12	0.89
03-Apr-14	9:36:00 PM	50.03	409.4	410.7	410.7	43.98	34.47	0.44	10.05	8.01	0.08	18.14	0.892
03-Apr-14	9:38:00 PM	50.01	409.1	410.4	409.6	43.95	34.31	0.44	10.01	7.98	0.08	18.07	0.898
03-Apr-14	9:40:00 PM	49.97	409.1	410.1	410.3	43.85	33.7	0.44	10.01	7.83	0.07	17.92	0.889
03-Apr-14	9:42:00 PM	49.97	408.9	409.6	410.6	43.72	35.01	0.43	9.98	8.12	0.07	18.18	0.888
03-Apr-14	9:44:00 PM	50.03	408.6	409.5	410.1	43.6	34.52	0.43	9.95	8.00	0.07	18.02	0.89
03-Apr-14	9:46:00 PM	50.03	408.5	409.4	410.1	43.57	34.37	0.44	9.93	7.97	0.07	17.97	0.886
03-Apr-14	9:48:00 PM	50.06	408.7	410	409.9	43.55	34.28	0.44	9.92	7.96	0.08	17.95	0.891
03-Apr-14	9:50:00 PM	50.06	408.4	409.7	410.5	43.45	33.39	0.43	9.91	7.74	0.07	17.72	0.883
03-Apr-14	9:52:00 PM	50.01	407.8	409.1	409.3	43.54	34.36	0.44	9.90	7.95	0.08	17.93	0.892

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Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
03-Apr-14	9:54:00 PM	49.94	406.8	408.2	408.3	43.45	34.12	0.43	9.86	7.88	0.08	17.81	0.892
03-Apr-14	9:56:00 PM	49.83	405.3	406.8	407.4	43.22	34.27	0.43	9.78	7.89	0.07	17.73	0.889
03-Apr-14	9:58:00 PM	49.74	404.7	405.4	406.3	43.14	33.54	0.43	9.74	7.70	0.07	17.52	0.887
03-Apr-14	10:00:00 PM	49.65	403.8	404.7	405.7	43.16	34.13	0.42	9.73	7.82	0.07	17.62	0.888
03-Apr-14	10:02:00 PM	49.66	402.8	403.9	404.3	43.15	33.93	0.42	9.72	7.82	0.07	17.62	0.892
03-Apr-14	10:04:00 PM	49.75	403.4	404.7	405.5	43.11	34.22	0.42	9.75	7.93	0.07	17.75	0.892
03-Apr-14	10:06:00 PM	49.85	403.9	405.3	405.6	43.13	34.05	0.42	9.76	7.90	0.07	17.73	0.897
03-Apr-14	10:08:00 PM	49.95	404.4	406.1	406.1	43.13	34.08	0.41	9.77	7.92	0.07	17.76	0.898
03-Apr-14	10:10:00 PM	49.91	404.6	406.1	406.3	43.18	34.26	0.43	9.78	7.96	0.07	17.82	0.894
03-Apr-14	10:12:00 PM	49.87	404.4	405.3	404.9	43.29	33.06	0.5	9.78	7.67	0.08	17.53	0.893
03-Apr-14	10:14:00 PM	49.83	404	405.1	404.3	43.34	33.86	0.49	9.78	7.87	0.08	17.73	0.895
03-Apr-14	10:16:00 PM	49.88	404.7	405.2	404.6	43.33	33.83	0.5	9.79	7.87	0.09	17.74	0.896
03-Apr-14	10:18:00 PM	49.92	404.6	405.2	405.6	43.15	33.88	0.5	9.76	7.87	0.08	17.71	0.888
03-Apr-14	10:20:00 PM	49.95	404.5	404.9	405.1	43.19	33.73	0.5	9.77	7.83	0.08	17.68	0.893
03-Apr-14	10:22:00 PM	49.98	404.9	404.8	405.4	43.11	33.91	0.5	9.76	7.88	0.08	17.72	0.887
03-Apr-14	10:24:00 PM	49.95	404	403.9	404.3	42.92	33.8	0.5	9.69	7.84	0.08	17.61	0.888
03-Apr-14	10:26:00 PM	49.94	403.7	403.4	404.7	42.81	33.84	0.49	9.68	7.83	0.08	17.59	0.887
03-Apr-14	10:28:00 PM	49.93	404	403.1	404.6	42.74	33.85	0.5	9.67	7.84	0.08	17.58	0.884
03-Apr-14	10:30:00 PM	49.95	404.1	403.4	405.1	42.83	33.88	0.49	9.69	7.85	0.08	17.62	0.882
03-Apr-14	10:32:00 PM	49.95	404.2	403.9	404.8	43	33.52	0.48	9.72	7.77	0.08	17.57	0.888
03-Apr-14	10:34:00 PM	49.95	404.8	403.8	404.2	43.06	32.97	0.49	9.74	7.66	0.08	17.47	0.888
03-Apr-14	10:36:00 PM	49.93	404.4	403.1	403.8	43.01	33.71	0.5	9.72	7.82	0.08	17.62	0.888
03-Apr-14	10:38:00 PM	49.93	404.3	403.7	404.3	43.03	33.67	0.49	9.73	7.81	0.08	17.62	0.885
03-Apr-14	10:40:00 PM	49.87	404.6	403.7	403.8	42.86	33.7	0.49	9.69	7.82	0.08	17.59	0.889
03-Apr-14	10:42:00 PM	49.86	404.4	403.3	404.6	42.83	33.8	0.49	9.69	7.83	0.08	17.60	0.875
03-Apr-14	10:44:00 PM	49.89	404.3	403.4	404.4	42.8	33.73	0.48	9.68	7.82	0.08	17.57	0.879
03-Apr-14	10:46:00 PM	49.92	404.7	403.5	404.9	42.74	33.85	0.48	9.68	7.85	0.08	17.60	0.88
03-Apr-14	10:48:00 PM	49.95	404.6	404.1	405	42.7	34	0.47	9.67	7.89	0.08	17.63	0.881
03-Apr-14	10:50:00 PM	49.95	404.7	403.9	404.7	42.6	34.02	0.48	9.64	7.90	0.08	17.62	0.883
03-Apr-14	10:52:00 PM	49.97	404.9	404.4	405.7	42.62	34.01	0.48	9.66	7.90	0.08	17.64	0.878

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
03-Apr-14	10:54:00 PM	49.97	405.2	404.4	405.8	42.77	34	0.48	9.71	7.90	0.08	17.68	0.88
03-Apr-14	10:56:00 PM	49.98	405.6	404.4	406.3	42.66	34.05	0.47	9.69	7.91	0.08	17.68	0.882
3-Apr-14	10:58:00 PM	49.99	405.8	404.2	406.5	42.59	34.1	0.48	9.69	7.92	0.08	17.68	0.878
03-Apr-14	11:00:00 PM	49.98	406.4	405.3	407.3	42.83	34.09	0.47	9.75	7.93	0.08	17.76	0.881
03-Apr-14	11:02:00 PM	49.96	406.4	405.8	407.1	42.94	34.15	0.47	9.77	7.96	0.08	17.80	0.886
03-Apr-14	11:04:00 PM	49.96	406.8	406.1	407.9	42.81	33.99	0.48	9.76	7.92	0.08	17.76	0.879
03-Apr-14	11:06:00 PM	49.94	406.6	406	407.9	42.79	33.8	0.47	9.75	7.88	0.08	17.70	0.88
03-Apr-14	11:08:00 PM	49.9	406.4	405.6	407.2	42.75	34.15	0.48	9.73	7.95	0.08	17.76	0.882
03-Apr-14	11:10:00 PM	49.89	406.4	405.9	407.3	42.86	34.13	0.48	9.75	7.95	0.08	17.78	0.886
03-Apr-14	11:12:00 PM	49.93	406.5	406.6	408	42.91	34.11	0.47	9.77	7.95	0.08	17.79	0.886
03-Apr-14	11:14:00 PM	49.98	407	407	408.4	42.88	34.16	0.47	9.77	7.97	0.08	17.82	0.884
03-Apr-14	11:16:00 PM	50	407.3	407.2	408	43.01	33.41	0.47	9.80	7.81	0.08	17.69	0.884
03-Apr-14	11:18:00 PM	49.98	407	407.5	407.9	43.11	34.33	0.47	9.81	8.02	0.08	17.91	0.883
03-Apr-14	11:20:00 PM	49.97	407.3	407.5	408.1	43.05	34.14	0.47	9.81	7.98	0.08	17.86	0.882
03-Apr-14	11:22:00 PM	50.01	407.8	407.8	408.8	43.05	34.05	0.47	9.83	7.96	0.08	17.87	0.881
03-Apr-14	11:24:00 PM	50.01	408	408.2	408.8	43.28	34.21	0.46	9.88	8.01	0.08	17.96	0.881
03-Apr-14	11:26:00 PM	49.98	407.9	407.9	409	43.19	34.27	0.47	9.87	8.02	0.07	17.96	0.875
03-Apr-14	11:28:00 PM	49.98	408.1	407.7	409.2	43.09	34.12	0.47	9.85	7.98	0.07	17.91	0.876
03-Apr-14	11:30:00 PM	49.96	408.2	408.1	409	43.28	34.08	0.47	9.89	7.98	0.08	17.94	0.882
03-Apr-14	11:32:00 PM	49.97	408.6	407.8	408.9	43.16	34.41	0.48	9.88	8.06	0.08	18.01	0.877
03-Apr-14	11:34:00 PM	49.97	409	408.7	409.9	43.36	34.37	0.48	9.94	8.06	0.08	18.07	0.879
03-Apr-14	11:36:00 PM	49.99	409.2	408.6	409.8	43.35	34.23	0.48	9.94	8.03	0.08	18.04	0.884
03-Apr-14	11:38:00 PM	50.01	409.6	408.7	409.6	43.28	33.94	0.48	9.93	7.97	0.08	17.98	0.881
03-Apr-14	11:40:00 PM	49.99	409.5	409.2	410.2	43.34	34.28	0.47	9.94	8.05	0.08	18.07	0.881
03-Apr-14	11:42:00 PM	49.97	409	409.3	409.8	43.43	34.35	0.47	9.94	8.06	0.08	18.08	0.883
03-Apr-14	11:44:00 PM	50.02	409.2	409.2	410.3	43.11	34.48	0.47	9.88	8.09	0.07	18.04	0.878
03-Apr-14	11:46:00 PM	49.99	409.7	409.7	411.1	43.14	34.42	0.46	9.91	8.08	0.08	18.07	0.882
03-Apr-14	11:48:00 PM	49.99	409.8	409.6	412	43.17	34.46	0.45	9.93	8.09	0.07	18.10	0.874
03-Apr-14	11:50:00 PM	50	410.3	409.7	411.1	43.35	34.45	0.47	9.97	8.10	0.08	18.15	0.878
03-Apr-14	11:52:00 PM	50	410.5	410.2	410.9	43.47	33.93	0.47	9.99	7.99	0.08	18.06	0.883

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
03-Apr-14	11:54:00 PM	49.99	410.5	410.4	411.9	43.48	34.32	0.46	10.01	8.08	0.08	18.16	0.881
03-Apr-14	11:56:00 PM	49.94	410.7	411	412.4	43.61	34.71	0.46	10.05	8.17	0.07	18.29	0.874
03-Apr-14	11:58:00 PM	49.87	410.3	410.9	412	43.81	34.52	0.46	10.08	8.13	0.07	18.28	0.878
04-Apr-14	12:00:00 AM	49.83	410.1	410.1	411.9	43.8	34.46	0.46	10.08	8.10	0.07	18.25	0.875
04-Apr-14	12:02:00 AM	49.84	410.2	410.3	411.8	43.83	34.53	0.46	10.08	8.12	0.07	18.27	0.873
04-Apr-14	12:04:00 AM	49.89	410.2	410.4	412.1	43.81	34.39	0.45	10.08	8.08	0.07	18.24	0.877
04-Apr-14	12:06:00 AM	49.92	410.6	411	412.2	43.84	34.44	0.46	10.09	8.11	0.07	18.28	0.876
04-Apr-14	12:08:00 AM	49.95	411.1	411.3	412.5	43.87	33.47	0.47	10.11	7.89	0.07	18.07	0.873
04-Apr-14	12:10:00 AM	50.01	411.7	412.4	413.7	44.02	35.21	0.45	10.17	8.32	0.07	18.56	0.875
04-Apr-14	12:12:00 AM	50.01	411.9	412.4	414	43.99	34.82	0.45	10.17	8.22	0.07	18.46	0.872
04-Apr-14	12:14:00 AM	50	412	412.3	414	43.89	33.74	0.46	10.15	7.97	0.07	18.19	0.869
04-Apr-14	12:16:00 AM	50.02	411.8	412.3	413.5	44.07	34.88	0.46	10.18	8.24	0.07	18.49	0.88
04-Apr-14	12:18:00 AM	50.02	412.2	412.5	414	44.04	34.89	0.46	10.19	8.24	0.07	18.51	0.878
04-Apr-14	12:20:00 AM	49.99	412.7	413	415.1	44.03	34.84	0.45	10.21	8.24	0.07	18.52	0.873
04-Apr-14	12:22:00 AM	50	412.8	413.2	414.2	44.05	34.65	0.45	10.19	8.20	0.08	18.47	0.882
04-Apr-14	12:24:00 AM	49.98	412.3	412.8	414.2	43.96	34.86	0.46	10.17	8.24	0.07	18.49	0.877
04-Apr-14	12:26:00 AM	49.96	412.7	413.4	414.8	44.23	34.81	0.45	10.24	8.24	0.07	18.56	0.876
04-Apr-14	12:28:00 AM	49.93	413.1	413.3	415	44.24	34.67	0.46	10.26	8.21	0.07	18.54	0.876
04-Apr-14	12:30:00 AM	49.91	413.2	412.7	414.7	44.14	34.85	0.46	10.24	8.25	0.07	18.56	0.875
04-Apr-14	12:32:00 AM	49.9	412.9	413	414.9	44.31	34.97	0.46	10.27	8.27	0.08	18.62	0.879
04-Apr-14	12:34:00 AM	49.95	412.7	413.5	415.4	44.26	34.89	0.45	10.26	8.25	0.07	18.59	0.873
04-Apr-14	12:36:00 AM	49.98	413	413.6	415	44.24	34.82	0.46	10.25	8.25	0.07	18.57	0.874
04-Apr-14	12:38:00 AM	50	413.2	414.2	414.4	44.39	34.96	0.46	10.27	8.29	0.08	18.64	0.883
04-Apr-14	12:40:00 AM	49.99	413.2	413.8	414.5	44.41	34.21	0.46	10.28	8.11	0.07	18.47	0.878
04-Apr-14	12:42:00 AM	49.98	413.1	413.7	414.8	44.38	34.81	0.45	10.29	8.25	0.07	18.61	0.878
04-Apr-14	12:44:00 AM	49.99	412.8	413.7	414.2	44.39	34.81	0.45	10.27	8.25	0.08	18.59	0.883
04-Apr-14	12:46:00 AM	49.98	412.8	413.2	414.5	43.88	33.84	0.45	10.16	8.01	0.07	18.25	0.876
04-Apr-14	12:48:00 AM	49.98	413	413.2	414.7	44.63	35.23	0.46	10.35	8.34	0.07	18.77	0.877
04-Apr-14	12:50:00 AM	49.96	412.7	413.3	415	44.53	34.83	0.45	10.32	8.24	0.07	18.64	0.877
04-Apr-14	12:52:00 AM	49.95	412.9	413.9	415.5	44.54	35.13	0.45	10.33	8.32	0.07	18.72	0.869

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
04-Apr-14	12:54:00 AM	49.95	413	413.8	415	44.51	34.92	0.46	10.32	8.27	0.07	18.66	0.872
04-Apr-14	12:56:00 AM	49.95	413	413.6	414.8	44.44	34.84	0.46	10.30	8.25	0.07	18.63	0.872
04-Apr-14	12:58:00 AM	49.95	413.4	413.1	414.8	44.49	34.89	0.47	10.32	8.26	0.07	18.66	0.873
04-Apr-14	1:00:00 AM	49.95	413.4	413.4	414.2	44.68	34.84	0.47	10.35	8.26	0.08	18.69	0.88
04-Apr-14	1:02:00 AM	49.97	413.1	413.3	415.3	44.56	34.39	0.45	10.34	8.14	0.07	18.56	0.874
04-Apr-14	1:04:00 AM	49.95	412.7	413	414.9	44.52	35.22	0.45	10.32	8.33	0.07	18.73	0.877
04-Apr-14	1:06:00 AM	49.97	413.1	413.9	415.1	44.47	35.05	0.45	10.31	8.31	0.07	18.69	0.88
04-Apr-14	1:08:00 AM	49.95	412.8	413.7	415.4	44.34	35.09	0.44	10.28	8.31	0.07	18.66	0.875
04-Apr-14	1:10:00 AM	49.92	412.9	413.6	416	44.38	35.27	0.44	10.31	8.35	0.07	18.72	0.873
04-Apr-14	1:12:00 AM	49.96	413.3	414	416	44.38	34.15	0.45	10.31	8.09	0.07	18.47	0.871
04-Apr-14	1:14:00 AM	49.95	413	413.5	415.4	44.21	35.56	0.45	10.26	8.42	0.07	18.75	0.875
04-Apr-14	1:16:00 AM	49.93	413.2	413.6	415.4	44.31	35.19	0.45	10.28	8.33	0.07	18.68	0.877
04-Apr-14	1:18:00 AM	49.94	413.4	413.7	415.5	44.25	35.24	0.45	10.27	8.35	0.07	18.69	0.879
04-Apr-14	1:20:00 AM	49.94	413.4	413.5	415.7	44.13	35.1	0.45	10.25	8.31	0.07	18.63	0.875
04-Apr-14	1:22:00 AM	49.94	413.4	414.2	416.2	44.26	35.25	0.44	10.28	8.35	0.07	18.70	0.875
04-Apr-14	1:24:00 AM	49.94	413.1	414	416.1	44.25	35.28	0.45	10.27	8.35	0.07	18.70	0.875
04-Apr-14	1:26:00 AM	49.96	413.2	414	416	44.37	34.76	0.45	10.31	8.23	0.07	18.61	0.874
04-Apr-14	1:28:00 AM	49.97	414.1	414.6	416.6	44.44	35.19	0.44	10.34	8.36	0.07	18.77	0.877
04-Apr-14	1:30:00 AM	49.93	414.2	414.3	416.5	44.3	35.36	0.45	10.31	8.39	0.07	18.77	0.874
04-Apr-14	1:32:00 AM	49.96	414.1	414.5	416.3	44.49	35.17	0.45	10.34	8.35	0.07	18.76	0.875
04-Apr-14	1:34:00 AM	49.95	414.2	414.8	416.5	44.51	35.03	0.45	10.35	8.32	0.07	18.74	0.874
04-Apr-14	1:36:00 AM	49.92	414.2	414.5	416.5	44.55	34.52	0.45	10.37	8.19	0.07	18.63	0.868
04-Apr-14	1:38:00 AM	49.9	413.9	414.6	416.2	44.6	35.46	0.44	10.36	8.42	0.07	18.85	0.875
04-Apr-14	1:40:00 AM	49.91	413.9	414.9	416.1	44.57	35.15	0.45	10.35	8.34	0.07	18.77	0.875
04-Apr-14	1:42:00 AM	49.93	414	414.6	416.9	44.35	35.21	0.44	10.32	8.35	0.07	18.74	0.865
04-Apr-14	1:44:00 AM	49.91	413.9	414.7	416.2	44.34	35.18	0.44	10.30	8.35	0.07	18.72	0.871
04-Apr-14	1:46:00 AM	49.93	414.1	414.6	416.4	44.36	35.24	0.45	10.32	8.36	0.07	18.75	0.872
04-Apr-14	1:48:00 AM	49.93	414.1	414.6	417.3	44.33	35.39	0.44	10.33	8.39	0.07	18.79	0.869
04-Apr-14	1:50:00 AM	49.96	414.7	415	417.7	44.3	35.41	0.44	10.34	8.41	0.07	18.81	0.869
04-Apr-14	1:52:00 AM	50.01	415.3	415.3	417.3	44.32	34.59	0.46	10.34	8.23	0.07	18.65	0.868

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
04-Apr-14	1:54:00 AM	50.02	415.9	416	418.2	44.52	35.64	0.45	10.41	8.49	0.07	18.97	0.873
04-Apr-14	1:56:00 AM	49.99	415.9	416.5	419.2	44.58	35.47	0.44	10.43	8.45	0.07	18.95	0.871
04-Apr-14	1:58:00 AM	49.94	415.5	416.1	418	44.55	34.63	0.45	10.40	8.25	0.07	18.73	0.876
04-Apr-14	2:00:00 AM	49.88	415.4	415.9	417.8	44.58	35.65	0.46	10.41	8.49	0.07	18.97	0.874
04-Apr-14	2:02:00 AM	49.89	416.3	416.6	419	44.8	35.67	0.45	10.49	8.50	0.07	19.06	0.872
04-Apr-14	2:04:00 AM	49.91	416.7	417	419.5	44.8	35.56	0.45	10.50	8.48	0.07	19.05	0.872
04-Apr-14	2:06:00 AM	49.93	416.3	416.3	418.4	44.57	35.35	0.46	10.43	8.42	0.07	18.92	0.876
04-Apr-14	2:08:00 AM	49.94	416.5	416.9	419.4	44.73	35.65	0.44	10.48	8.50	0.07	19.05	0.873
04-Apr-14	2:10:00 AM	49.96	416.7	417.4	419.1	44.82	35.55	0.45	10.49	8.49	0.07	19.06	0.877
04-Apr-14	2:12:00 AM	49.93	416.6	416.9	418.9	44.74	34.54	0.45	10.48	8.24	0.07	18.79	0.873
04-Apr-14	2:14:00 AM	49.9	416.8	416.7	419.7	44.76	35.98	0.44	10.50	8.58	0.07	19.16	0.874
04-Apr-14	2:16:00 AM	49.92	416.8	416.8	419.6	44.79	35.62	0.45	10.51	8.49	0.07	19.07	0.874
04-Apr-14	2:18:00 AM	49.88	416.5	417	419.2	44.72	35.45	0.45	10.47	8.46	0.07	19.00	0.874
04-Apr-14	2:20:00 AM	49.87	417	417.1	419.7	44.59	35.62	0.45	10.46	8.50	0.07	19.03	0.872
04-Apr-14	2:22:00 AM	49.88	417	416.9	420.1	44.68	34.4	0.45	10.49	8.20	0.07	18.77	0.866
04-Apr-14	2:24:00 AM	49.89	417.2	416.7	419.3	44.87	35.72	0.46	10.53	8.53	0.07	19.13	0.877
04-Apr-14	2:26:00 AM	49.9	417.6	417.5	420.2	44.86	35.37	0.46	10.54	8.45	0.07	19.06	0.875
04-Apr-14	2:28:00 AM	49.94	417.7	417.7	421	44.77	35.58	0.45	10.53	8.50	0.07	19.10	0.873
04-Apr-14	2:30:00 AM	49.97	418.1	417.7	420.9	44.72	34.5	0.46	10.53	8.25	0.07	18.85	0.868
04-Apr-14	2:32:00 AM	49.95	418.3	417.6	420.5	44.65	36.01	0.46	10.50	8.62	0.08	19.20	0.879
04-Apr-14	2:34:00 AM	49.92	418.4	418	421.1	44.69	35.91	0.45	10.52	8.59	0.07	19.19	0.874
04-Apr-14	2:36:00 AM	49.93	418.8	418.3	421.1	44.94	34.89	0.47	10.58	8.36	0.08	19.02	0.874
04-Apr-14	2:38:00 AM	49.94	419	418.9	421.2	44.96	35.96	0.47	10.59	8.63	0.08	19.29	0.883
04-Apr-14	2:40:00 AM	49.96	418.9	418.7	421.5	44.91	35.73	0.46	10.59	8.56	0.08	19.22	0.878
04-Apr-14	2:42:00 AM	49.97	418.9	418.6	421.3	44.92	35.86	0.46	10.58	8.59	0.08	19.25	0.878
04-Apr-14	2:44:00 AM	49.94	418.9	418.9	421	45	35.64	0.47	10.59	8.55	0.08	19.22	0.883
04-Apr-14	2:46:00 AM	49.93	418.9	418.8	422	45.02	35.86	0.46	10.61	8.59	0.08	19.28	0.876
04-Apr-14	2:48:00 AM	49.91	419.2	419.1	421.7	45.05	35.74	0.47	10.62	8.57	0.08	19.27	0.877
04-Apr-14	2:50:00 AM	49.97	419.7	419.5	421.8	45.13	35.65	0.47	10.64	8.56	0.08	19.29	0.883
04-Apr-14	2:52:00 AM	50.04	419.9	419.7	422.7	44.9	35.96	0.46	10.61	8.64	0.08	19.32	0.879

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
04-Apr-14	2:54:00 AM	50.07	420.4	420.1	423	45.02	35.72	0.46	10.65	8.59	0.08	19.32	0.878
04-Apr-14	2:56:00 AM	50.09	420.6	420.7	422.6	45.14	35.68	0.47	10.67	8.59	0.08	19.34	0.881
04-Apr-14	2:58:00 AM	50.05	420.5	420.7	422.8	45.15	35.87	0.47	10.67	8.64	0.08	19.39	0.877
04-Apr-14	3:00:00 AM	49.98	419.9	419.9	422.7	45.08	35.27	0.46	10.65	8.48	0.08	19.20	0.873
04-Apr-14	3:02:00 AM	49.93	419.5	419.2	421.7	45	35.78	0.47	10.61	8.59	0.08	19.28	0.877
04-Apr-14	3:04:00 AM	49.88	419.6	419	422	44.95	35.81	0.47	10.61	8.59	0.08	19.28	0.873
04-Apr-14	3:06:00 AM	49.85	419.3	419.4	422.2	45.15	35.84	0.46	10.65	8.60	0.07	19.33	0.873
04-Apr-14	3:08:00 AM	49.84	419.3	419.8	422	45.35	34.98	0.47	10.68	8.31	0.08	19.06	0.873
04-Apr-14	3:10:00 AM	49.86	419.4	419.7	422.3	45.17	36.18	0.46	10.64	8.57	0.08	19.29	0.875
04-Apr-14	3:12:00 AM	49.9	419.7	420	423.5	45.07	36.14	0.45	10.63	8.56	0.07	19.27	0.869
04-Apr-14	3:14:00 AM	49.96	420.2	420.7	423.1	45.28	35.18	0.46	10.69	8.35	0.08	19.11	0.875
04-Apr-14	3:16:00 AM	50.01	420.4	421	423.8	45.17	36.11	0.46	10.67	8.57	0.08	19.32	0.874
04-Apr-14	3:18:00 AM	50.03	420.7	421.2	424.6	45.25	36.1	0.45	10.71	8.57	0.07	19.35	0.872
04-Apr-14	3:20:00 AM	50.03	420.9	421.2	424	45.28	35.71	0.46	10.71	8.49	0.08	19.27	0.874
04-Apr-14	3:22:00 AM	50.01	420.8	420.9	423.9	45.16	35.79	0.46	10.68	8.51	0.08	19.26	0.873
04-Apr-14	3:24:00 AM	49.97	420.7	420.7	424.2	45.18	36.23	0.46	10.68	8.60	0.07	19.36	0.872
04-Apr-14	3:26:00 AM	49.94	420.8	420.7	423.7	45.29	35.98	0.46	10.70	8.54	0.08	19.33	0.874
04-Apr-14	3:28:00 AM	49.94	420	420.5	423.2	45.31	36.1	0.45	10.69	8.57	0.07	19.33	0.873
04-Apr-14	3:30:00 AM	49.93	420.1	420.6	423.6	45.33	36.14	0.46	10.71	8.57	0.07	19.35	0.87
04-Apr-14	3:32:00 AM	49.96	420.3	420.7	423.8	45.35	36.05	0.46	10.71	8.56	0.07	19.35	0.871
04-Apr-14	3:34:00 AM	49.98	420.3	421	423.5	45.4	35.18	0.46	10.72	8.35	0.08	19.15	0.876
04-Apr-14	3:36:00 AM	49.96	420.3	420.8	423.4	45.35	36.39	0.46	10.71	8.65	0.08	19.43	0.874
04-Apr-14	3:38:00 AM	49.94	420.4	420.8	423.1	45.3	36	0.46	10.70	8.55	0.08	19.32	0.875
04-Apr-14	3:40:00 AM	49.98	420.6	420.4	423.3	45.28	35.91	0.46	10.70	8.53	0.08	19.30	0.878
04-Apr-14	3:42:00 AM	50.01	420.9	421.6	424.4	45.37	36.12	0.45	10.74	8.59	0.08	19.40	0.875
04-Apr-14	3:44:00 AM	50.01	421	421.7	423.7	45.46	35.97	0.46	10.74	8.56	0.08	19.38	0.877
04-Apr-14	3:46:00 AM	49.98	420.9	421.2	423.7	45.4	35.95	0.46	10.74	8.55	0.08	19.36	0.873
04-Apr-14	3:48:00 AM	49.97	421	421.2	423.7	45.35	35.83	0.46	10.72	8.52	0.08	19.32	0.873
04-Apr-14	3:50:00 AM	49.98	421.3	421.8	424	45.47	35.57	0.45	10.75	8.47	0.08	19.30	0.877
04-Apr-14	3:52:00 AM	49.99	421.5	421.5	424.2	45.42	35.87	0.45	10.75	8.54	0.08	19.37	0.876

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
04-Apr-14	3:54:00 AM	49.99	421.2	421.6	424.2	45.46	35.96	0.46	10.76	8.55	0.07	19.39	0.871
04-Apr-14	3:56:00 AM	49.98	421.7	421.9	424.4	45.61	35.86	0.46	10.80	8.54	0.08	19.42	0.872
04-Apr-14	3:58:00 AM	49.98	421.4	422.1	425	45.58	34.89	0.45	10.80	8.31	0.07	19.18	0.869
04-Apr-14	4:00:00 AM	49.97	421.3	421.9	424.2	45.51	36.51	0.45	10.77	8.70	0.08	19.54	0.878
04-Apr-14	4:02:00 AM	49.97	421.7	421.6	424.6	45.59	35.13	0.45	10.81	8.36	0.07	19.24	0.87
04-Apr-14	4:04:00 AM	49.96	421.7	421.6	424.7	45.55	36.41	0.45	10.80	8.67	0.07	19.54	0.875
04-Apr-14	4:06:00 AM	49.93	421.6	421.8	423.8	45.68	35.97	0.46	10.81	8.57	0.08	19.46	0.882
04-Apr-14	4:08:00 AM	49.93	421.3	421.5	424.4	45.6	35.99	0.45	10.80	8.56	0.07	19.43	0.874
04-Apr-14	4:10:00 AM	49.91	421	421.1	424.3	45.45	35.94	0.45	10.76	8.54	0.07	19.37	0.873
04-Apr-14	4:12:00 AM	49.96	421.7	421.6	424.1	45.61	35.09	0.46	10.80	8.36	0.08	19.24	0.876
04-Apr-14	4:14:00 AM	50	422.4	422.6	425.4	45.72	35.79	0.45	10.86	8.54	0.07	19.47	0.876
04-Apr-14	4:16:00 AM	50.01	422.5	422.3	425.1	45.65	35.88	0.46	10.84	8.56	0.08	19.48	0.879
04-Apr-14	4:18:00 AM	49.97	421.9	422.4	424.6	45.71	36.03	0.47	10.83	8.59	0.08	19.50	0.881
04-Apr-14	4:20:00 AM	49.97	421.8	422.5	424.9	45.73	36.11	0.46	10.84	8.61	0.08	19.52	0.875
04-Apr-14	4:22:00 AM	49.96	422.4	422.7	424.8	45.81	36.06	0.47	10.86	8.61	0.08	19.55	0.882
04-Apr-14	4:24:00 AM	49.97	422.3	422.5	424.8	45.65	35.59	0.47	10.83	8.49	0.08	19.39	0.879
04-Apr-14	4:26:00 AM	50	422.6	422.4	425.7	45.59	35.84	0.46	10.84	8.55	0.07	19.46	0.871
04-Apr-14	4:28:00 AM	50	422.4	422.5	424.8	45.68	35.93	0.46	10.84	8.57	0.08	19.49	0.872
04-Apr-14	4:30:00 AM	49.94	421.8	422	423.9	45.6	36	0.46	10.79	8.58	0.08	19.45	0.875
04-Apr-14	4:32:00 AM	49.95	421.8	422.4	425.1	45.63	35.99	0.45	10.82	8.58	0.07	19.47	0.87
04-Apr-14	4:34:00 AM	49.94	421.7	422	424.4	45.48	35.63	0.46	10.77	8.49	0.08	19.34	0.874
04-Apr-14	4:36:00 AM	49.93	421.7	422	424.4	45.57	36.01	0.46	10.80	8.58	0.08	19.45	0.873
04-Apr-14	4:38:00 AM	49.93	421.8	422	424.7	45.7	36.18	0.45	10.83	8.62	0.07	19.53	0.873
04-Apr-14	4:40:00 AM	49.93	421.6	421.8	424.4	45.44	36.11	0.46	10.76	8.60	0.08	19.43	0.875
04-Apr-14	4:42:00 AM	49.94	421.7	422	424.8	45.37	35.26	0.45	10.75	8.40	0.07	19.22	0.869
04-Apr-14	4:44:00 AM	49.95	421.5	421.8	424.3	45.46	36.34	0.46	10.78	8.65	0.08	19.50	0.875
04-Apr-14	4:46:00 AM	49.96	421.3	421.8	423.8	45.57	36.1	0.46	10.78	8.59	0.08	19.45	0.876
04-Apr-14	4:48:00 AM	49.95	421.5	421.6	424.6	45.4	36.09	0.45	10.77	8.58	0.07	19.42	0.87
04-Apr-14	4:50:00 AM	49.95	421.5	421.4	424.1	45.51	35.88	0.46	10.79	8.53	0.08	19.40	0.876
04-Apr-14	4:52:00 AM	50	422	421.9	424.6	45.49	35.98	0.45	10.80	8.57	0.08	19.44	0.877

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
04-Apr-14	4:54:00 AM	50.07	422.9	422.7	425.1	45.49	35.93	0.46	10.81	8.58	0.08	19.47	0.876
04-Apr-14	4:56:00 AM	50.12	423.1	423.7	425.8	45.57	36.08	0.46	10.83	8.62	0.08	19.53	0.875
04-Apr-14	4:58:00 AM	50.1	423.1	423.5	425.8	45.58	36.01	0.46	10.84	8.60	0.08	19.52	0.878
04-Apr-14	5:00:00 AM	50.04	422.6	423.3	425.4	45.64	35.92	0.45	10.85	8.58	0.08	19.50	0.878
04-Apr-14	5:02:00 AM	49.96	422.1	422.6	424.6	45.58	35.72	0.46	10.81	8.52	0.08	19.41	0.875
04-Apr-14	5:04:00 AM	49.94	421.9	422.3	424.7	45.55	35.79	0.45	10.81	8.54	0.08	19.42	0.875
04-Apr-14	5:06:00 AM	49.94	421.2	421.9	423.8	45.57	36.07	0.45	10.79	8.58	0.08	19.45	0.878
04-Apr-14	5:08:00 AM	49.94	421.2	421.8	423.3	45.55	35.87	0.46	10.78	8.54	0.08	19.39	0.877
04-Apr-14	5:10:00 AM	49.97	421.1	422	424	45.33	36.04	0.44	10.73	8.58	0.07	19.38	0.874
04-Apr-14	5:12:00 AM	50	421.7	422.1	423.9	45.34	35.83	0.45	10.74	8.54	0.08	19.35	0.875
04-Apr-14	5:14:00 AM	49.98	420.8	421.7	423.8	45.44	35.14	0.45	10.75	8.39	0.07	19.21	0.872
04-Apr-14	5:16:00 AM	49.92	420.3	420.8	423	45.33	36.01	0.45	10.72	8.66	0.08	19.45	0.877
04-Apr-14	5:18:00 AM	49.9	419.9	420.4	422.3	45.29	35.79	0.45	10.70	8.60	0.08	19.37	0.878
04-Apr-14	5:20:00 AM	49.86	419.6	420	422.4	45.31	35.73	0.45	10.71	8.57	0.07	19.35	0.875
04-Apr-14	5:22:00 AM	49.86	419.7	419.8	422.3	45.24	35.56	0.46	10.69	8.53	0.08	19.30	0.878
04-Apr-14	5:24:00 AM	49.88	419.3	419.3	422.4	45.18	35.73	0.45	10.67	8.56	0.07	19.31	0.874
04-Apr-14	5:26:00 AM	49.88	419.5	419.5	422	45.19	35.71	0.45	10.68	8.56	0.07	19.32	0.878
04-Apr-14	5:28:00 AM	49.89	419.4	420.2	422.2	45.37	35.04	0.45	10.71	8.41	0.07	19.20	0.879
04-Apr-14	5:30:00 AM	49.85	419.2	420.1	421.8	45.26	36.04	0.45	10.67	8.65	0.08	19.40	0.88
04-Apr-14	5:32:00 AM	49.83	418.5	419.5	420.8	45.23	35.7	0.45	10.65	8.55	0.07	19.28	0.879
04-Apr-14	5:34:00 AM	49.8	418.4	418.7	421.2	45.46	35.76	0.45	10.72	8.55	0.07	19.34	0.877
04-Apr-14	5:36:00 AM	49.74	417.4	417.5	420.3	45.21	35.79	0.44	10.64	8.54	0.07	19.25	0.88
04-Apr-14	5:38:00 AM	49.71	417	417.2	420	45.13	35.84	0.44	10.60	8.54	0.07	19.22	0.877
04-Apr-14	5:40:00 AM	49.76	416.8	417.3	420.2	44.96	35.81	0.44	10.55	8.55	0.07	19.17	0.874
04-Apr-14	5:42:00 AM	49.82	416.1	417.6	419.9	44.89	35.77	0.43	10.52	8.54	0.07	19.12	0.872
04-Apr-14	5:44:00 AM	49.78	416.5	417.2	420	44.75	34.83	0.4	10.50	8.32	0.06	18.87	0.873
04-Apr-14	5:46:00 AM	49.76	416	416.5	419.3	44.74	35.86	0.4	10.48	8.55	0.07	19.10	0.879
04-Apr-14	5:48:00 AM	49.78	416.1	416.6	419.8	44.73	35.64	0.4	10.49	8.49	0.06	19.05	0.876
04-Apr-14	5:50:00 AM	49.86	416.1	416.7	420.1	44.7	35.74	0.4	10.49	8.52	0.06	19.07	0.876
04-Apr-14	5:52:00 AM	49.95	417	417.5	421.3	44.65	35.58	0.4	10.51	8.49	0.06	19.07	0.873

Measurement of Power Parameters at Dr. Kumar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
04-Apr-14	5:54:00 AM	50.07	417.7	418.5	421.9	44.69	34.49	0.4	10.53	8.25	0.06	18.85	0.87
04-Apr-14	5:56:00 AM	50.12	417.9	418.5	421.7	44.63	35.86	0.39	10.52	8.59	0.07	19.17	0.877
04-Apr-14	5:58:00 AM	49.98	287.7	418.2	285.3	44.55	35.53	0.4	4.13	7.35	0.04	11.51	0.635
Average load in kW												18.59	0.88

Harmonics and Voltage & Current Unbalance Measurement

Harmonics & Voltage & Current Unbalance Measurement at Dr. Kumar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
03-Apr-14	8:08:00 PM	49.92	12	11.6	18	1.6	1.6	1.4	57.7	0.5
03-Apr-14	8:10:00 PM	49.97	11.9	11.6	18.5	1.6	1.6	1.4	57.6	0.6
03-Apr-14	8:12:00 PM	50	12	11.6	18.6	1.6	1.6	1.4	57.6	0.6
03-Apr-14	8:14:00 PM	50.01	12	11.7	18.7	1.6	1.6	1.4	57.7	0.5
03-Apr-14	8:16:00 PM	50.02	12	11.6	18.6	1.6	1.6	1.4	57.8	0.6
03-Apr-14	8:18:00 PM	50.02	12.1	11.2	18.8	1.7	1.6	1.4	58.9	0.7
03-Apr-14	8:20:00 PM	50.03	12.1	11.5	19.1	1.7	1.6	1.4	57.6	0.6
03-Apr-14	8:22:00 PM	49.99	12.1	11.5	19	1.7	1.6	1.4	57.6	0.6
03-Apr-14	8:24:00 PM	49.96	12	11.6	18.9	1.7	1.6	1.4	57.8	0.6
03-Apr-14	8:26:00 PM	49.83	12.1	11.6	18.7	1.7	1.6	1.4	57.8	0.6
03-Apr-14	8:28:00 PM	49.82	12.1	11.6	18.6	1.7	1.6	1.5	57.8	0.5
03-Apr-14	8:30:00 PM	49.87	12.1	11.6	18	1.7	1.6	1.5	58.1	0.4
03-Apr-14	8:32:00 PM	49.96	12.1	11.5	17.9	1.7	1.6	1.5	58.1	0.4
03-Apr-14	8:34:00 PM	50.06	12.1	11.5	17.7	1.8	1.6	1.5	57.9	0.4
03-Apr-14	8:36:00 PM	50.06	12	11.5	17.6	1.7	1.6	1.5	57.7	0.4
03-Apr-14	8:38:00 PM	49.96	12	11.5	17.3	1.7	1.7	1.5	58.1	0.4
03-Apr-14	8:40:00 PM	49.91	12.1	11.4	17.6	1.7	1.6	1.5	58.1	0.4
03-Apr-14	8:42:00 PM	49.94	12.1	11.6	17.5	1.7	1.7	1.5	57.9	0.4
03-Apr-14	8:44:00 PM	49.97	12.1	11.5	17.5	1.7	1.7	1.5	57.9	0.4
03-Apr-14	8:46:00 PM	49.97	12.1	11.5	17.5	1.8	1.7	1.5	58	0.4
03-Apr-14	8:48:00 PM	49.94	12.1	11.5	17.3	1.8	1.6	1.5	58.1	0.3
03-Apr-14	8:50:00 PM	49.93	12.1	11.3	17.4	1.8	1.7	1.5	58.5	0.3
03-Apr-14	8:52:00 PM	49.95	12.1	11.4	17.5	1.8	1.7	1.5	58.2	0.3
03-Apr-14	8:54:00 PM	49.95	12.1	11.3	17.2	1.8	1.7	1.6	58.1	0.3
03-Apr-14	8:56:00 PM	49.87	12.1	11.4	17.2	1.7	1.7	1.5	58.1	0.2
03-Apr-14	8:58:00 PM	49.82	12.2	11.4	17	1.8	1.6	1.5	58	0.3
03-Apr-14	9:00:00 PM	49.74	12.2	11.4	17.4	1.8	1.6	1.5	58	0.2
03-Apr-14	9:02:00 PM	49.76	12.2	11.5	17.5	1.8	1.6	1.5	58	0.2

Harmonics & Voltage & Current Unbalance Measurement at Dr. Kumar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
03-Apr-14	9:04:00 PM	49.83	12.2	11.4	17.4	1.8	1.6	1.5	58	0.3
03-Apr-14	9:06:00 PM	49.89	12.2	11.4	17.6	1.7	1.6	1.4	58	0.3
03-Apr-14	9:08:00 PM	49.94	12.2	11.5	17.4	1.8	1.6	1.4	58.3	0.3
03-Apr-14	9:10:00 PM	49.89	12.3	11.4	17.5	1.8	1.7	1.5	58.2	0.4
03-Apr-14	9:12:00 PM	49.85	12.3	11.5	18	1.8	1.7	1.4	58.1	0.4
03-Apr-14	9:14:00 PM	49.88	12.3	11.6	18.1	1.8	1.6	1.4	58.2	0.4
03-Apr-14	9:16:00 PM	49.89	12.3	11.6	18.2	1.8	1.5	1.4	58.1	0.5
03-Apr-14	9:18:00 PM	49.93	12.2	11.6	17.8	1.8	1.6	1.4	58.1	0.4
03-Apr-14	9:20:00 PM	50	12.2	11.6	17.7	1.8	1.6	1.5	58.2	0.3
03-Apr-14	9:22:00 PM	50.04	12.2	11.6	17.7	1.7	1.6	1.5	58	0.3
03-Apr-14	9:24:00 PM	50.02	12.2	11.7	17.5	1.8	1.6	1.5	57.9	0.3
03-Apr-14	9:26:00 PM	49.98	12.2	11.6	17.8	1.8	1.6	1.5	57.9	0.3
03-Apr-14	9:28:00 PM	49.98	12.2	11.6	17.5	1.8	1.6	1.5	58.1	0.3
03-Apr-14	9:30:00 PM	49.99	12.2	11.5	17.3	1.8	1.6	1.4	58.1	0.3
03-Apr-14	9:32:00 PM	50.02	12.2	11.4	17.1	1.8	1.5	1.4	58	0.2
03-Apr-14	9:34:00 PM	50.05	12.2	11.4	16.9	1.7	1.5	1.4	58.1	0.2
03-Apr-14	9:36:00 PM	50.03	12.2	11.3	16.6	1.7	1.5	1.4	58.2	0.2
03-Apr-14	9:38:00 PM	50.01	12.2	11.1	16.1	1.7	1.5	1.4	58.4	0.1
03-Apr-14	9:40:00 PM	49.97	12.1	11.2	16.1	1.7	1.5	1.4	58.7	0.2
03-Apr-14	9:42:00 PM	49.97	12.2	11.2	16.7	1.7	1.5	1.4	58.3	0.2
03-Apr-14	9:44:00 PM	50.03	12.2	11.3	16.5	1.7	1.5	1.4	58.2	0.2
03-Apr-14	9:46:00 PM	50.03	12.2	11.2	15.9	1.7	1.5	1.5	58.3	0.2
03-Apr-14	9:48:00 PM	50.06	12.3	11.2	16	1.8	1.6	1.5	58.4	0.2
03-Apr-14	9:50:00 PM	50.06	12.4	11.1	16.1	1.8	1.6	1.5	59	0.3
03-Apr-14	9:52:00 PM	50.01	12.4	11.1	15.8	1.7	1.4	1.4	58.7	0.2
03-Apr-14	9:54:00 PM	49.94	12.3	11.1	15.8	1.6	1.3	1.4	58.6	0.2
03-Apr-14	9:56:00 PM	49.83	12.3	11.2	16.1	1.6	1.3	1.3	58.4	0.3
03-Apr-14	9:58:00 PM	49.74	12.3	11	15.9	1.6	1.4	1.3	58.9	0.2
03-Apr-14	10:00:00 PM	49.65	12.3	11.3	16.4	1.6	1.4	1.3	58.4	0.2
03-Apr-14	10:02:00 PM	49.66	12.3	11.2	16	1.6	1.4	1.3	58.3	0.2

Harmonics & Voltage & Current Unbalance Measurement at Dr. Kumar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
03-Apr-14	10:04:00 PM	49.75	12.2	11.1	16.6	1.6	1.4	1.3	58.2	0.2
03-Apr-14	10:06:00 PM	49.85	12.2	11.1	16.8	1.7	1.5	1.4	58.2	0.2
03-Apr-14	10:08:00 PM	49.95	12.2	11.1	16.8	1.6	1.4	1.4	58.3	0.2
03-Apr-14	10:10:00 PM	49.91	12.2	11.2	17.2	1.7	1.5	1.4	58.2	0.2
03-Apr-14	10:12:00 PM	49.87	12.2	10.9	16.4	1.6	1.4	1.4	58.9	0.1
03-Apr-14	10:14:00 PM	49.83	12.2	10.8	16.4	1.6	1.5	1.4	58.6	0.1
03-Apr-14	10:16:00 PM	49.88	12.3	10.9	16.1	1.6	1.4	1.4	58.6	0.1
03-Apr-14	10:18:00 PM	49.92	12.2	11	16	1.6	1.5	1.4	58.6	0.1
03-Apr-14	10:20:00 PM	49.95	12.2	11	15.7	1.6	1.5	1.4	58.4	0
03-Apr-14	10:22:00 PM	49.98	12.2	10.9	15.7	1.5	1.4	1.4	58.4	0
03-Apr-14	10:24:00 PM	49.95	12.2	11	15.5	1.5	1.4	1.3	58.4	0
03-Apr-14	10:26:00 PM	49.94	12.1	10.9	15.7	1.5	1.4	1.3	58.1	0.1
03-Apr-14	10:28:00 PM	49.93	12.1	11	15.5	1.5	1.4	1.3	58.1	0.2
03-Apr-14	10:30:00 PM	49.95	12.2	11	16.2	1.5	1.4	1.3	58.2	0.2
03-Apr-14	10:32:00 PM	49.95	12.2	10.9	16.3	1.5	1.4	1.3	58.3	0.1
03-Apr-14	10:34:00 PM	49.95	12.2	10.9	16.2	1.6	1.4	1.4	58.7	0.1
03-Apr-14	10:36:00 PM	49.93	12.2	10.6	15.7	1.5	1.3	1.4	58.7	0.1
03-Apr-14	10:38:00 PM	49.93	12.2	10.9	15.9	1.4	1.3	1.3	58.4	0.1
03-Apr-14	10:40:00 PM	49.87	12.3	10.9	16.3	1.4	1.2	1.3	58.5	0.1
03-Apr-14	10:42:00 PM	49.86	12.3	11	16.4	1.4	1.3	1.2	58.5	0.2
03-Apr-14	10:44:00 PM	49.89	12.3	11	15.9	1.4	1.3	1.2	58.3	0.1
03-Apr-14	10:46:00 PM	49.92	12.2	11	16	1.4	1.3	1.3	58.2	0.1
03-Apr-14	10:48:00 PM	49.95	12.2	11	16.7	1.4	1.3	1.2	58.4	0.1
03-Apr-14	10:50:00 PM	49.95	12.2	11	16	1.3	1.2	1.2	58.3	0.1
03-Apr-14	10:52:00 PM	49.97	12.1	11.1	16.1	1.3	1.2	1.2	58.3	0.2
03-Apr-14	10:54:00 PM	49.97	12.1	11.1	16.2	1.3	1.2	1.1	58.1	0.2
03-Apr-14	10:56:00 PM	49.98	12.1	11.1	16.4	1.3	1.2	1.1	58.1	0.2
3-Apr-14	10:58:00 PM	49.99	12.1	11.1	16	1.2	1.2	1.1	58	0.3
03-Apr-14	11:00:00 PM	49.98	12.1	11.1	16.7	1.3	1.2	1.1	58.1	0.2
03-Apr-14	11:02:00 PM	49.96	12.2	11.1	16.8	1.3	1.2	1.2	58.2	0.1

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Harmonics & Voltage & Current Unbalance Measurement at Dr. Kumar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
03-Apr-14	11:04:00 PM	49.96	12.2	11.2	16.4	1.2	1.2	1.2	58.3	0.2
03-Apr-14	11:06:00 PM	49.94	12.2	10.9	16.4	1.2	1.2	1.2	58.6	0.2
03-Apr-14	11:08:00 PM	49.9	12.2	11.1	16.4	1.1	1.1	1.1	58.2	0.2
03-Apr-14	11:10:00 PM	49.89	12.2	11.2	16.5	1.1	1.1	1.1	58.2	0.1
03-Apr-14	11:12:00 PM	49.93	12.2	11.2	17.1	1.2	1.1	1.1	58.1	0.2
03-Apr-14	11:14:00 PM	49.98	12.2	11.2	16.7	1.1	1.1	1.1	58.1	0.2
03-Apr-14	11:16:00 PM	50	12.2	10.9	16.6	1.1	1.1	1	58.7	0.1
03-Apr-14	11:18:00 PM	49.98	12.2	11.1	16.9	1.1	1	1	58.4	0.1
03-Apr-14	11:20:00 PM	49.97	12.2	11.2	16.7	1.1	1	1	58.3	0.1
03-Apr-14	11:22:00 PM	50.01	12.2	11.2	16.9	1	1	1	58.3	0.1
03-Apr-14	11:24:00 PM	50.01	12.3	11.2	17.1	1.1	1.1	0.9	58.3	0.1
03-Apr-14	11:26:00 PM	49.98	12.2	11.2	16.6	1	1	0.9	58.2	0.1
03-Apr-14	11:28:00 PM	49.98	12.2	11.2	16.8	0.9	0.9	0.9	58.3	0.2
03-Apr-14	11:30:00 PM	49.96	12.2	11.1	16.7	0.9	0.9	0.9	58.3	0.1
03-Apr-14	11:32:00 PM	49.97	12.2	11.1	16.4	0.9	0.9	0.9	58.2	0.1
03-Apr-14	11:34:00 PM	49.97	12.2	11.2	17	0.9	0.9	1	58.1	0.1
03-Apr-14	11:36:00 PM	49.99	12.2	11.2	16.9	0.9	0.9	0.9	58.1	0.1
03-Apr-14	11:38:00 PM	50.01	12.1	11.1	16.3	0.9	0.9	0.9	58.3	0.1
03-Apr-14	11:40:00 PM	49.99	12.1	11	17.1	0.9	0.8	0.9	58.5	0.1
03-Apr-14	11:42:00 PM	49.97	12.2	11.2	17	0.9	0.8	0.9	58.3	0.1
03-Apr-14	11:44:00 PM	50.02	12.2	11.2	17	0.9	0.9	0.9	58.2	0.1
03-Apr-14	11:46:00 PM	49.99	12.2	11.3	17.5	0.9	0.9	0.9	58.1	0.2
03-Apr-14	11:48:00 PM	49.99	12.2	11.4	17.9	0.9	0.9	0.9	58.1	0.3
03-Apr-14	11:50:00 PM	50	12.2	11.3	16.9	0.9	0.9	0.9	58	0.2
03-Apr-14	11:52:00 PM	50	12.2	11.2	16.9	0.9	0.9	0.8	58.2	0.1
03-Apr-14	11:54:00 PM	49.99	12.2	11	17.1	0.9	0.9	0.9	58.4	0.2
03-Apr-14	11:56:00 PM	49.94	12.1	11.4	17.6	0.8	0.9	0.9	58.1	0.2
03-Apr-14	11:58:00 PM	49.87	12.2	11.4	17.7	0.8	0.9	0.8	58	0.2
04-Apr-14	12:00:00 AM	49.83	12.2	11.4	17.7	0.8	0.8	0.8	58.1	0.3
04-Apr-14	12:02:00 AM	49.84	12.3	11.3	17.4	0.8	0.8	0.8	58.3	0.2

Harmonics & Voltage & Current Unbalance Measurement at Dr. Kumar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
04-Apr-14	12:04:00 AM	49.89	12.3	11.3	18	0.8	0.8	0.8	58.2	0.2
04-Apr-14	12:06:00 AM	49.92	12.3	11.2	17.5	0.8	0.8	0.8	58.1	0.2
04-Apr-14	12:08:00 AM	49.95	12.3	11.1	16.9	0.8	0.8	0.8	58.5	0.2
04-Apr-14	12:10:00 AM	50.01	12.3	11.1	18.1	0.9	0.8	0.8	58.4	0.2
04-Apr-14	12:12:00 AM	50.01	12.3	11.4	18	0.9	0.9	0.8	58	0.3
04-Apr-14	12:14:00 AM	50	12.3	11.2	17.5	0.9	0.8	0.8	58.7	0.2
04-Apr-14	12:16:00 AM	50.02	12.3	11.2	17.6	0.9	0.8	0.8	58.2	0.2
04-Apr-14	12:18:00 AM	50.02	12.2	11.3	17.4	0.9	0.9	0.8	58	0.2
04-Apr-14	12:20:00 AM	49.99	12.3	11.4	18.3	0.9	0.8	0.8	58	0.3
04-Apr-14	12:22:00 AM	50	12.4	11.3	17.7	0.9	0.8	0.8	58.2	0.2
04-Apr-14	12:24:00 AM	49.98	12.3	11.3	17.4	0.9	0.8	0.8	58.1	0.2
04-Apr-14	12:26:00 AM	49.96	12.3	11.4	18.1	0.9	0.8	0.8	58.1	0.3
04-Apr-14	12:28:00 AM	49.93	12.4	11.4	18.1	0.9	0.9	0.9	58.1	0.2
04-Apr-14	12:30:00 AM	49.91	12.3	11.4	17.7	0.9	0.8	0.9	58.1	0.2
04-Apr-14	12:32:00 AM	49.9	12.4	11.4	18.1	0.9	0.9	0.9	58	0.3
04-Apr-14	12:34:00 AM	49.95	12.4	11.5	18.5	0.9	0.8	0.8	58	0.3
04-Apr-14	12:36:00 AM	49.98	12.4	11.4	18	0.9	0.9	0.8	58	0.2
04-Apr-14	12:38:00 AM	50	12.4	11.3	17.8	0.9	0.8	0.9	58.1	0.1
04-Apr-14	12:40:00 AM	49.99	12.4	11.3	17.6	0.9	0.8	0.9	58.4	0.2
04-Apr-14	12:42:00 AM	49.98	12.4	11.1	18	0.9	0.8	0.9	58.5	0.2
04-Apr-14	12:44:00 AM	49.99	12.4	11.3	17.8	0.9	0.8	0.9	58	0.2
04-Apr-14	12:46:00 AM	49.98	12.4	11.2	17.3	0.9	0.8	0.8	58.3	0.2
04-Apr-14	12:48:00 AM	49.98	12.3	11.1	17.5	0.9	0.8	0.8	58.2	0.2
04-Apr-14	12:50:00 AM	49.96	12.4	11.4	18.1	0.9	0.8	0.8	57.9	0.3
04-Apr-14	12:52:00 AM	49.95	12.4	11.5	18.2	1	0.9	0.9	58	0.3
04-Apr-14	12:54:00 AM	49.95	12.4	11.5	17.6	0.9	0.9	0.9	58	0.2
04-Apr-14	12:56:00 AM	49.95	12.4	11.4	17.6	0.9	0.9	0.9	58	0.2
04-Apr-14	12:58:00 AM	49.95	12.4	11.4	17.1	0.9	0.9	0.9	57.9	0.2
04-Apr-14	1:00:00 AM	49.95	12.4	11.3	16.8	0.9	0.9	0.9	58.1	0.1
04-Apr-14	1:02:00 AM	49.97	12.3	11.4	17.3	0.9	0.8	0.9	58.2	0.3

Harmonics & Voltage & Current Unbalance Measurement at Dr. Kumar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
04-Apr-14	1:04:00 AM	49.95	12.4	11.2	17.2	1	0.8	0.9	58	0.3
04-Apr-14	1:06:00 AM	49.97	12.3	11.4	17.3	0.9	0.8	0.9	57.9	0.2
04-Apr-14	1:08:00 AM	49.95	12.4	11.5	17.7	0.9	0.8	0.8	58	0.3
04-Apr-14	1:10:00 AM	49.92	12.4	11.6	18.1	1	0.9	0.8	57.7	0.4
04-Apr-14	1:12:00 AM	49.96	12.4	11.5	17.5	0.9	0.8	0.9	58.1	0.3
04-Apr-14	1:14:00 AM	49.95	12.4	11.3	17.4	0.9	0.8	0.9	57.8	0.3
04-Apr-14	1:16:00 AM	49.93	12.4	11.5	17.7	0.9	0.8	0.9	57.8	0.3
04-Apr-14	1:18:00 AM	49.94	12.4	11.5	17.5	0.9	0.8	0.8	57.7	0.3
04-Apr-14	1:20:00 AM	49.94	12.4	11.5	17.3	0.9	0.9	0.8	57.6	0.3
04-Apr-14	1:22:00 AM	49.94	12.4	11.6	18.1	0.9	0.9	0.9	57.7	0.4
04-Apr-14	1:24:00 AM	49.94	12.4	11.6	17.9	0.9	0.9	0.9	57.5	0.4
04-Apr-14	1:26:00 AM	49.96	12.4	11.5	17.4	0.9	0.9	0.9	57.8	0.4
04-Apr-14	1:28:00 AM	49.97	12.5	11.3	17.9	1	0.9	0.9	58.1	0.3
04-Apr-14	1:30:00 AM	49.93	12.4	11.6	17.6	0.9	0.9	0.9	57.6	0.3
04-Apr-14	1:32:00 AM	49.96	12.4	11.6	17.7	1	0.9	0.9	57.6	0.3
04-Apr-14	1:34:00 AM	49.95	12.5	11.5	17.9	1	0.9	0.9	57.8	0.3
04-Apr-14	1:36:00 AM	49.92	12.5	11.5	17.6	0.9	0.9	1	58.1	0.3
04-Apr-14	1:38:00 AM	49.9	12.5	11.3	17.8	0.9	0.9	0.9	57.9	0.3
04-Apr-14	1:40:00 AM	49.91	12.5	11.5	17.7	0.9	0.9	1	57.8	0.3
04-Apr-14	1:42:00 AM	49.93	12.4	11.6	17.8	0.9	0.9	1	57.8	0.4
04-Apr-14	1:44:00 AM	49.91	12.5	11.6	17.9	0.9	0.9	1	57.8	0.3
04-Apr-14	1:46:00 AM	49.93	12.4	11.6	17.6	0.9	0.9	0.9	57.8	0.3
04-Apr-14	1:48:00 AM	49.93	12.4	11.7	17.9	0.9	0.9	0.9	57.7	0.4
04-Apr-14	1:50:00 AM	49.96	12.4	11.7	17.9	0.9	1	0.9	57.5	0.4
04-Apr-14	1:52:00 AM	50.01	12.4	11.4	16.8	1	0.9	0.9	58.2	0.3
04-Apr-14	1:54:00 AM	50.02	12.5	11.5	17.4	1	1	1	57.5	0.3
04-Apr-14	1:56:00 AM	49.99	12.4	11.7	18.1	1	1	1	57.4	0.4
04-Apr-14	1:58:00 AM	49.94	12.5	11.4	17.3	1	0.9	0.9	58.1	0.3
04-Apr-14	2:00:00 AM	49.88	12.5	11.6	17.5	1	0.9	0.9	57.6	0.3
04-Apr-14	2:02:00 AM	49.89	12.5	11.8	18.5	1	0.9	0.9	57.4	0.4

Harmonics & Voltage & Current Unbalance Measurement at Dr. Kumar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
04-Apr-14	2:04:00 AM	49.91	12.5	11.8	18.4	1	0.9	1	57.5	0.4
04-Apr-14	2:06:00 AM	49.93	12.5	11.6	17.4	1.1	0.9	1	57.5	0.3
04-Apr-14	2:08:00 AM	49.94	12.5	11.8	18.5	1.1	1	0.9	57.6	0.4
04-Apr-14	2:10:00 AM	49.96	12.5	11.8	18	1	0.9	0.9	57.5	0.3
04-Apr-14	2:12:00 AM	49.93	12.5	11.6	17.3	1	0.9	0.9	58	0.3
04-Apr-14	2:14:00 AM	49.9	12.5	11.6	18.5	1.1	0.9	1	57.5	0.4
04-Apr-14	2:16:00 AM	49.92	12.5	11.8	18.7	1.1	0.9	1	57.4	0.4
04-Apr-14	2:18:00 AM	49.88	12.6	11.8	18.2	1	0.9	1	57.6	0.4
04-Apr-14	2:20:00 AM	49.87	12.5	11.8	18.7	1.1	1	1	57.6	0.4
04-Apr-14	2:22:00 AM	49.88	12.5	11.9	18.6	1	1	1	57.8	0.4
04-Apr-14	2:24:00 AM	49.89	12.5	11.4	18.1	1	0.9	1	57.8	0.3
04-Apr-14	2:26:00 AM	49.9	12.5	11.7	18.6	1	1	1	57.7	0.4
04-Apr-14	2:28:00 AM	49.94	12.5	11.8	18.9	1.1	1	1	57.5	0.5
04-Apr-14	2:30:00 AM	49.97	12.5	11.8	18.1	1.1	1	1.1	57.9	0.4
04-Apr-14	2:32:00 AM	49.95	12.5	11.5	18.3	1.1	1	1	57.7	0.4
04-Apr-14	2:34:00 AM	49.92	12.5	12	19	1.1	1	1.1	57.5	0.4
04-Apr-14	2:36:00 AM	49.93	12.5	11.7	18.1	1.1	1	1.1	58	0.4
04-Apr-14	2:38:00 AM	49.94	12.6	11.7	18.6	1.1	1	1.1	57.7	0.3
04-Apr-14	2:40:00 AM	49.96	12.5	11.9	19	1.1	1	1.1	57.6	0.4
04-Apr-14	2:42:00 AM	49.97	12.6	11.9	18.8	1.1	1	1.1	57.7	0.4
04-Apr-14	2:44:00 AM	49.94	12.5	11.8	18.4	1.1	1	1.1	57.8	0.3
04-Apr-14	2:46:00 AM	49.93	12.6	11.9	19.1	1.2	1	1.1	57.7	0.4
04-Apr-14	2:48:00 AM	49.91	12.6	12	18.7	1.2	1	1.1	57.6	0.4
04-Apr-14	2:50:00 AM	49.97	12.6	11.8	18.5	1.2	1	1.1	57.7	0.3
04-Apr-14	2:52:00 AM	50.04	12.5	11.9	19	1.1	1	1.2	57.6	0.4
04-Apr-14	2:54:00 AM	50.07	12.5	12	19	1.1	1.1	1.1	57.6	0.4
04-Apr-14	2:56:00 AM	50.09	12.5	11.8	18.5	1.1	1.1	1.1	57.7	0.3
04-Apr-14	2:58:00 AM	50.05	12.6	11.9	18.8	1.2	1.1	1.1	57.7	0.3
04-Apr-14	3:00:00 AM	49.98	12.5	11.8	18.7	1.1	1.1	1.2	58.2	0.4
04-Apr-14	3:02:00 AM	49.93	12.6	11.9	18.7	1.1	1	1.1	57.8	0.3

Harmonics & Voltage & Current Unbalance Measurement at Dr. Kumar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
04-Apr-14	3:04:00 AM	49.88	12.6	12	19	1.2	1.1	1.1	57.6	0.4
04-Apr-14	3:06:00 AM	49.85	12.6	12	19.2	1.2	1.1	1.1	57.6	0.4
04-Apr-14	3:08:00 AM	49.84	12.5	12	18.8	1.2	1.1	1.2	58	0.3
04-Apr-14	3:10:00 AM	49.86	12.5	11.7	19	1.2	1.1	1.2	57.9	0.4
04-Apr-14	3:12:00 AM	49.9	12.5	12.2	19.6	1.3	1.1	1.2	57.5	0.5
04-Apr-14	3:14:00 AM	49.96	12.5	11.9	19	1.3	1.1	1.2	58.1	0.4
04-Apr-14	3:16:00 AM	50.01	12.5	12	19.3	1.3	1.1	1.2	57.6	0.5
04-Apr-14	3:18:00 AM	50.03	12.5	12.2	19.4	1.3	1.1	1.2	57.5	0.5
04-Apr-14	3:20:00 AM	50.03	12.5	12.1	18.9	1.3	1.1	1.2	57.6	0.4
04-Apr-14	3:22:00 AM	50.01	12.5	11.8	18.6	1.3	1.1	1.2	58	0.4
04-Apr-14	3:24:00 AM	49.97	12.5	12.2	19	1.3	1.1	1.2	57.3	0.5
04-Apr-14	3:26:00 AM	49.94	12.5	12.1	18.7	1.3	1.1	1.2	57.5	0.4
04-Apr-14	3:28:00 AM	49.94	12.5	12.1	18.8	1.2	1.1	1.2	57.5	0.4
04-Apr-14	3:30:00 AM	49.93	12.5	12.2	18.7	1.2	1.2	1.3	57.4	0.5
04-Apr-14	3:32:00 AM	49.96	12.5	12.2	18.7	1.3	1.1	1.2	57.3	0.5
04-Apr-14	3:34:00 AM	49.98	12.5	12.1	18.6	1.2	1.1	1.2	57.8	0.4
04-Apr-14	3:36:00 AM	49.96	12.5	11.9	18.6	1.3	1.1	1.2	57.8	0.4
04-Apr-14	3:38:00 AM	49.94	12.5	12.1	18.4	1.2	1.1	1.2	57.4	0.4
04-Apr-14	3:40:00 AM	49.98	12.5	12.1	18.3	1.2	1.1	1.2	57.4	0.4
04-Apr-14	3:42:00 AM	50.01	12.5	12.1	19	1.2	1.1	1.2	57.3	0.5
04-Apr-14	3:44:00 AM	50.01	12.6	12.1	18.7	1.2	1.2	1.2	57.5	0.3
04-Apr-14	3:46:00 AM	49.98	12.6	12.1	18.6	1.3	1.2	1.2	57.5	0.4
04-Apr-14	3:48:00 AM	49.97	12.6	12.1	18.4	1.2	1.1	1.2	57.5	0.4
04-Apr-14	3:50:00 AM	49.98	12.6	11.9	19	1.3	1.2	1.2	58.1	0.3
04-Apr-14	3:52:00 AM	49.99	12.6	12	18.9	1.3	1.2	1.2	57.5	0.4
04-Apr-14	3:54:00 AM	49.99	12.6	12	18.5	1.3	1.1	1.2	57.6	0.4
04-Apr-14	3:56:00 AM	49.98	12.7	12.1	18.7	1.3	1.2	1.3	57.5	0.4
04-Apr-14	3:58:00 AM	49.98	12.6	12	19.4	1.3	1.2	1.3	58	0.5
04-Apr-14	4:00:00 AM	49.97	12.6	11.8	18.9	1.3	1.2	1.3	57.6	0.4
04-Apr-14	4:02:00 AM	49.97	12.6	12.2	18.8	1.3	1.2	1.3	57.9	0.4

Harmonics & Voltage & Current Unbalance Measurement at Dr. Kumar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
04-Apr-14	4:04:00 AM	49.96	12.6	11.9	19.2	1.3	1.2	1.3	57.7	0.4
04-Apr-14	4:06:00 AM	49.93	12.6	12	18.8	1.3	1.2	1.3	57.6	0.3
04-Apr-14	4:08:00 AM	49.93	12.6	12.1	19	1.3	1.2	1.3	57.5	0.4
04-Apr-14	4:10:00 AM	49.91	12.6	12.1	18.7	1.3	1.2	1.3	57.4	0.5
04-Apr-14	4:12:00 AM	49.96	12.6	11.9	18.4	1.3	1.2	1.3	58	0.3
04-Apr-14	4:14:00 AM	50	12.6	12	20	1.3	1.3	1.3	57.7	0.4
04-Apr-14	4:16:00 AM	50.01	12.6	11.9	19.1	1.3	1.2	1.3	57.8	0.4
04-Apr-14	4:18:00 AM	49.97	12.6	12	18.7	1.4	1.2	1.3	57.4	0.3
04-Apr-14	4:20:00 AM	49.97	12.6	12.2	19.4	1.4	1.2	1.3	57.3	0.4
04-Apr-14	4:22:00 AM	49.96	12.6	12.1	19.5	1.4	1.2	1.3	57.4	0.3
04-Apr-14	4:24:00 AM	49.97	12.6	12	18.9	1.4	1.2	1.3	57.5	0.3
04-Apr-14	4:26:00 AM	50	12.6	11.9	19.5	1.4	1.1	1.3	57.8	0.4
04-Apr-14	4:28:00 AM	50	12.7	12.1	19.2	1.3	1.1	1.3	57.3	0.3
04-Apr-14	4:30:00 AM	49.94	12.6	12	18.9	1.3	1.1	1.3	57.5	0.3
04-Apr-14	4:32:00 AM	49.95	12.6	12.2	19.5	1.3	1.2	1.3	57.3	0.4
04-Apr-14	4:34:00 AM	49.94	12.6	11.8	18.8	1.3	1.1	1.3	57.7	0.4
04-Apr-14	4:36:00 AM	49.93	12.6	12	19	1.3	1.2	1.3	57.3	0.3
04-Apr-14	4:38:00 AM	49.93	12.6	12.2	19.5	1.2	1.1	1.3	57.4	0.4
04-Apr-14	4:40:00 AM	49.93	12.6	12.1	19.1	1.2	1.1	1.3	57.4	0.4
04-Apr-14	4:42:00 AM	49.94	12.6	12.1	19.2	1.2	1.1	1.3	57.9	0.4
04-Apr-14	4:44:00 AM	49.95	12.6	12	19.1	1.3	1.1	1.2	57.4	0.4
04-Apr-14	4:46:00 AM	49.96	12.6	12	18.9	1.2	1.1	1.2	57.4	0.3
04-Apr-14	4:48:00 AM	49.95	12.6	12.2	19.4	1.2	1.1	1.3	57.3	0.4
04-Apr-14	4:50:00 AM	49.95	12.6	12.1	18.9	1.2	1.1	1.3	57.2	0.4
04-Apr-14	4:52:00 AM	50	12.6	12.1	19.2	1.2	1.1	1.3	57.2	0.4
04-Apr-14	4:54:00 AM	50.07	12.6	12	19.1	1.3	1.1	1.3	57.4	0.3
04-Apr-14	4:56:00 AM	50.12	12.7	12.2	19.4	1.3	1.1	1.3	57.4	0.4
04-Apr-14	4:58:00 AM	50.1	12.7	12.2	19.6	1.2	1.1	1.3	57.3	0.3
04-Apr-14	5:00:00 AM	50.04	12.7	12.1	19.8	1.2	1.1	1.3	57.4	0.3
04-Apr-14	5:02:00 AM	49.96	12.7	12.1	19.2	1.2	1.1	1.3	57.5	0.3

Harmonics & Voltage & Current Unbalance Measurement at Dr. Kumar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
04-Apr-14	5:04:00 AM	49.94	12.7	11.9	19.2	1.2	1.1	1.3	57.7	0.4
04-Apr-14	5:06:00 AM	49.94	12.7	12	19.3	1.2	1.1	1.2	57.2	0.3
04-Apr-14	5:08:00 AM	49.94	12.7	12	19	1.2	1.1	1.2	57.4	0.2
04-Apr-14	5:10:00 AM	49.97	12.7	12.1	19.7	1.2	1.2	1.2	57.4	0.4
04-Apr-14	5:12:00 AM	50	12.7	12.1	19.3	1.2	1.2	1.2	57.4	0.3
04-Apr-14	5:14:00 AM	49.98	12.7	11.8	19.4	1.2	1.1	1.2	58	0.4
04-Apr-14	5:16:00 AM	49.92	12.7	11.9	19.3	1.2	1.1	1.2	57.3	0.4
04-Apr-14	5:18:00 AM	49.9	12.7	11.9	19.1	1.2	1.1	1.2	57.4	0.3
04-Apr-14	5:20:00 AM	49.86	12.7	12	19.5	1.2	1.1	1.2	57.3	0.4
04-Apr-14	5:22:00 AM	49.86	12.7	11.9	19.1	1.2	1.1	1.2	57.5	0.4
04-Apr-14	5:24:00 AM	49.88	12.7	11.9	19.4	1.2	1	1.1	57.4	0.4
04-Apr-14	5:26:00 AM	49.88	12.6	11.9	19.1	1.1	0.9	1.1	57.3	0.4
04-Apr-14	5:28:00 AM	49.89	12.7	11.7	18.7	0.9	0.7	0.9	58	0.4
04-Apr-14	5:30:00 AM	49.85	12.7	11.8	19.1	1	0.8	1	57.7	0.3
04-Apr-14	5:32:00 AM	49.83	12.7	11.9	19.4	1.2	1.2	1.2	57.5	0.3
04-Apr-14	5:34:00 AM	49.8	12.6	12	19.6	1.2	1.1	1.1	57.5	0.4
04-Apr-14	5:36:00 AM	49.74	12.6	12	19.3	1.2	1.1	1.2	57.3	0.4
04-Apr-14	5:38:00 AM	49.71	12.7	12	19.3	1.2	1.1	1.1	57.3	0.4
04-Apr-14	5:40:00 AM	49.76	12.7	12	19.4	1.2	1.1	1.2	57.4	0.4
04-Apr-14	5:42:00 AM	49.82	12.7	12	19.8	1.2	1.2	1.2	57.3	0.5
04-Apr-14	5:44:00 AM	49.78	12.6	11.9	19.4	1.1	1.2	1.2	58	0.4
04-Apr-14	5:46:00 AM	49.76	12.6	11.7	19.4	1.1	1.2	1.2	57.5	0.4
04-Apr-14	5:48:00 AM	49.78	12.6	11.9	19.4	1.2	1.1	1.2	57.5	0.5
04-Apr-14	5:50:00 AM	49.86	12.6	11.9	19.1	1.1	1.1	1.2	57.4	0.6
04-Apr-14	5:52:00 AM	49.95	12.5	12	19.3	1.1	1.1	1.1	57.4	0.6
04-Apr-14	5:54:00 AM	50.07	12.5	11.9	19	1.1	1.1	1.1	57.8	0.6
04-Apr-14	5:56:00 AM	50.12	12.5	11.6	19	1.1	1.1	1.1	57.7	0.5
04-Apr-14	5:58:00 AM	49.98	12.6	11.8	18.8	8.5	1.2	8.6	56.9	38.8

❖ **Observation:**

- Voltage unbalance is within limit.
- Current unbalance is considerable.
- Average power factor is 0.88.
- Line Voltage total harmonics distortion is within limit.
- Total Current Harmonics distortion is there.

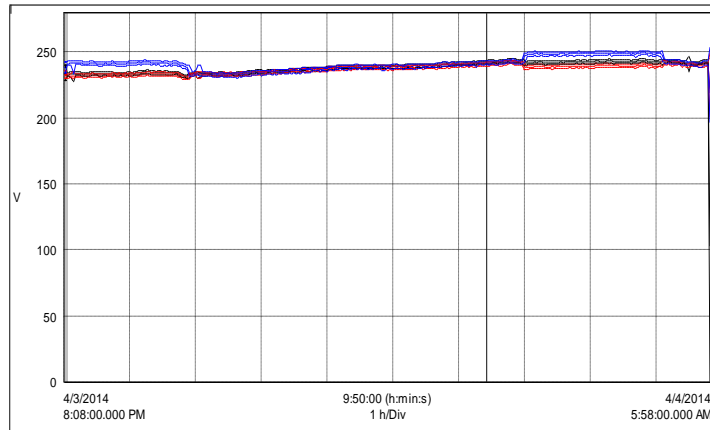
❑ Study of electrical parameters at Dr. Kumar Switching Point

1. Phase Voltage

Table: Phase Voltage

Name	Date	Time	Min	Max	Unit	Duration	Unit
V1 RMS	03-04-14	20:08:00	102.8	243.9	V	9:52:00	(h:min:s)
V2 RMS	03-04-14	20:08:00	222.2	242.6	V	9:52:00	(h:min:s)
V3 RMS	03-04-14	20:08:00	219.2	250.2	V	9:52:00	(h:min:s)

Graph: Phase Voltage Variation for the Recorded Time



RMS, Max RMS & Min. RMS
Phase voltage variation

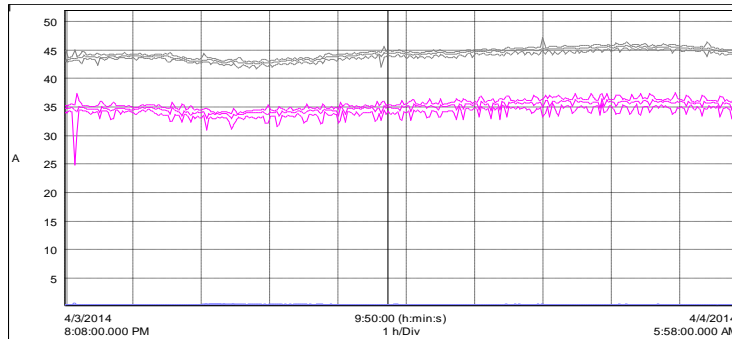
➤ Voltage unbalance is within limit

1. Current

Table: Current

Name	Date	Time	Min	Max	Unit	Duration	Unit
A1 RMS	03-04-14	20:08:00	42.59	45.81	A	9:52:00	(h:min:s)
A2 RMS	03-04-14	20:08:00	32.97	36.51	A	9:52:00	(h:min:s)
A3 RMS	03-04-14	20:08:00	0.39	0.5	A	9:52:00	(h:min:s)

Graph : Line Current Variation for recorded time



RMS, Max RMS & Min. RMS
Current variation

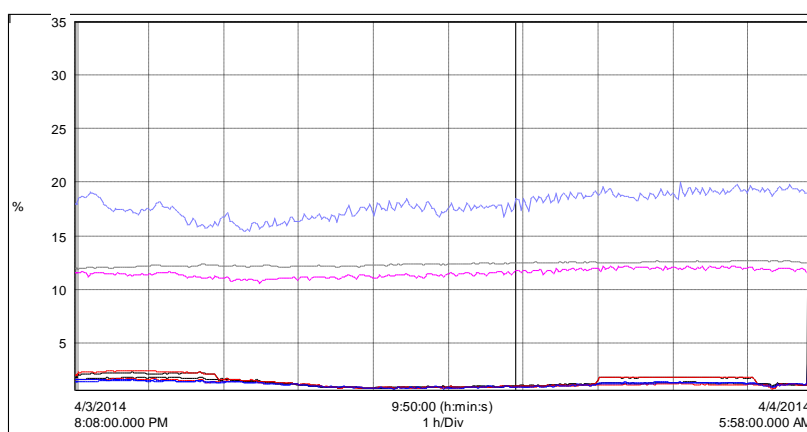
➤ Current is slightly unbalanced.

3. Total harmonic Distortion (THD).

Table: THD

Name	Date	Time	Avg	Min	Max	Unit	Duration	Unit
A1 THD	03-04-2014	08:00.0	12.383	11.9	12.7	%	09:52:00	(h:min:s)
A2 THD	03-04-2014	08:00.0	11.565	10.6	12.2	%	09:52:00	(h:min:s)
A3 THD	03-04-2014	08:00.0	17.909	15.5	20	%	09:52:00	(h:min:s)
U1 THD	03-04-2014	08:00.0	1.273	0.8	8.5	%	09:52:00	(h:min:s)
U2 THD	03-04-2014	08:00.0	1.151	0.7	1.7	%	09:52:00	(h:min:s)
U3 THD	03-04-2014	08:00.0	1.182	0.8	8.6	%	09:52:00	(h:min:s)
V1 THD	03-04-2014	08:00.0	1.554	0.8	31.8	%	09:52:00	(h:min:s)
V2 THD	03-04-2014	08:00.0	1.498	0.8	3.4	%	09:52:00	(h:min:s)
V3 THD	03-04-2014	08:00.0	1.177	0.7	3.4	%	09:52:00	(h:min:s)

Graph : THD



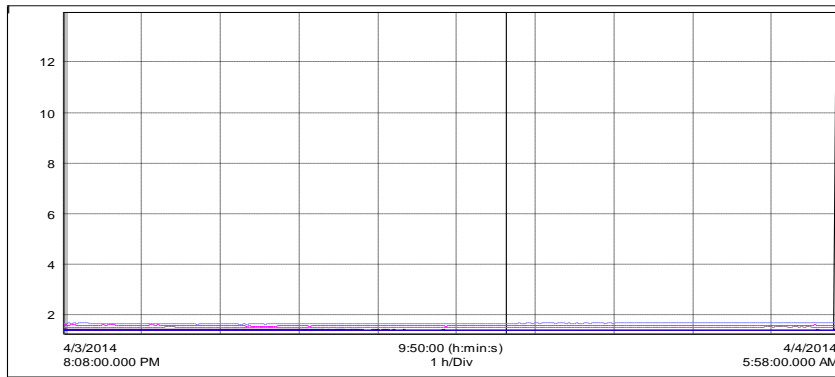
Variation of current, Phase Voltage, Line Voltage
Total Harmonic Distortion

4. Crest Factor

Table: Crest Factor

Name	Date	Time	Min	Max	Duration	Unit
A1 CF	03-04-14	20:08:00	1.51	1.54	9:52:00	(h:min:s)
A2 CF	03-04-14	20:08:00	1.56	1.61	9:52:00	(h:min:s)
A3 CF	03-04-14	20:08:00	1.64	1.71	9:52:00	(h:min:s)

Graph: Crest Factor



Variation of Crest Factor

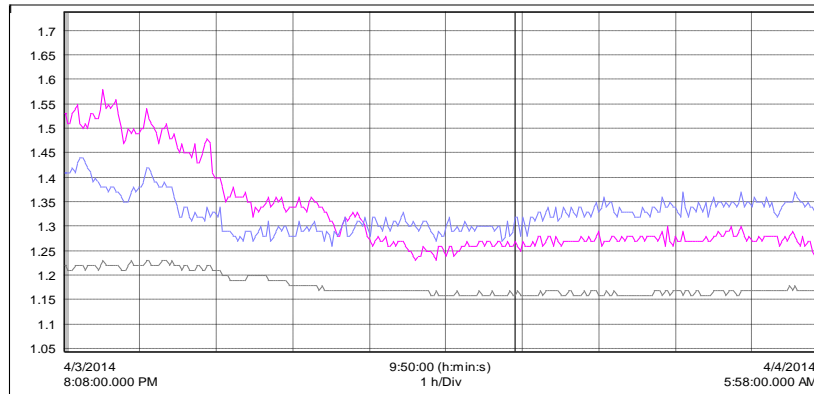
- Crest factor is above 1.41 hence there is some degree of impacting

5. K Factor

Table: K- Factor

Name	Date	Time	Min	Max	Unit	Duration	Unit
KF1	03-04-14	20:08:00	1.16	1.23		9:52:00	(h:min:s)
KF2	03-04-14	20:08:00	1.23	1.58		9:52:00	(h:min:s)
KF3	03-04-14	20:08:00	1.26	1.44		9:52:00	(h:min:s)

Graph: K- Factor

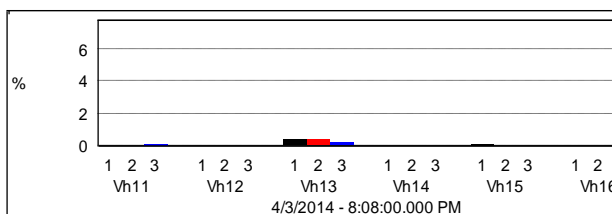
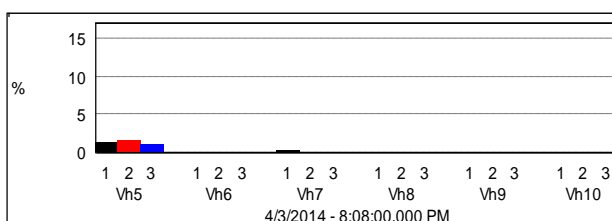
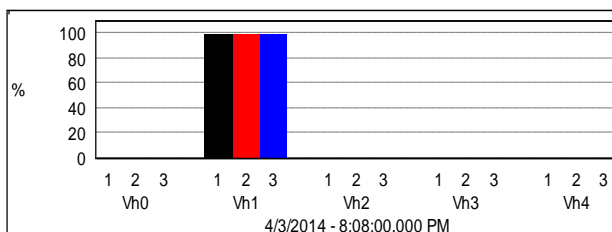


Variation of K Factor

- K-factor is from 1.1 to 1.44. K-factor above 1 indicates a non-linear load & presence of harmonics.

Voltage Harmonics of different order & their Max, Min and average values

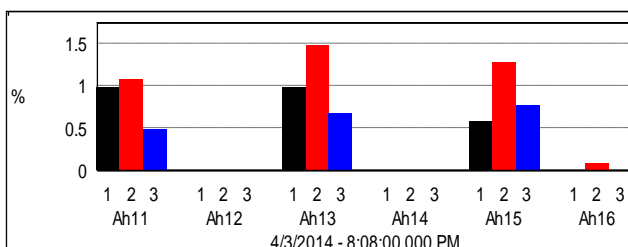
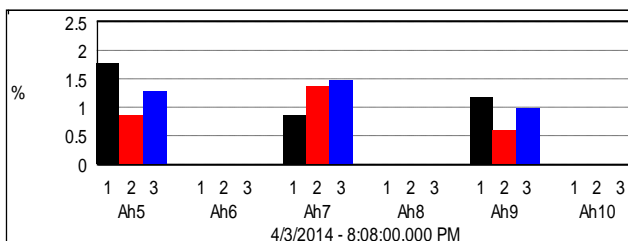
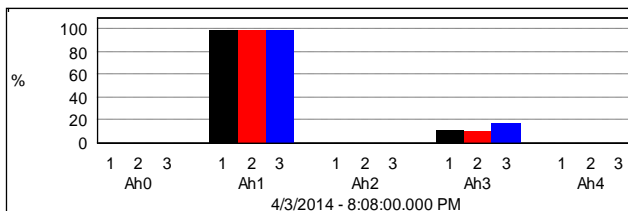
Name	Avg	Min	Max	Unit
V1h0	0.028	0	3.9	%
V1h1	100	100	100	%
V1h10	0.026	0	7.7	%
V1h11	0.054	0	7	%
V1h12	0.024	0	7	%
V1h13	0.265	0.1	6.8	%
V1h14	0.023	0	6.8	%
V1h15	0.084	0	6.8	%
V1h16	0.024	0	7.1	%
V1h2	0.039	0	11.4	%
V1h3	0.698	0.1	30.6	%
V1h4	0.032	0	9.6	%
V1h5	1.125	0.6	15.6	%
V1h6	0.029	0	8.7	%
V1h7	0.466	0.2	10.1	%
V1h8	0.028	0	8.4	%
V1h9	0.114	0	7.7	%
V2h0	0.101	0.1	0.3	%
V2h1	100	100	100	%
V2h10	0.001	0	0.2	%
V2h11	0.01	0	0.3	%
V2h12	0.001	0	0.2	%
V2h13	0.255	0.2	0.4	%
V2h14	0	0	0.1	%
V2h15	0.001	0	0.2	%
V2h16	0	0	0.1	%
V2h2	0.007	0	2.2	%
V2h3	0.524	0	2.9	%
V2h4	0.002	0	0.6	%
V2h5	1.215	0.7	2	%
V2h6	0.001	0	0.4	%
V2h7	0.314	0.1	0.8	%
V2h8	0.001	0	0.3	%
V2h9	0.018	0	0.3	%
V3h0	0.001	0	0.2	%
V3h1	100	100	100	%
V3h10	0	0	0.1	%
V3h11	0.154	0	0.3	%
V3h12	0	0	0.1	%
V3h13	0.264	0.1	0.5	%
V3h14	0	0	0.1	%
V3h15	0.072	0	0.2	%
V3h16	0	0	0	%
V3h2	0.005	0	1.6	%
V3h3	0.476	0.1	2.8	%
V3h4	0.001	0	0.4	%
V3h5	0.889	0.6	1.3	%



V3h6	0.001	0	0.2	%
V3h7	0.219	0	0.8	%
V3h8	0.001	0	0.2	%
V3h9	0.031	0	0.2	%

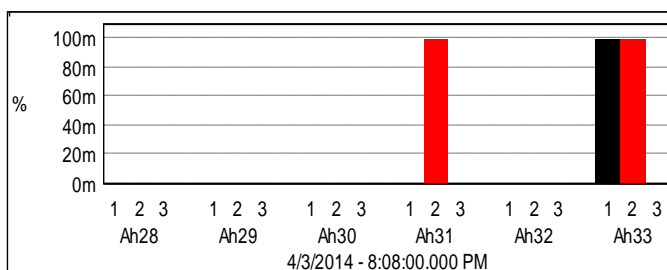
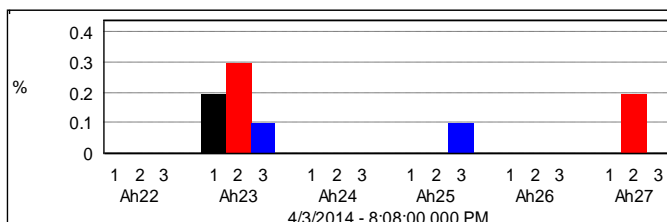
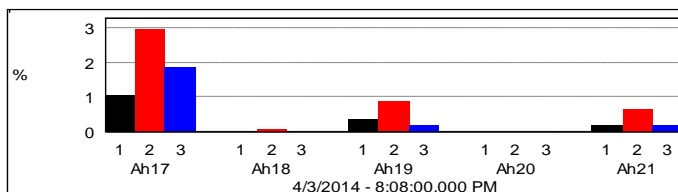
❖ Current Harmonics of different order & their Max, Min and average values

Name	Avg	Min	Max	Unit
A1h0	0	0	0	%
A1h1	100	100	100	%
A1h10	0	0	0.1	%
A1h11	0.671	0.3	1	%
A1h12	0	0	0.1	%
A1h13	0.743	0.4	1.2	%
A1h14	0	0	0	%
A1h15	0.397	0.1	0.8	%
A1h16	0	0	0	%
A1h2	0.005	0	1.4	%
A1h3	12.04	11.5	12.5	%
A1h4	0.003	0	0.8	%
A1h5	2.049	1.7	2.3	%
A1h6	0	0	0.1	%
A1h7	0.672	0.2	1.3	%
A1h8	0	0	0.1	%
A1h9	1.15	0.9	1.3	%
A2h0	0	0	0	%
A2h1	100	100	100	%
A2h10	0	0	0.1	%
A2h11	0.889	0.6	1.2	%
A2h12	0	0	0.1	%
A2h13	1.129	0.8	1.6	%
A2h14	0.039	0	0.2	%
A2h15	1.006	0.3	1.6	%
A2h16	0.014	0	0.1	%
A2h2	0.005	0	1.5	%
A2h3	11.032	10	11.8	%
A2h4	0.005	0	1.3	%
A2h5	1.019	0.6	1.3	%
A2h6	0.001	0	0.2	%
A2h7	1.408	1.2	1.7	%
A2h8	0	0	0.1	%
A2h9	0.395	0.1	0.8	%
A3h0	0	0	0	%
A3h1	100	100	100	%
A3h10	0.001	0	0.2	%
A3h11	0.307	0.1	0.6	%
A3h12	0.001	0	0.2	%
A3h13	0.555	0.2	1	%
A3h14	0	0	0.1	%
A3h15	0.59	0.2	0.9	%
A3h16	0	0	0.1	%
A3h2	0.463	0.3	2	%



A3h3	17.66	15.2	19.8	%
A3h4	0.005	0	1.5	%
A3h5	1.84	1.1	2.3	%
A3h6	0.001	0	0.4	%
A3h7	1.157	0.7	1.7	%
A3h8	0.001	0	0.2	%
A3h9	0.894	0.6	1.2	%

Name	Avg	Min	Max	Unit
A1h17	0.639	0.4	1.2	%
A1h18	0	0	0	%
A1h19	0.212	0.1	0.5	%
A1h20	0	0	0	%
A1h21	0.089	0	0.2	%
A1h22	0	0	0	%
A1h23	0.122	0	0.3	%
A1h24	0	0	0	%
A1h25	0.022	0	0.1	%
A1h26	0	0	0	%
A1h27	0.001	0	0.1	%
A1h28	0	0	0	%
A1h29	0	0	0	%
A1h30	0	0	0	%
A1h31	0.026	0	0.1	%
A1h32	0	0	0	%
A1h33	0.02	0	0.1	%
A2h17	1.708	1	3	%
A2h18	0.049	0	0.1	%
A2h19	0.819	0.5	1.3	%
A2h20	0	0	0.1	%
A2h21	0.636	0.4	0.9	%
A2h22	0	0	0	%
A2h23	0.258	0.2	0.4	%
A2h24	0	0	0	%
A2h25	0.073	0	0.2	%
A2h26	0	0	0	%
A2h27	0.14	0	0.3	%
A2h28	0	0	0	%
A2h29	0.046	0	0.1	%
A2h30	0	0	0	%
A2h31	0.034	0	0.1	%
A2h32	0	0	0	%
A2h33	0.053	0	0.1	%
A3h17	1.087	0.7	1.9	%
A3h18	0	0	0.1	%
A3h19	0.056	0	0.3	%
A3h20	0	0	0	%
A3h21	0.116	0	0.2	%
A3h22	0	0	0	%
A3h23	0.03	0	0.1	%
A3h24	0	0	0	%



A3h25	0.035	0	0.1	%	
A3h26	0	0	0	%	
A3h27	0	0	0.1	%	
A3h28	0	0	0	%	
A3h29	0	0	0	%	
A3h30	0	0	0	%	
A3h31	0.022	0	0.1	%	
A3h32	0	0	0	%	
A3h33	0	0	0	%	

❖ **Observation:**

- Current Distortion in 3rdharmonic is considerable.

❑ **Study of Power Parameter and Harmonics Measurements at Golbazar Switching Point**

Data logging is carried out for different power parameters like voltage, current, PF, kW, Current unbalance, Voltage unbalance, THD, etc. and tabulated as under

Measurement of Power Parameters at Golbazar Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
		Hz	V	V	V	A	A	A	kW	kW	kW		
04/12/2013	7:10:00 PM	50.07	417.8	421.5	417.4	76.61	97.16	16.39	14.94	14.67	2.84	32.45	0.715
04/12/2013	7:15:00 PM	50.13	418.4	422	417.7	76.2	98.01	16.27	14.89	14.74	2.82	32.44	0.714
04/12/2013	7:20:00 PM	50.13	419.4	422.6	418.2	75.96	98.91	16.26	14.83	14.84	2.83	32.50	0.714
04/12/2013	7:25:00 PM	50.04	419.2	423	418.4	76.09	98.87	16.34	14.84	14.85	2.84	32.53	0.714
04/12/2013	7:30:00 PM	50.14	420.2	423.9	419.1	75.93	98.96	16.27	14.85	14.89	2.83	32.57	0.715
04/12/2013	7:35:00 PM	50.18	420.4	424.2	419.7	75.89	98.96	16.34	14.82	14.83	2.85	32.50	0.714
04/12/2013	7:40:00 PM	50.09	420.8	424.5	420	76.15	99.32	16.37	14.87	14.92	2.86	32.65	0.715
04/12/2013	7:45:00 PM	50.08	421.4	425.1	420.8	76.01	99.41	16.48	14.94	14.86	2.86	32.65	0.714
04/12/2013	7:50:00 PM	50.28	423.2	426.7	422.5	76.15	99.09	16.47	15.03	14.94	2.85	32.82	0.714
04/12/2013	7:55:00 PM	50.32	423.2	427.1	422.8	76.34	99.13	16.45	15.11	14.94	2.85	32.90	0.716
04/12/2013	8:00:00 PM	50.41	423.2	427.2	422.7	74.7	99.44	16.31	14.76	14.81	2.86	32.43	0.716
04/12/2013	8:05:00 PM	50.31	422.8	426.8	422.2	74.51	100.26	16.31	14.57	14.89	2.87	32.33	0.715
04/12/2013	8:10:00 PM	50.13	421.5	425.5	421.1	75.14	100.35	16.18	14.60	14.96	2.81	32.37	0.714
04/12/2013	8:15:00 PM	50.09	421.9	425.9	421.4	76.42	100.46	16.27	14.79	15.05	2.81	32.64	0.712
04/12/2013	8:20:00 PM	50.14	422.4	426.2	421.6	75.62	100.83	16.01	14.70	15.04	2.78	32.53	0.715
04/12/2013	8:25:00 PM	50.01	422	425.4	421	75.89	101.23	16.08	14.69	15.01	2.78	32.48	0.713
04/12/2013	8:30:00 PM	50.16	423.2	426.1	421.9	75.66	100.81	16.34	14.70	14.96	2.80	32.46	0.711
04/12/2013	8:35:00 PM	50.23	424	427.4	422.9	74.74	101.86	15.98	14.42	15.11	2.78	32.31	0.712
04/12/2013	8:40:00 PM	50.23	424.1	428	423.5	74.55	101.66	16.46	14.38	15.04	2.89	32.32	0.713
04/12/2013	8:45:00 PM	50.25	424.9	428.1	423.9	75.47	101.21	16.28	14.58	15.07	2.87	32.52	0.715
04/12/2013	8:50:00 PM	50.28	425.6	428.8	424.9	75.26	101.4	16.31	14.55	15.10	2.85	32.51	0.713
04/12/2013	8:55:00 PM	50	424.7	427.7	423.7	76.66	101.77	16.29	14.78	15.26	2.81	32.85	0.713
04/12/2013	9:00:00 PM	50	424.8	428.1	423.9	76.58	101.86	16.53	14.78	15.21	2.84	32.82	0.712
04/12/2013	9:05:00 PM	50.04	424.9	428.5	424.3	76.26	102.14	16.31	14.70	15.23	2.84	32.77	0.714
04/12/2013	9:10:00 PM	49.99	424.5	428.5	424	76.41	102.32	16.24	14.65	15.20	2.81	32.66	0.712

Measurement of Power Parameters at Golbazar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
			Hz	V	V	V	A	A	A	kW	kW		
04/12/2013	9:15:00 PM	50.08	425.2	429.1	424.8	76.32	102.15	16	14.64	15.11	2.79	32.54	0.712
04/12/2013	9:20:00 PM	50.28	426.7	430.6	426.7	75.38	102.02	16.5	14.61	15.08	2.87	32.56	0.712
04/12/2013	9:25:00 PM	50.18	426.6	430.3	426.4	75.34	102.16	16.7	14.57	15.10	2.92	32.59	0.714
04/12/2013	9:30:00 PM	50.23	427.5	430.8	427.4	75.29	101.82	17.11	14.66	14.99	2.99	32.63	0.714
04/12/2013	9:35:00 PM	50.25	428.7	432	428.4	75.74	102.27	16.87	14.74	15.16	2.96	32.86	0.716
04/12/2013	9:40:00 PM	50.27	428.9	432.4	428.8	75.96	102.34	16.76	14.79	15.23	2.91	32.92	0.714
04/12/2013	9:45:00 PM	50.28	429.3	432.9	429.2	75.97	102.68	16.83	14.81	15.26	2.92	32.98	0.714
04/12/2013	9:50:00 PM	50.28	429.3	433.2	429.2	75.57	102.94	16.95	14.69	15.25	2.96	32.90	0.715
04/12/2013	9:55:00 PM	50.16	426.8	430.4	426.4	75.45	102.1	16.81	14.56	15.02	2.92	32.50	0.715
04/12/2013	10:00:00 PM	50.06	423.9	427.2	423.5	75.39	100.91	16.79	14.50	14.69	2.89	32.08	0.715
04/12/2013	10:05:00 PM	50.01	421.9	425.4	421.9	74.77	100.4	16.96	14.28	14.53	2.91	31.73	0.716
04/12/2013	10:10:00 PM	50.03	421.1	424.4	420.9	74.53	100.62	16.63	14.15	14.53	2.84	31.51	0.714
04/12/2013	10:15:00 PM	50.04	421.1	423.9	420.6	74.96	100.34	16.61	14.24	14.50	2.80	31.54	0.713
04/12/2013	10:20:00 PM	50.11	421.6	424.6	421.1	75.39	100.44	16.49	14.32	14.56	2.79	31.67	0.714
04/12/2013	10:25:00 PM	50.1	421.6	424.7	421.2	75.42	100.31	16.17	14.28	14.55	2.74	31.57	0.715
04/12/2013	10:30:00 PM	50.01	421	424.5	421	75.52	100.57	16.46	14.26	14.53	2.80	31.59	0.715
04/12/2013	10:35:00 PM	50.03	421.5	424.8	421.4	75.38	100.5	16.5	14.26	14.49	2.82	31.56	0.716
04/12/2013	10:40:00 PM	50.08	422.3	425.6	422.3	75.84	101	16.36	14.32	14.61	2.79	31.72	0.715
04/12/2013	10:45:00 PM	50.09	422.8	426.1	423.1	76.13	101.2	16.26	14.32	14.64	2.79	31.74	0.715
04/12/2013	10:50:00 PM	50.14	423.7	427	424.4	75.45	101.02	16.53	14.25	14.53	2.83	31.61	0.714
04/12/2013	10:55:00 PM	50.26	425.2	428.5	425.8	76.01	101.11	16.49	14.39	14.60	2.82	31.81	0.713
04/12/2013	11:00:00 PM	50.2	425.5	428.9	426.1	76.01	101.92	16.43	14.38	14.71	2.82	31.91	0.714
04/12/2013	11:05:00 PM	50.17	426.3	429.5	426.6	76.59	102.47	16.56	14.48	14.89	2.85	32.22	0.715
04/12/2013	11:10:00 PM	50.13	426.6	429.8	426.9	76.54	102.3	16.61	14.50	14.84	2.85	32.19	0.715
04/12/2013	11:15:00 PM	50.24	427.8	430.8	428	76.28	102.06	16.71	14.54	14.80	2.86	32.21	0.715
04/12/2013	11:20:00 PM	50.27	428.4	431.5	428.9	76.66	102.13	16.92	14.67	14.85	2.87	32.40	0.714
04/12/2013	11:25:00 PM	50.22	428.8	431.4	428.6	76.33	102.27	17.33	14.61	14.95	2.92	32.48	0.714
04/12/2013	11:30:00 PM	50.15	429.1	431.8	429.2	76.69	102.34	17.65	14.78	15.18	2.89	32.85	0.713
04/12/2013	11:35:00 PM	50.16	429.7	432.6	429.7	76.87	102.82	17.5	14.73	15.27	2.90	32.89	0.714

Measurement of Power Parameters at Golbazar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
			Hz	V	V	V	A	A	A	kW	kW		
04/12/2013	11:40:00 PM	50.2	430.3	433	430.2	77.1	102.84	17.32	14.76	15.32	2.90	32.98	0.716
04/12/2013	11:45:00 PM	50.2	430.5	433	430.4	77.29	103.12	17.01	14.80	15.42	2.81	33.03	0.715
04/12/2013	11:50:00 PM	50.26	431.4	434	431.2	77.11	103.02	17.32	14.81	15.41	2.88	33.09	0.717
04/12/2013	11:55:00 PM	50.14	431	433.6	430.7	77.34	103.08	17.15	14.81	15.37	2.85	33.04	0.717
05/12/2013	12:00:00 AM	50.16	431	433.7	430.8	77.6	103.12	17.01	14.81	15.42	2.82	33.05	0.716
05/12/2013	12:05:00 AM	50.22	431.4	434	431	77.9	103.23	16.71	14.87	15.46	2.74	33.07	0.714
05/12/2013	12:10:00 AM	50.1	430.7	433.8	430.8	77.5	103.22	17.13	14.74	15.37	2.84	32.95	0.715
05/12/2013	12:15:00 AM	50.13	430.7	433.7	430.7	77.22	102.95	17.43	14.68	15.30	2.88	32.87	0.715
05/12/2013	12:20:00 AM	50.11	430.8	433.6	430.9	77.75	103.19	17.54	14.76	15.33	2.89	32.98	0.714
05/12/2013	12:25:00 AM	50	430.2	433	430.1	78.07	102.89	17.41	14.77	15.28	2.86	32.92	0.715
05/12/2013	12:30:00 AM	49.95	430	432.5	430	78.38	103.01	17.09	14.86	15.24	2.79	32.90	0.714
05/12/2013	12:35:00 AM	50.07	430.5	433	430.2	78.14	103.17	17.04	14.80	15.35	2.79	32.95	0.716
05/12/2013	12:40:00 AM	50.15	431.4	433.7	431.2	77.97	102.72	17.28	14.85	15.27	2.83	32.95	0.716
05/12/2013	12:45:00 AM	50.16	431.6	434.3	431.5	77.97	103.06	17.26	14.81	15.33	2.83	32.98	0.716
05/12/2013	12:50:00 AM	50.16	431.7	434	431.6	78.04	103.46	17.15	14.78	15.37	2.81	32.97	0.716
05/12/2013	12:55:00 AM	50.04	431.4	433.7	431.3	78.08	103.59	17.34	14.76	15.32	2.85	32.93	0.716
05/12/2013	1:00:00 AM	49.92	430.8	433.1	430.8	78.32	103.64	17.38	14.77	15.28	2.84	32.89	0.715
05/12/2013	1:05:00 AM	49.97	431.3	433.4	430.8	78.47	103.45	17.46	14.80	15.26	2.84	32.91	0.715
05/12/2013	1:10:00 AM	49.95	431.2	433.4	430.7	78.51	103.83	17.26	14.79	15.31	2.81	32.91	0.715
05/12/2013	1:15:00 AM	49.92	430.8	433	430.5	78.92	103.58	17.32	14.82	15.22	2.81	32.85	0.713
05/12/2013	1:20:00 AM	49.94	431.5	433.8	431.1	79.02	103.67	17.41	14.87	15.23	2.81	32.92	0.713
05/12/2013	1:25:00 AM	49.98	432	434.1	431.7	79.02	103.52	17.28	14.88	15.21	2.79	32.89	0.713
05/12/2013	1:30:00 AM	50.06	432.4	434.9	432.2	78.38	104.06	17.35	14.74	15.29	2.83	32.87	0.714
05/12/2013	1:35:00 AM	50.14	433	435.4	432.9	78.25	103.88	17.43	14.76	15.25	2.85	32.85	0.715
05/12/2013	1:40:00 AM	50.09	432.9	435.1	432.9	78.25	103.82	17.44	14.74	15.21	2.85	32.80	0.715
05/12/2013	1:45:00 AM	50.1	433.9	435.9	433.2	78.55	104.12	17.53	14.82	15.29	2.84	32.95	0.714
05/12/2013	1:50:00 AM	50.2	435.5	437.8	434.8	78.45	104.46	17.15	14.82	15.38	2.72	32.92	0.707
05/12/2013	1:55:00 AM	50.17	436.9	439.1	436.2	79.08	104.81	17.07	14.98	15.48	2.71	33.18	0.708
05/12/2013	2:00:00 AM	50.06	436.5	438.9	436.1	79.25	104.88	17.31	15.01	15.48	2.72	33.21	0.706

Measurement of Power Parameters at Golbazar Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
			Hz	V	V	V	A	A	A	kW	kW		
05/12/2013	2:05:00 AM	50.01	435.3	438	435	79.5	104.72	17.21	15.00	15.43	2.70	33.13	0.707
05/12/2013	2:10:00 AM	50	435.1	437.7	434.7	79.2	104.66	17.15	14.92	15.37	2.69	32.98	0.707
05/12/2013	2:15:00 AM	50.04	435	437.7	434.8	78.88	104.34	17.3	14.85	15.27	2.72	32.85	0.707
05/12/2013	2:20:00 AM	49.98	434.4	437.2	434.3	79.09	104.66	17.3	14.85	15.30	2.71	32.85	0.707
05/12/2013	2:25:00 AM	50.03	434.6	437.4	434.6	78.99	104.51	17.36	14.83	15.27	2.73	32.82	0.707
05/12/2013	2:30:00 AM	49.96	434.4	437.4	434.3	79.15	104.82	17.43	14.82	15.29	2.73	32.84	0.707
05/12/2013	2:35:00 AM	49.92	434.2	437.2	434	79.13	104.83	17.4	14.79	15.06	2.79	32.64	0.708
05/12/2013	2:40:00 AM	49.96	434.4	437.3	434.2	79.25	104.69	17.33	14.82	14.90	2.80	32.52	0.708
05/12/2013	2:45:00 AM	50.04	435	437.7	434.9	79.21	104.33	17.28	14.88	14.88	2.77	32.53	0.708
05/12/2013	2:50:00 AM	50.19	436.1	438.9	435.8	78.97	104.61	17.17	14.83	14.92	2.77	32.52	0.708
05/12/2013	2:55:00 AM	50.14	435.8	438.4	435.5	79.07	104.76	17.05	14.81	14.87	2.75	32.43	0.708
05/12/2013	3:00:00 AM	50.12	435.7	438.4	435.3	79.25	104.73	17.12	14.79	14.86	2.76	32.42	0.708
05/12/2013	3:05:00 AM	50.11	435.7	438.6	435.5	79.35	104.82	17.31	14.85	14.85	2.78	32.48	0.708
05/12/2013	3:10:00 AM	50.05	436	438.9	435.7	79.39	105	17.38	14.82	14.86	2.80	32.48	0.708
05/12/2013	3:15:00 AM	50.05	436.1	438.8	435.9	79.54	105.01	17.57	14.83	14.81	2.83	32.47	0.707
05/12/2013	3:20:00 AM	50.06	436.3	439.3	436.4	79.61	105.11	17.52	14.81	14.80	2.82	32.42	0.706
05/12/2013	3:25:00 AM	50.09	436.3	439.2	436.4	79.97	104.61	17.32	14.85	14.71	2.77	32.33	0.705
05/12/2013	3:30:00 AM	50	435.5	438.5	435.4	79.86	105.06	17.41	14.74	14.73	2.79	32.26	0.705
05/12/2013	3:35:00 AM	50	435.1	438	435.2	79.9	104.77	17.67	14.76	14.66	2.81	32.23	0.704
05/12/2013	3:40:00 AM	50	435.1	438.1	435.5	79.79	104.72	17.58	14.78	14.64	2.79	32.22	0.705
05/12/2013	3:45:00 AM	50.09	435.8	438.6	435.9	79.42	104.74	17.49	14.72	14.60	2.78	32.10	0.704
05/12/2013	3:50:00 AM	50.16	436.6	439.2	436.5	79.42	104.56	17.18	14.70	14.60	2.74	32.04	0.705
05/12/2013	3:55:00 AM	50.23	437.4	440	437.2	79.32	104.74	17.32	14.69	14.64	2.77	32.10	0.705
05/12/2013	4:00:00 AM	50.08	436.7	439.3	436.6	79.87	104.97	17.46	14.73	14.69	2.79	32.20	0.705
05/12/2013	4:05:00 AM	49.92	435.7	438.2	435.6	80.07	104.65	17.48	14.73	14.63	2.76	32.12	0.705
05/12/2013	4:10:00 AM	49.95	435.3	437.9	435.4	80.16	104.71	17.18	14.72	14.64	2.73	32.09	0.706
05/12/2013	4:15:00 AM	49.94	435	437.6	434.9	79.92	104.91	17.35	14.63	14.63	2.74	32.01	0.705
05/12/2013	4:20:00 AM	49.9	434.7	437.3	434.8	79.81	104.64	17.41	14.64	14.56	2.74	31.94	0.706
05/12/2013	4:25:00 AM	49.97	435.2	437.8	435.3	79.55	104.83	17.29	16.23	16.22	3.03	35.48	0.707

Measurement of Power Parameters at Golbazar Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
		Hz	V	V	V	A	A	A	kW	kW	kW		
05/12/2013	4:30:00 AM	49.95	435	437.6	435	79.55	104.96	17.33	16.18	16.26	3.05	35.48	0.708
05/12/2013	4:35:00 AM	49.9	434	436.6	434.1	79.74	105	17.27	16.15	16.22	3.05	35.42	0.708
05/12/2013	4:40:00 AM	49.9	433.9	436.5	434	79.65	104.69	17.25	16.14	16.12	3.04	35.30	0.707
05/12/2013	4:45:00 AM	49.92	433.9	436.5	433.5	80.55	104.57	17.28	16.31	16.19	3.02	35.52	0.706
05/12/2013	4:50:00 AM	49.96	434.3	436.7	433.7	80.03	104.56	17.3	16.26	16.19	3.02	35.47	0.707
05/12/2013	4:55:00 AM	50.2	436	438.5	435.5	79.54	104.62	16.97	16.21	16.26	2.97	35.44	0.706
05/12/2013	5:00:00 AM	50.22	435.5	438.1	435.2	79.6	104.13	16.82	16.21	16.22	2.96	35.40	0.708
05/12/2013	5:05:00 AM	50.08	434.2	436.7	434.2	79.88	104.13	17.24	16.29	16.20	3.00	35.49	0.708
05/12/2013	5:10:00 AM	50.16	434.7	437.5	434.7	79.84	103.81	17.06	16.29	16.15	3.00	35.43	0.709
05/12/2013	5:15:00 AM	49.95	433.2	436	433	80.31	103.89	16.83	16.32	16.14	2.94	35.39	0.709
05/12/2013	5:20:00 AM	50.05	433.2	436.1	433.2	80.12	103.77	16.97	16.30	16.09	2.94	35.32	0.707
05/12/2013	5:25:00 AM	50.27	434.3	437.1	434.3	79.81	103.24	16.47	16.33	16.04	2.87	35.24	0.708
05/12/2013	5:30:00 AM	50.07	432.5	435.1	432.3	79.28	103.09	16.99	16.23	15.91	2.93	35.07	0.708
05/12/2013	5:35:00 AM	49.91	431.3	433.7	431.4	79.33	102.48	17.57	16.28	15.65	2.99	34.93	0.706
05/12/2013	5:40:00 AM	50.08	432.3	434.8	432.6	79.18	102.49	17.63	16.28	15.71	3.02	35.02	0.707
05/12/2013	5:45:00 AM	50.13	431.9	434.7	432.6	78.9	102.57	17.38	16.20	15.75	3.03	34.98	0.711
05/12/2013	5:50:00 AM	50.17	432.1	435.4	432.5	79.04	103.72	16.88	16.17	15.94	2.94	35.06	0.709
05/12/2013	5:55:00 AM	50.47	434.6	438.2	435.1	78.71	104.33	16.63	16.16	16.04	2.93	35.13	0.708
05/12/2013	6:00:00 AM	50.24	433.3	437.3	434.1	79.44	106	15.93	16.04	16.36	2.82	35.22	0.708
Average Load in kW												32.96	0.71

Harmonics and Voltage & Current Unbalance Measurement

Harmonics & Voltage & Current Unbalance Measurement at Golbazar Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
04/12/2013	7:10:00 PM	50.07	17	13.8	23.7	2.1	2.2	1.9	49.3	0.6
04/12/2013	7:15:00 PM	50.13	16.9	13.8	23.9	2.1	2.3	1.9	49.7	0.6
04/12/2013	7:20:00 PM	50.13	16.9	14.1	23.9	2.2	2.4	2	49.9	0.6
04/12/2013	7:25:00 PM	50.04	17.1	14	23.8	2.2	2.4	2	49.8	0.6
04/12/2013	7:30:00 PM	50.14	17.1	13.9	23.6	2.2	2.4	2	49.9	0.6
04/12/2013	7:35:00 PM	50.18	17.2	14	23.6	2.2	2.4	1.9	49.9	0.6
04/12/2013	7:40:00 PM	50.09	17.2	14.2	23.4	2.3	2.5	2	49.8	0.6
04/12/2013	7:45:00 PM	50.08	17	14.2	23.5	2.2	2.5	2	50.2	0.6
04/12/2013	7:50:00 PM	50.28	16.8	14.1	24.2	2.2	2.6	2.1	50.1	0.6
04/12/2013	7:55:00 PM	50.32	17.3	14.7	24.9	2.6	2.9	2.3	50.3	0.6
04/12/2013	8:00:00 PM	50.41	14.7	15.1	25.4	2.9	3.2	2.6	50.6	0.6
04/12/2013	8:05:00 PM	50.31	13.1	15.1	25.8	3	3.4	2.7	50.1	0.6
04/12/2013	8:10:00 PM	50.13	13.2	15.2	25.8	3	3.4	2.7	49.8	0.6
04/12/2013	8:15:00 PM	50.09	16	15.2	24.8	2.9	3.4	2.7	49.6	0.6
04/12/2013	8:20:00 PM	50.14	14.7	15.3	24.8	3	3.4	2.8	50.1	0.6
04/12/2013	8:25:00 PM	50.01	13.8	15.4	25	3.1	3.6	2.9	50	0.6
04/12/2013	8:30:00 PM	50.16	13.7	15.5	25.1	3	3.6	3	50	0.5
04/12/2013	8:35:00 PM	50.23	13.8	15.3	24.7	3.1	3.6	2.9	50	0.6
04/12/2013	8:40:00 PM	50.23	13.7	15.4	24.6	3.1	3.6	2.9	49.6	0.6
04/12/2013	8:45:00 PM	50.25	14.7	15.5	25.2	3.1	3.6	2.9	49.6	0.5
04/12/2013	8:50:00 PM	50.28	15.1	15.6	25.4	3.3	3.7	3	49.6	0.5
04/12/2013	8:55:00 PM	50	15.1	16.1	25.7	3.4	3.9	3.1	49.4	0.5
04/12/2013	9:00:00 PM	50	15.2	16.2	25.9	3.4	4	3.1	49.5	0.5
04/12/2013	9:05:00 PM	50.04	15.4	16.3	25.8	3.3	4	3.1	49.6	0.6
04/12/2013	9:10:00 PM	49.99	15.8	16.1	24.7	3.3	3.8	3.1	49.6	0.6

Harmonics & Voltage & Current Unbalance Measurement at Golbazar Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
04/12/2013	9:15:00 PM	50.08	16.1	16.2	24.4	3.3	3.8	3.1	49.9	0.6
04/12/2013	9:20:00 PM	50.28	16	16.3	24.6	3.3	3.8	3	50	0.6
04/12/2013	9:25:00 PM	50.18	16	16.4	24.6	3.3	3.8	3	49.7	0.5
04/12/2013	9:30:00 PM	50.23	16	16.3	25	3.3	3.9	2.9	49.9	0.4
04/12/2013	9:35:00 PM	50.25	15.7	16.6	25.1	3.4	3.9	3	49.8	0.5
04/12/2013	9:40:00 PM	50.27	15.6	16.7	25	3.4	4	3	49.8	0.5
04/12/2013	9:45:00 PM	50.28	15.5	16.9	24.5	3.5	4	3	49.9	0.5
04/12/2013	9:50:00 PM	50.28	15.6	16.6	25.1	3.4	3.9	3	49.9	0.5
04/12/2013	9:55:00 PM	50.16	16	16.8	24.3	3.5	3.9	2.9	49.9	0.5
04/12/2013	10:00:00 PM	50.06	15.9	16.6	23.8	3.4	3.7	2.9	50	0.5
04/12/2013	10:05:00 PM	50.01	15.9	16.4	24.3	3.4	3.8	2.9	49.7	0.5
04/12/2013	10:10:00 PM	50.03	16	16.7	23.9	3.6	3.8	3	49.8	0.5
04/12/2013	10:15:00 PM	50.04	15.8	16.7	24.1	3.6	3.9	2.9	49.9	0.4
04/12/2013	10:20:00 PM	50.11	15.5	16.6	24.3	3.5	3.9	2.9	49.9	0.4
04/12/2013	10:25:00 PM	50.1	15.3	16.4	24.4	3.3	3.7	2.8	49.9	0.5
04/12/2013	10:30:00 PM	50.01	15.7	16.3	24.3	3.3	3.6	2.7	49.8	0.5
04/12/2013	10:35:00 PM	50.03	15.8	16.4	24.6	3.3	3.7	2.8	49.9	0.5
04/12/2013	10:40:00 PM	50.08	16.1	16.6	24.9	3.4	3.8	2.8	49.9	0.5
04/12/2013	10:45:00 PM	50.09	16.1	16.3	24.1	3.3	3.6	2.7	49.7	0.5
04/12/2013	10:50:00 PM	50.14	16	16.2	24	3.3	3.6	2.7	49.7	0.4
04/12/2013	10:55:00 PM	50.26	15.9	16	24.2	3.2	3.6	2.8	49.8	0.4
04/12/2013	11:00:00 PM	50.2	15.8	16	24.1	3.2	3.6	2.7	49.9	0.4
04/12/2013	11:05:00 PM	50.17	16	16.1	24	3.3	3.6	2.7	49.6	0.4
04/12/2013	11:10:00 PM	50.13	15.9	16	24.1	3.2	3.6	2.7	49.7	0.4
04/12/2013	11:15:00 PM	50.24	15.8	16	24.4	3.1	3.5	2.6	50	0.4
04/12/2013	11:20:00 PM	50.27	15.9	16.2	24.9	3.1	3.6	2.6	50	0.4
04/12/2013	11:25:00 PM	50.22	16.2	16.1	24.8	3	3.4	2.5	49.8	0.4
04/12/2013	11:30:00 PM	50.15	16.3	16.1	25.7	3	3.4	2.5	50	0.4
04/12/2013	11:35:00 PM	50.16	16.6	16.1	25.5	3	3.4	2.5	49.9	0.4

Harmonics & Voltage & Current Unbalance Measurement at Golbazar Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
04/12/2013	11:40:00 PM	50.2	16.8	16	25.4	3	3.4	2.6	49.9	0.4
04/12/2013	11:45:00 PM	50.2	16.7	15.9	25.1	2.9	3.3	2.5	50.1	0.3
04/12/2013	11:50:00 PM	50.26	16.5	16	25.5	2.9	3.3	2.5	50	0.3
04/12/2013	11:55:00 PM	50.14	16.6	16	25.4	2.9	3.3	2.4	50.1	0.3
05/12/2013	12:00:00 AM	50.16	16.9	15.9	25.3	3	3.2	2.5	50	0.4
05/12/2013	12:05:00 AM	50.22	16.9	15.9	25.4	2.9	3.2	2.4	50.2	0.4
05/12/2013	12:10:00 AM	50.1	17.1	15.8	25.5	2.9	3.2	2.4	49.9	0.4
05/12/2013	12:15:00 AM	50.13	16.9	15.8	25.9	2.8	3.2	2.4	49.8	0.4
05/12/2013	12:20:00 AM	50.11	16.9	15.8	26.1	2.9	3.2	2.4	49.6	0.4
05/12/2013	12:25:00 AM	50	16.9	15.7	26	2.8	3.2	2.3	49.6	0.4
05/12/2013	12:30:00 AM	49.95	17	15.7	25.9	2.8	3.1	2.3	50.1	0.3
05/12/2013	12:35:00 AM	50.07	16.8	15.5	25.4	2.6	2.9	2.2	49.9	0.4
05/12/2013	12:40:00 AM	50.15	16.4	15.6	25.5	2.6	2.9	2.2	49.9	0.3
05/12/2013	12:45:00 AM	50.16	16.7	15.9	25.5	2.7	3	2.2	49.9	0.4
05/12/2013	12:50:00 AM	50.16	17	16	25.8	2.8	3.1	2.2	49.9	0.3
05/12/2013	12:55:00 AM	50.04	17.1	15.9	25.9	2.8	3	2.3	49.8	0.3
05/12/2013	1:00:00 AM	49.92	17.2	16.1	26.1	2.9	3.2	2.3	49.8	0.3
05/12/2013	1:05:00 AM	49.97	17.1	16	25.9	2.9	3	2.3	49.8	0.3
05/12/2013	1:10:00 AM	49.95	17.1	15.9	26.1	2.7	3	2.3	50	0.3
05/12/2013	1:15:00 AM	49.92	17.4	15.9	26.4	2.7	3	2.3	49.9	0.3
05/12/2013	1:20:00 AM	49.94	17.5	16	26.6	2.8	3.1	2.3	50	0.3
05/12/2013	1:25:00 AM	49.98	17.5	16.2	26.5	2.9	3.1	2.3	50.1	0.3
05/12/2013	1:30:00 AM	50.06	17.6	16.1	26.6	2.8	3.1	2.3	50	0.4
05/12/2013	1:35:00 AM	50.14	17.8	16.2	26.1	2.9	3.1	2.4	50.1	0.3
05/12/2013	1:40:00 AM	50.09	18	16.3	26.3	2.9	3.2	2.4	50	0.3
05/12/2013	1:45:00 AM	50.1	18	16.5	26.6	3	3.3	2.5	50.1	0.3
05/12/2013	1:50:00 AM	50.2	18.1	16.5	27.8	3.1	3.3	2.5	50.4	0.4
05/12/2013	1:55:00 AM	50.17	18.3	16.8	28.1	3.2	3.4	2.4	50.6	0.3
05/12/2013	2:00:00 AM	50.06	18.4	17	28.4	3.3	3.6	2.6	50.4	0.3

Harmonics & Voltage & Current Unbalance Measurement at Golbazar Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
05/12/2013	2:05:00 AM	50.01	18.2	16.6	28.3	3.2	3.4	2.6	50.4	0.4
05/12/2013	2:10:00 AM	50	18.2	16.7	28.5	3.2	3.4	2.5	50.5	0.4
05/12/2013	2:15:00 AM	50.04	18.1	16.6	28.1	3.2	3.3	2.5	50.5	0.4
05/12/2013	2:20:00 AM	49.98	18.2	16.6	28.4	3.2	3.4	2.5	50.4	0.4
05/12/2013	2:25:00 AM	50.03	18	16.4	28	3	3.2	2.4	50.4	0.4
05/12/2013	2:30:00 AM	49.96	18.2	16.6	28.4	3.1	3.4	2.5	50.3	0.4
05/12/2013	2:35:00 AM	49.92	18.4	16.8	28.4	3.2	3.4	2.5	50.2	0.4
05/12/2013	2:40:00 AM	49.96	18.3	16.6	28.4	3.2	3.4	2.5	50.4	0.4
05/12/2013	2:45:00 AM	50.04	18.1	16.6	28.1	3.1	3.4	2.4	50.5	0.4
05/12/2013	2:50:00 AM	50.19	18	16.3	27.9	3	3.2	2.4	50.6	0.4
05/12/2013	2:55:00 AM	50.14	18.1	16.5	27.9	3	3.2	2.4	50.6	0.4
05/12/2013	3:00:00 AM	50.12	18.1	16.4	27.9	3	3.2	2.3	50.4	0.4
05/12/2013	3:05:00 AM	50.11	18.1	16.6	28.1	3	3.4	2.4	50.5	0.4
05/12/2013	3:10:00 AM	50.05	18.2	16.8	28.3	3.2	3.5	2.4	50.4	0.4
05/12/2013	3:15:00 AM	50.05	18.5	16.9	28.7	3.2	3.5	2.5	50.3	0.4
05/12/2013	3:20:00 AM	50.06	18.6	17	28.9	3.3	3.6	2.6	50.3	0.4
05/12/2013	3:25:00 AM	50.09	18.5	16.8	28.8	3.2	3.5	2.5	50.3	0.4
05/12/2013	3:30:00 AM	50	18.6	17.2	28.3	3.3	3.7	2.5	50.1	0.4
05/12/2013	3:35:00 AM	50	18.5	17	28.3	3.2	3.5	2.5	50	0.4
05/12/2013	3:40:00 AM	50	18.5	16.9	28.7	3.2	3.5	2.5	50.3	0.4
05/12/2013	3:45:00 AM	50.09	18.3	16.8	28.7	3.1	3.5	2.4	50.5	0.4
05/12/2013	3:50:00 AM	50.16	18.4	16.9	28.2	3.1	3.4	2.4	50.5	0.3
05/12/2013	3:55:00 AM	50.23	18.6	17	28.3	3.2	3.5	2.4	50.4	0.3
05/12/2013	4:00:00 AM	50.08	18.8	17.4	28.7	3.4	3.7	2.6	50.2	0.3
05/12/2013	4:05:00 AM	49.92	19	17.4	29	3.5	3.7	2.6	50.1	0.3
05/12/2013	4:10:00 AM	49.95	18.8	17.3	28.6	3.4	3.6	2.6	50.2	0.3
05/12/2013	4:15:00 AM	49.94	18.7	17.3	28.1	3.4	3.6	2.5	50.1	0.3
05/12/2013	4:20:00 AM	49.9	18.6	17.2	28.6	3.4	3.6	2.6	50.2	0.3
05/12/2013	4:25:00 AM	49.97	18.2	17.1	28.3	3.3	3.6	2.5	50.3	0.3

Harmonics & Voltage & Current Unbalance Measurement at Golbazar Switching Point										
Date	Time		Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
05/12/2013	4:30:00 AM	49.95	18.2	17.2	28.3	3.2	3.6	2.4	50.2	0.3
05/12/2013	4:35:00 AM	49.9	18.3	17	28	3.3	3.5	2.4	50.1	0.3
05/12/2013	4:40:00 AM	49.9	18.3	16.7	28	3.2	3.5	2.5	50.2	0.3
05/12/2013	4:45:00 AM	49.92	18.3	16.9	27.8	3.1	3.4	2.4	50	0.4
05/12/2013	4:50:00 AM	49.96	18.3	16.8	27.8	3.1	3.3	2.4	50.2	0.4
05/12/2013	4:55:00 AM	50.2	18.2	16.6	28	3	3.3	2.4	50.4	0.4
05/12/2013	5:00:00 AM	50.22	17.8	16.5	27.4	2.9	3.2	2.3	50.3	0.4
05/12/2013	5:05:00 AM	50.08	17.7	16.3	27	2.8	3.2	2.3	50.1	0.3
05/12/2013	5:10:00 AM	50.16	17.3	16.2	27.1	2.7	3.1	2.2	50.2	0.4
05/12/2013	5:15:00 AM	49.95	17.4	16.3	27.1	2.8	3.2	2.2	50.3	0.4
05/12/2013	5:20:00 AM	50.05	17.2	16	26.9	2.7	3	2.1	50.3	0.4
05/12/2013	5:25:00 AM	50.27	16.9	15.8	25.9	2.5	2.8	2	50.7	0.4
05/12/2013	5:30:00 AM	50.07	16.9	15.9	26.3	2.6	2.9	2	50.8	0.4
05/12/2013	5:35:00 AM	49.91	16.9	16	27.3	2.6	3.1	2.1	50.8	0.3
05/12/2013	5:40:00 AM	50.08	16.6	15.9	27.3	2.5	3	2	50.6	0.3
05/12/2013	5:45:00 AM	50.13	15.8	15.7	26.6	2.4	2.9	2	50.6	0.3
05/12/2013	5:50:00 AM	50.17	15.9	15.9	25.8	2.5	2.9	1.9	50.9	0.4
05/12/2013	5:55:00 AM	50.47	16	15.8	25.9	2.5	2.9	2	51.1	0.5
05/12/2013	6:00:00 AM	50.24	16.7	15.9	25.3	2.7	3	2.2	50.8	0.5

❖ **Observation:**

- Voltage unbalance is within limit.
- Current unbalance is considerable.
- Average power factor is 0.88.
- Line Voltage total harmonics distortion is within limit.
- Total Current Harmonics distortion is there.

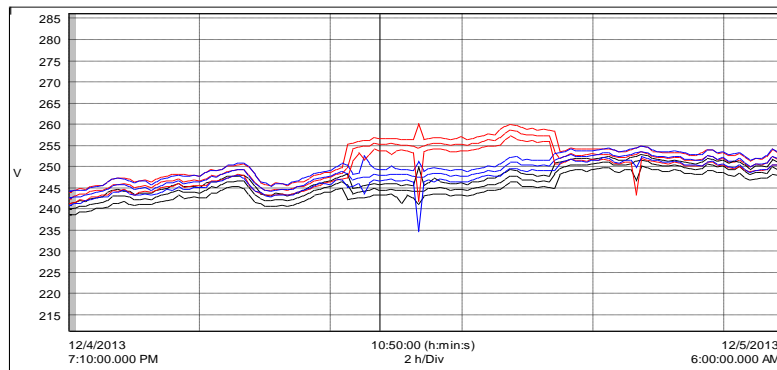
❑ Study of electrical parameters at Golbazar Switching Point

1. Phase Voltage

Table: Phase Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
V1 RMS	04-12-2013	19:10:00	247.066	240.1	251.7	V	10:55:00	(h:min:s)
V2 RMS	04-12-2013	19:10:00	251.816	242.6	258.7	V	10:55:00	(h:min:s)
V3 RMS	04-12-2013	19:10:00	249.709	242.8	253.7	V	10:55:00	(h:min:s)

Graph: Phase Voltage Variation for the Recorded Time



RMS, Max RMS & Min. RMS
Phase voltage variation

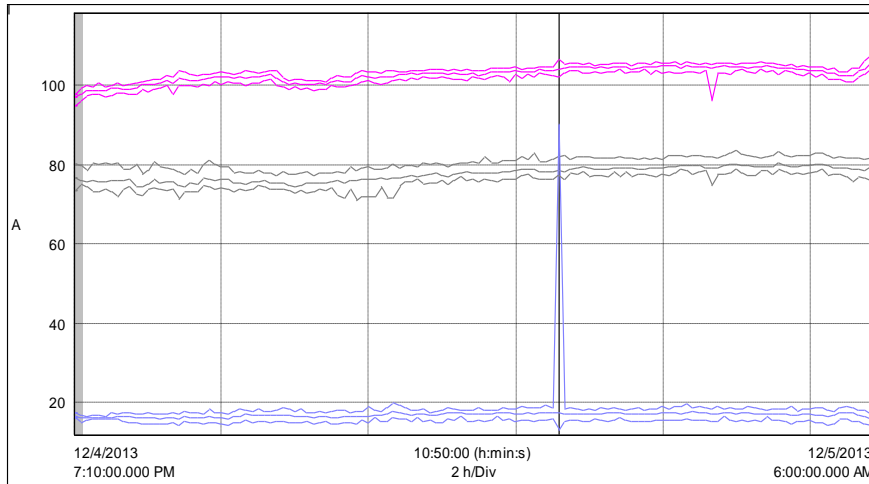
➤ Voltage unbalance is within limit

2. Current

Table: Current

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 RMS	04-12-2013	19:10:00	77.987	74.51	80.55	A	10:55:00	(h:min:s)
A2 RMS	04-12-2013	19:10:00	103.173	97.16	106	A	10:55:00	(h:min:s)
A3 RMS	04-12-2013	19:10:00	17.009	15.93	17.67	A	10:55:00	(h:min:s)

Graph : Line Current Variation for recorded time



**RMS, Max RMS & Min. RMS
Current variation**

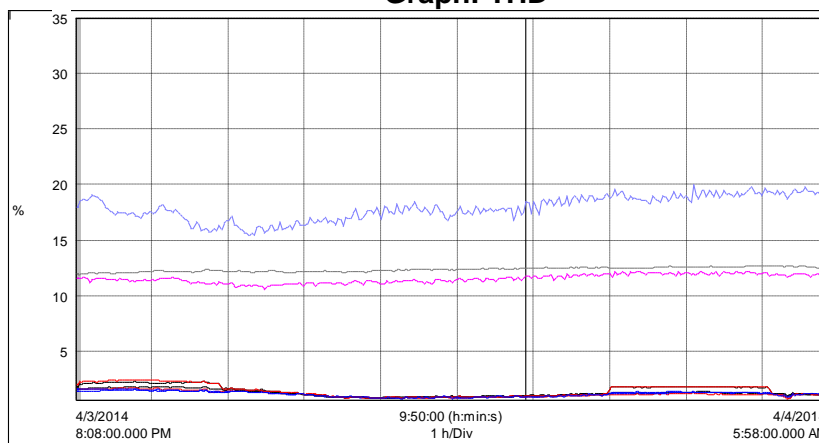
➤ Current unbalance is there.

3. Total harmonic Distortion (THD).

Table: THD

Name	Date	Time	Avg	Min	Max	Unit	Duration	Unit
A1 THD	04-12-2013	19:10:00	16.872	13.1	19	%	10:55:00	(h:min:s)
A2 THD	04-12-2013	19:10:00	16.117	13.8	17.4	%	10:55:00	(h:min:s)
A3 THD	04-12-2013	19:10:00	26.122	23.4	29	%	10:55:00	(h:min:s)
U1 THD	04-12-2013	19:10:00	3.011	2.1	3.6	%	10:55:00	(h:min:s)
U2 THD	04-12-2013	19:10:00	3.348	2.2	4	%	10:55:00	(h:min:s)
U3 THD	04-12-2013	19:10:00	2.502	1.9	3.1	%	10:55:00	(h:min:s)
V1 THD	04-12-2013	19:10:00	2.69	1.9	3.3	%	10:55:00	(h:min:s)
V2 THD	04-12-2013	19:10:00	3.383	2.3	4	%	10:55:00	(h:min:s)
V3 THD	04-12-2013	19:10:00	3.111	2.1	3.7	%	10:55:00	(h:min:s)

Graph: THD



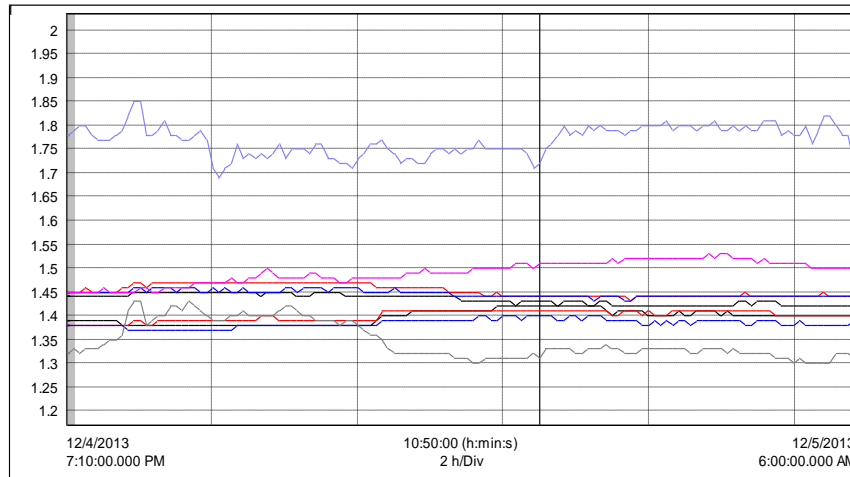
**Variation of current, Phase Voltage, Line Voltage
Total Harmonic Distortion**

4. Crest Factor

Table: Crest Factor

Name	Date	Time	Avg	Min	Max	Duration	Unit
A1 CF	04-12-2013	19:10:00	1.346	1.3	1.43	10:55:00	(h:min:s)
A2 CF	04-12-2013	19:10:00	1.492	1.45	1.53	10:55:00	(h:min:s)
A3 CF	04-12-2013	19:10:00	1.769	1.69	1.85	10:55:00	(h:min:s)
U1 CF	04-12-2013	19:10:00	1.434	1.42	1.45	10:55:00	(h:min:s)
U2 CF	04-12-2013	19:10:00	1.453	1.43	1.47	10:55:00	(h:min:s)
U3 CF	04-12-2013	19:10:00	1.446	1.43	1.46	10:55:00	(h:min:s)
V1 CF	04-12-2013	19:10:00	1.398	1.38	1.42	10:55:00	(h:min:s)
V2 CF	04-12-2013	19:10:00	1.4	1.38	1.41	10:55:00	(h:min:s)
V3 CF	04-12-2013	19:10:00	1.384	1.37	1.4	10:55:00	(h:min:s)

Graph: Crest Factor



Variation of Crest Factor

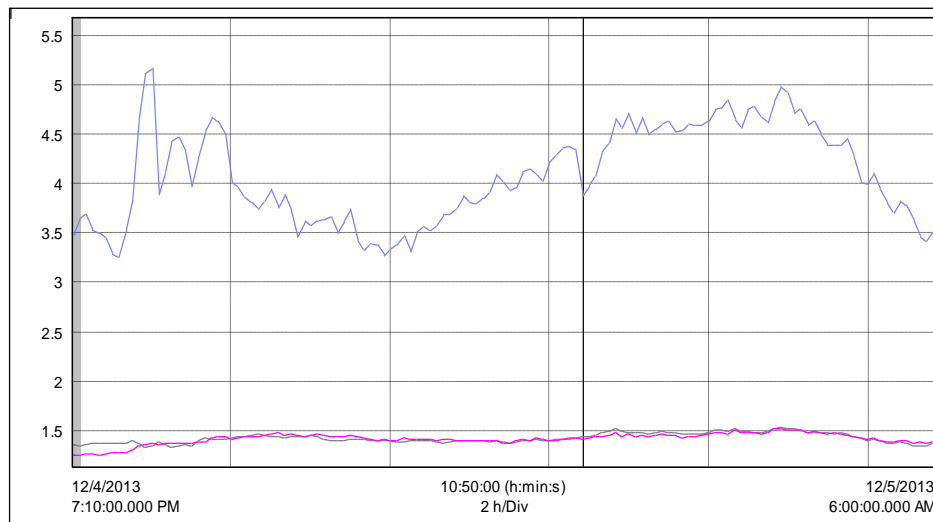
- Crest factor is above 1.41 hence there is some degree of impacting

5. K Factor

Table: K- Factor

Name	Date	Time	Avg	Min	Max	Unit	Duration	Unit
KF1	04-12-2013	19:10:00	1.429	1.34	1.54		10:55:00	(h:min:s)
KF2	04-12-2013	19:10:00	1.423	1.26	1.52		10:55:00	(h:min:s)
KF3	04-12-2013	19:10:00	4.087	3.26	5.17		10:55:00	(h:min:s)

Graph:K- Factor

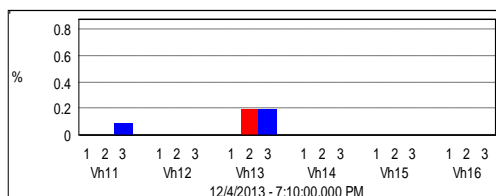
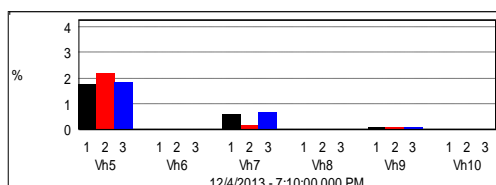
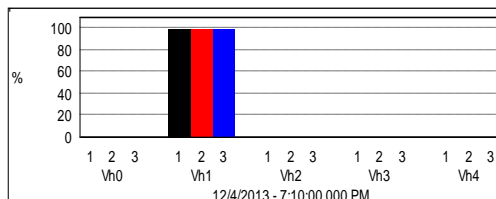


Variation of K Factor

- K-factor is from 1.4 to 5.17. K-factor above 1 indicates a non-linear load & presence of harmonics.

❖ Voltage Harmonics of different order & their Max, Min and average values

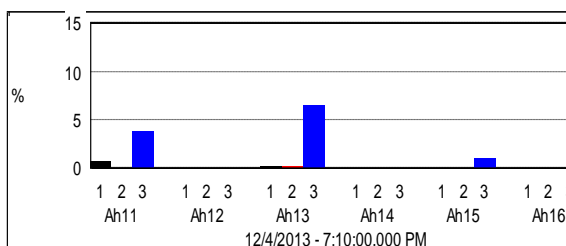
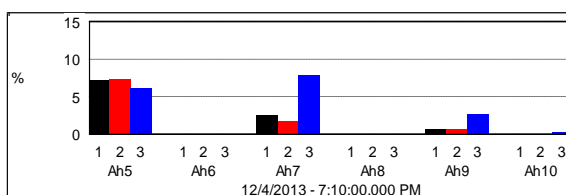
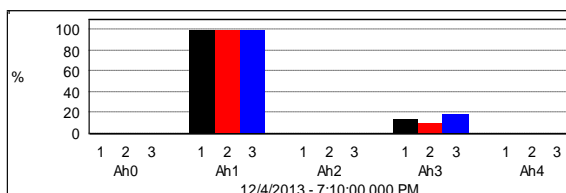
Name	Avg	Min	Max	Unit
V1h0	0	0	0	%
V1h1	100	100	100	%
V1h10	0	0	0	%
V1h11	0.36	0	0.7	%
V1h12	0	0	0	%
V1h13	0.019	0	0.1	%
V1h14	0	0	0	%
V1h15	0	0	0	%
V1h16	0	0	0	%
V1h2	0	0	0	%
V1h3	0.745	0.1	1.6	%
V1h4	0	0	0	%
V1h5	2.431	1.8	2.9	%
V1h6	0	0	0	%
V1h7	0.323	0	0.7	%
V1h8	0	0	0	%
V1h9	0.147	0.1	0.3	%
V2h0	0	0	0	%
V2h1	100	100	100	%
V2h10	0	0	0	%
V2h11	0.128	0	0.2	%
V2h12	0	0	0	%
V2h13	0.081	0	0.2	%
V2h14	0	0	0	%
V2h15	0	0	0	%
V2h16	0	0	0	%
V2h2	0	0	0	%
V2h3	0.777	0.4	1.5	%
V2h4	0	0	0	%
V2h5	3.149	2.2	3.9	%
V2h6	0	0	0	%
V2h7	0.55	0	1.2	%
V2h8	0	0	0	%
V2h9	0.163	0	0.3	%
V3h0	0	0	0	%
V3h1	100	100	100	%
V3h10	0	0	0	%
V3h11	0.469	0	0.8	%
V3h12	0	0	0	%
V3h13	0.153	0	0.3	%
V3h14	0	0	0	%
V3h15	0.008	0	0.1	%
V3h16	0	0	0	%
V3h2	0	0	0	%
V3h3	0.506	0	1.4	%
V3h4	0	0	0	%
V3h5	2.757	1.9	3.5	%



V3h6	0	0	0	%
V3h7	0.882	0.4	1.5	%
V3h8	0	0	0	%
V3h9	0.421	0.1	0.7	%

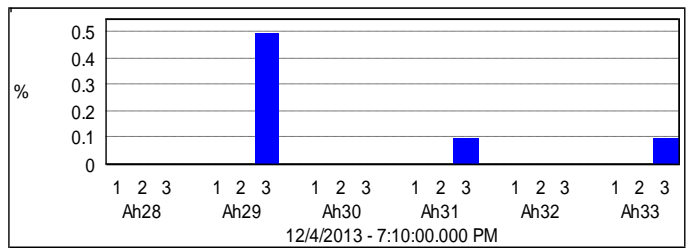
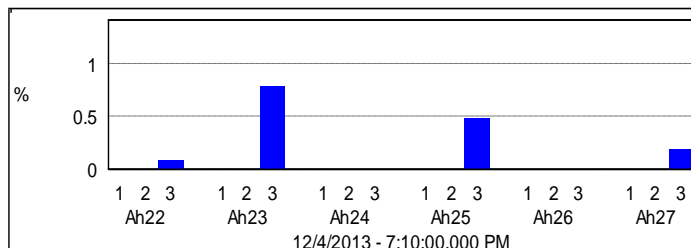
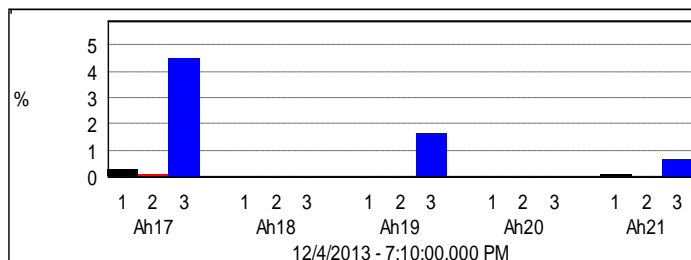
❖ Current Harmonics of different order & their Max, Min and average values

Name	Avg	Min	Max	Unit
A1h0	0	0	0	%
A1h1	100	100	100	%
A1h10	0	0	0	%
A1h11	1.122	0.2	1.9	%
A1h12	0	0	0	%
A1h13	0.277	0	0.6	%
A1h14	0	0	0	%
A1h15	0.06	0	0.1	%
A1h16	0	0	0	%
A1h2	0	0	0	%
A1h3	13.145	8.1	15.2	%
A1h4	0	0	0	%
A1h5	9.955	7.3	12.2	%
A1h6	0.009	0	0.1	%
A1h7	2.407	1.4	3.4	%
A1h8	0.002	0	0.1	%
A1h9	0.439	0	1.6	%
A2h0	0	0	0	%
A2h1	100	100	100	%
A2h10	0.024	0	0.1	%
A2h11	1.22	0	1.9	%
A2h12	0.001	0	0.1	%
A2h13	0.143	0	0.4	%
A2h14	0	0	0	%
A2h15	0.015	0	0.1	%
A2h16	0	0	0	%
A2h2	0	0	0	%
A2h3	11.722	10.9	12.2	%
A2h4	0	0	0	%
A2h5	10.704	7.4	12.3	%
A2h6	0	0	0	%
A2h7	1.978	1.3	2.6	%
A2h8	0.005	0	0.1	%
A2h9	0.355	0	0.9	%
A3h0	0	0	0	%
A3h1	100	100	100	%
A3h10	0.447	0.3	0.7	%
A3h11	9.527	3.3	13.7	%
A3h12	0.524	0.1	0.7	%
A3h13	3.819	0.6	8.2	%
A3h14	0.427	0	0.7	%
A3h15	1.342	0.2	2.3	%
A3h16	0.214	0.1	0.3	%



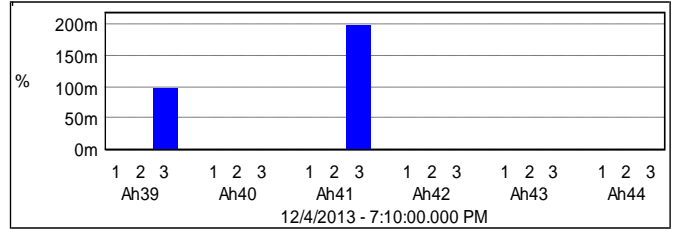
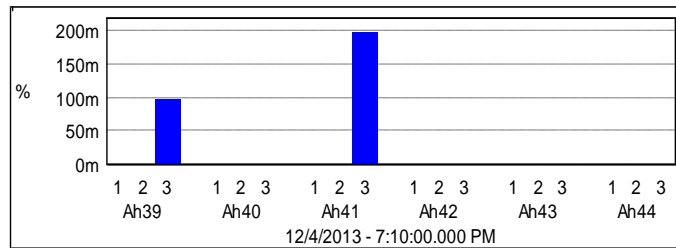
A3h2	0.258	0.2	0.4	%
A3h3	18.481	13.5	21.6	%
A3h4	0	0	0	%
A3h5	9.949	6.4	13.8	%
A3h6	0.049	0	0.2	%
A3h7	7.131	5.4	8.8	%
A3h8	0.019	0	0.1	%
A3h9	6.291	2.7	11.2	%

Name	Avg	Min	Max	Unit
A1h17	0.224	0	0.5	%
A1h18	0	0	0	%
A1h19	0.003	0	0.1	%
A1h20	0	0	0	%
A1h21	0.055	0	0.1	%
A1h22	0	0	0	%
A1h23	0.043	0	0.1	%
A1h24	0	0	0	%
A1h25	0.009	0	0.1	%
A1h26	0	0	0	%
A1h27	0.008	0	0.1	%
A1h28	0	0	0	%
A1h29	0.011	0	0.1	%
A1h30	0	0	0	%
A1h31	0	0	0	%
A1h32	0	0	0	%
A1h33	0	0	0	%
A2h17	0.049	0	0.2	%
A2h18	0	0	0	%
A2h19	0.007	0	0.1	%
A2h20	0	0	0	%
A2h21	0	0	0	%
A2h22	0	0	0	%
A2h23	0.002	0	0.1	%
A2h24	0	0	0	%
A2h25	0	0	0	%
A2h26	0	0	0	%
A2h27	0	0	0	%
A2h28	0	0	0	%
A2h29	0.002	0	0.1	%
A2h30	0	0	0	%
A2h31	0	0	0	%
A2h32	0	0	0	%
A2h33	0	0	0	%
A3h17	3.782	3	5.4	%
A3h18	0.225	0	0.4	%
A3h19	1.085	0.2	1.7	%
A3h20	0.108	0	0.3	%
A3h21	0.987	0.5	1.5	%
A3h22	0.104	0	0.3	%



A3h23	0.814	0.5	1.3	%
A3h24	0.08	0	0.2	%
A3h25	0.295	0	0.8	%
A3h26	0.011	0	0.1	%
A3h27	0.147	0	0.4	%
A3h28	0.017	0	0.1	%
A3h29	0.157	0	0.5	%
A3h30	0.002	0	0.1	%
A3h31	0.012	0	0.2	%
A3h32	0	0	0	%
A3h33	0.005	0	0.1	%

Name	Avg	Min	Max	Unit
A1h34	0	0	0	%
A1h35	0	0	0	%
A1h36	0	0	0	%
A1h37	0	0	0	%
A1h38	0	0	0	%
A1h39	0	0	0	%
A1h40	0	0	0	%
A1h41	0	0	0	%
A1h42	0	0	0	%
A1h43	0	0	0	%
A1h44	0	0	0	%
A1h45	0	0	0	%
A1h46	0	0	0	%
A1h47	0	0	0	%
A1h48	0	0	0	%
A1h49	0	0	0	%
A1h50	0	0	0	%
A2h34	0	0	0	%
A2h35	0	0	0	%
A2h36	0	0	0	%
A2h37	0	0	0	%
A2h38	0	0	0	%
A2h39	0	0	0	%
A2h40	0	0	0	%
A2h41	0	0	0	%
A2h42	0	0	0	%
A2h43	0	0	0	%
A2h44	0	0	0	%
A2h45	0	0	0	%
A2h46	0	0	0	%
A2h47	0	0	0	%
A2h48	0	0	0	%
A2h49	0	0	0	%
A2h50	0	0	0	%
A3h34	0	0	0	%
A3h35	0.042	0	0.2	%
A3h36	0	0	0	%



A3h37	0.083	0	0.2	%
A3h38	0	0	0	%
A3h39	0.014	0	0.1	%
A3h40	0	0	0	%
A3h41	0.021	0	0.2	%
A3h42	0	0	0	%
A3h43	0.014	0	0.2	%
A3h44	0	0	0	%
A3h45	0.005	0	0.1	%
A3h46	0	0	0	%
A3h47	0.004	0	0.1	%
A3h48	0	0	0	%
A3h49	0.029	0	0.1	%
A3h50	0	0	0	%

Observation:

- 3rd, 5th, and 7th, harmonics are considerable.

• **Study of Power Parameter and Harmonics Measurements at Labour chowk Switching Point**

Data logging is carried out for different power parameters like voltage, current, PF, kW, Current unbalance, Voltage unbalance, THD, etc. and tabulated as under

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
			Hz	V	V	V	A	A	A	kW	kW		
01-Apr-14	7:32:00 PM	49.93	395.8	391.2	391.9	43.95	35.43	9.58	9.66	7.61	2.13	19.41	0.965
01-Apr-14	7:34:00 PM	49.97	396.2	391.7	392.2	44.08	35.38	9.4	9.70	7.60	2.10	19.41	0.966
01-Apr-14	7:36:00 PM	50	396.4	392	392.6	44.28	35.45	9.44	9.75	7.62	2.11	19.48	0.966
01-Apr-14	7:38:00 PM	49.96	396.7	392.1	392.8	44.3	35.71	9.43	9.76	7.69	2.11	19.56	0.966
01-Apr-14	7:40:00 PM	49.96	397	392.4	393.8	44.38	35.83	9.48	9.80	7.71	2.13	19.63	0.965
01-Apr-14	7:42:00 PM	49.96	397.4	392.8	394.3	44.4	35.77	9.44	9.82	7.70	2.12	19.63	0.965
01-Apr-14	7:44:00 PM	49.98	397.9	393.3	394.4	44.56	35.72	9.44	9.86	7.70	2.12	19.67	0.965
01-Apr-14	7:46:00 PM	49.92	398.3	393.7	394.6	44.68	35.89	9.54	9.88	7.75	2.14	19.77	0.965
01-Apr-14	7:48:00 PM	49.97	398.8	394.2	395.2	44.64	36.03	9.49	9.90	7.78	2.14	19.82	0.965
01-Apr-14	7:50:00 PM	50.01	399.1	394.7	395.6	44.62	36.19	9.43	9.90	7.82	2.12	19.85	0.965
01-Apr-14	7:52:00 PM	50.01	399.2	395	396.4	44.65	36.26	9.43	9.92	7.84	2.13	19.89	0.966
01-Apr-14	7:54:00 PM	50.01	400	395.6	397	44.85	36.47	9.37	9.98	7.91	2.12	20.01	0.966
01-Apr-14	7:56:00 PM	50	400.3	396	397.3	44.88	36.76	9.27	10.01	7.98	2.10	20.08	0.966
01-Apr-14	7:58:00 PM	49.96	400.7	396.1	397.6	45.06	36.7	9.37	10.06	7.96	2.12	20.14	0.966
01-Apr-14	8:00:00 PM	49.98	400.5	396.1	397.7	45.01	36.54	9.49	10.04	7.92	2.15	20.10	0.965
01-Apr-14	8:02:00 PM	49.93	400.3	396.4	397.2	45.04	36.69	9.35	10.03	7.95	2.12	20.10	0.965
01-Apr-14	8:04:00 PM	49.99	400.6	396.8	397.3	45.33	36.67	9.34	10.11	7.96	2.12	20.18	0.965
01-Apr-14	8:06:00 PM	50	400.7	396.8	397.5	45.49	36.31	9.43	10.14	7.87	2.14	20.15	0.965
01-Apr-14	8:08:00 PM	50	401.1	396.8	398.1	45.39	36.43	9.41	10.13	7.90	2.13	20.17	0.965
01-Apr-14	8:10:00 PM	49.99	401	396.5	398	45.19	36.5	9.34	10.09	7.91	2.12	20.12	0.965
01-Apr-14	8:12:00 PM	49.99	401.4	396.7	398.2	45.4	36.45	9.39	10.14	7.91	2.13	20.18	0.965
01-Apr-14	8:14:00 PM	50	401.9	397.2	398.5	45.7	36.13	9.51	10.22	7.85	2.16	20.22	0.965
01-Apr-14	8:16:00 PM	49.95	401.7	397.3	398.2	45.52	36.26	9.4	10.17	7.88	2.13	20.18	0.965
01-Apr-14	8:18:00 PM	49.9	401.6	396.9	397.7	45.49	36.4	9.42	10.15	7.91	2.13	20.19	0.965

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
			Hz	V	V	V	A	A	A	kW	kW		
01-Apr-14	8:20:00 PM	49.9	402	397.1	398	45.46	36.41	9.56	10.15	7.91	2.17	20.23	0.964
01-Apr-14	8:22:00 PM	49.92	401.9	397	398.3	45.42	36.54	9.45	10.16	7.93	2.14	20.24	0.965
01-Apr-14	8:24:00 PM	49.89	402	397	398.2	45.29	36.69	9.46	10.13	7.97	2.14	20.24	0.965
01-Apr-14	8:26:00 PM	49.89	401.7	396.8	398.3	45.81	36.52	9.56	10.24	7.92	2.17	20.32	0.964
01-Apr-14	8:28:00 PM	49.89	401.5	396.9	398.1	45.87	36.41	9.51	10.24	7.90	2.15	20.29	0.965
01-Apr-14	8:30:00 PM	49.87	401.5	396.8	397.6	45.28	36.48	9.48	10.10	7.92	2.14	20.17	0.965
01-Apr-14	8:32:00 PM	49.89	401.6	396.8	397.9	45.32	36.37	9.53	10.12	7.90	2.16	20.17	0.965
01-Apr-14	8:34:00 PM	49.93	401.9	397.1	398.5	45.56	36.27	9.64	10.18	7.89	2.18	20.25	0.965
01-Apr-14	8:36:00 PM	50	402	397.4	398.5	45.39	36.28	9.65	10.14	7.90	2.19	20.22	0.965
01-Apr-14	8:38:00 PM	50.05	402.5	397.7	398.8	45.17	36.4	9.62	10.09	7.88	2.20	20.16	0.965
01-Apr-14	8:40:00 PM	49.95	402.2	397.5	398.4	45.85	36.27	9.74	10.21	7.77	2.26	20.23	0.965
01-Apr-14	8:42:00 PM	49.82	401.3	397	397.6	45.51	36.62	9.65	10.11	7.84	2.23	20.18	0.966
01-Apr-14	8:44:00 PM	49.81	400.9	397	397.2	45.4	36.52	9.63	10.07	7.82	2.23	20.11	0.965
01-Apr-14	8:46:00 PM	49.86	401.3	397.2	397.6	45.64	36.49	9.66	10.13	7.82	2.24	20.18	0.965
01-Apr-14	8:48:00 PM	49.93	401.6	397.7	398.1	45.77	36.32	9.54	10.17	7.79	2.21	20.17	0.966
01-Apr-14	8:50:00 PM	49.96	401.8	397.8	398	45.72	35.92	9.63	10.15	7.70	2.23	20.08	0.965
01-Apr-14	8:52:00 PM	50.01	401.9	397.6	398	45.38	35.52	9.69	10.07	7.61	2.25	19.92	0.964
01-Apr-14	8:54:00 PM	49.97	401.7	397.4	397.8	45.42	35.7	9.59	10.07	7.65	2.22	19.94	0.965
01-Apr-14	8:56:00 PM	49.83	401	396.9	396.9	45.73	35.73	9.71	10.12	7.65	2.25	20.01	0.965
01-Apr-14	8:58:00 PM	49.71	400	396.3	395.9	45.94	35.61	9.79	10.13	7.60	2.26	20.00	0.965
01-Apr-14	9:00:00 PM	49.78	400.2	396.4	396.1	45.95	35.4	9.78	10.13	7.56	2.26	19.95	0.964
01-Apr-14	9:02:00 PM	49.81	400.1	396.7	396.1	45.81	35.66	9.64	10.11	7.63	2.23	19.96	0.965
01-Apr-14	9:04:00 PM	49.84	400.1	396.7	396.2	45.65	35.62	9.78	10.08	7.61	2.26	19.94	0.965
01-Apr-14	9:06:00 PM	49.89	400.7	397	397	45.68	35.87	9.78	10.11	7.66	2.26	20.03	0.965
01-Apr-14	9:08:00 PM	49.88	400.6	397.3	397.2	45.64	36.25	9.64	10.11	7.74	2.23	20.08	0.965
01-Apr-14	9:10:00 PM	49.87	400.6	397.2	397.6	45.84	36.75	9.4	10.17	7.84	2.18	20.19	0.965
01-Apr-14	9:12:00 PM	49.87	400.8	396.7	397.6	45.51	36.42	9.53	10.10	7.76	2.21	20.06	0.964
01-Apr-14	9:14:00 PM	49.85	400.4	396.7	397.1	45.3	36.53	9.42	10.04	7.79	2.18	20.02	0.965
01-Apr-14	9:16:00 PM	49.84	400.8	397.1	397.5	45.66	36.49	9.46	10.13	7.79	2.19	20.11	0.965
01-Apr-14	9:18:00 PM	49.9	401.4	397.3	398.1	45.77	36.48	9.48	10.17	7.80	2.20	20.17	0.965

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
			Hz	V	V	V	A	A	A	kW	kW		
01-Apr-14	9:20:00 PM	49.97	401.6	397.5	398.2	45.52	36.37	9.47	10.12	7.77	2.20	20.09	0.965
01-Apr-14	9:22:00 PM	49.97	401.7	397.7	398.4	45.22	36.48	9.46	10.06	7.80	2.20	20.05	0.965
01-Apr-14	9:24:00 PM	49.94	401.6	397.6	398.4	45.45	36.45	9.5	10.11	7.79	2.20	20.10	0.965
01-Apr-14	9:26:00 PM	49.98	401.7	398	398.6	45.59	36.68	9.37	10.15	7.85	2.18	20.17	0.965
01-Apr-14	9:28:00 PM	50.02	402.1	398	398.8	45.13	36.78	9.33	10.07	7.86	2.17	20.10	0.965
01-Apr-14	9:30:00 PM	49.96	401.8	397.5	398.5	45.93	36.7	9.38	10.24	7.84	2.18	20.25	0.965
01-Apr-14	9:32:00 PM	49.99	402.2	398.1	398.9	46.14	36.65	9.41	10.30	7.84	2.19	20.32	0.965
01-Apr-14	9:34:00 PM	50.01	402.4	398.3	399.1	45.88	36.64	9.34	10.24	7.84	2.17	20.24	0.965
01-Apr-14	9:36:00 PM	49.99	401.9	397.9	399.2	45.92	37.09	9.23	10.25	7.91	2.15	20.31	0.965
01-Apr-14	9:38:00 PM	49.89	401	397.5	398.6	45.74	37.3	9.24	10.20	7.95	2.15	20.29	0.966
01-Apr-14	9:40:00 PM	49.84	400.6	397.3	397.9	46.04	36.96	9.32	10.24	7.87	2.16	20.27	0.965
01-Apr-14	9:42:00 PM	49.83	400.5	396.9	397.8	45.9	36.95	9.3	10.21	7.92	2.14	20.27	0.964
01-Apr-14	9:44:00 PM	49.92	401	397.6	398.1	46.1	37.05	9.2	10.29	8.04	2.09	20.41	0.965
01-Apr-14	9:46:00 PM	50.03	401.2	398.1	398.8	45.79	37.33	9.03	10.24	8.09	2.05	20.39	0.965
01-Apr-14	9:48:00 PM	50.05	401.4	398.3	398.7	45.52	37.12	9.09	10.18	8.05	2.07	20.29	0.965
01-Apr-14	9:50:00 PM	50.03	401.4	398.3	398.4	46.06	36.75	9.29	10.28	7.97	2.11	20.35	0.964
01-Apr-14	9:52:00 PM	50.06	401.2	398.2	398.8	45.98	37.12	9.1	10.27	8.05	2.07	20.39	0.964
01-Apr-14	9:54:00 PM	50.06	401.3	398	398.9	45.36	37.17	9.11	10.14	8.05	2.07	20.26	0.964
01-Apr-14	9:56:00 PM	50.02	400.4	396.8	397.6	45.53	36.98	9.08	10.15	8.00	2.06	20.20	0.964
01-Apr-14	9:58:00 PM	49.93	399.1	395.7	396	45.28	37.06	9.05	10.06	8.00	2.04	20.10	0.965
01-Apr-14	10:00:00 PM	49.88	398.2	394.8	395.1	45.09	36.95	9.1	9.99	7.95	2.05	20.00	0.965
01-Apr-14	10:02:00 PM	49.88	397.6	394.1	394.5	45.2	36.89	9.03	10.00	7.93	2.03	19.96	0.964
01-Apr-14	10:04:00 PM	49.88	397.1	393.8	394.1	45.29	36.99	8.94	10.02	7.94	2.01	19.97	0.965
01-Apr-14	10:06:00 PM	49.88	397.4	394.3	394.1	45.28	36.79	9.01	10.01	7.91	2.03	19.95	0.965
01-Apr-14	10:08:00 PM	49.86	397.3	394.2	393.8	45.04	36.88	9.01	9.95	7.94	2.02	19.91	0.965
01-Apr-14	10:10:00 PM	49.82	396.6	393.6	393.4	45.19	36.92	8.94	9.96	7.93	2.01	19.90	0.964
01-Apr-14	10:12:00 PM	49.77	396.2	393.2	393.1	45.32	36.85	8.98	9.99	7.90	2.02	19.90	0.964
01-Apr-14	10:14:00 PM	49.8	396.1	393	393.2	44.96	36.94	8.92	9.91	7.91	2.00	19.82	0.965
01-Apr-14	10:16:00 PM	49.82	396.4	393.4	393.6	45.14	36.84	9.01	9.95	7.89	2.02	19.87	0.964
01-Apr-14	10:18:00 PM	49.88	396.8	393.7	393.8	45.21	36.53	9.2	9.96	7.85	2.07	19.87	0.964

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
01-Apr-14	10:20:00 PM	49.91	397.1	393.9	394	44.84	36.45	9.16	9.88	7.83	2.06	19.77	0.964
01-Apr-14	10:22:00 PM	49.98	397.4	394.2	394.4	44.62	36.56	9.09	9.85	7.85	2.04	19.75	0.964
01-Apr-14	10:24:00 PM	49.96	397.2	394.1	394.7	44.88	36.68	9.06	9.91	7.88	2.04	19.82	0.964
01-Apr-14	10:26:00 PM	49.88	396.5	393.2	394.1	44.75	36.98	8.95	9.88	7.92	2.01	19.81	0.964
01-Apr-14	10:28:00 PM	49.88	396.3	393.7	394	45.39	36.85	8.98	10.01	7.88	2.02	19.91	0.964
01-Apr-14	10:30:00 PM	49.9	396.6	393.7	394.5	45.4	36.68	9.09	10.02	7.84	2.05	19.91	0.963
01-Apr-14	10:32:00 PM	49.89	396.8	393.6	394.3	45.11	36.59	9.11	9.95	7.83	2.05	19.83	0.963
01-Apr-14	10:34:00 PM	49.87	396.6	393.4	393.7	45.25	36.7	9.04	9.98	7.86	2.03	19.87	0.964
01-Apr-14	10:36:00 PM	49.88	397.2	393.8	394.4	45.19	36.7	9.08	9.99	7.86	2.04	19.89	0.964
01-Apr-14	10:38:00 PM	49.9	397.3	393.7	394.6	45.12	36.66	8.99	9.98	7.84	2.02	19.85	0.964
01-Apr-14	10:40:00 PM	49.87	396.6	393.7	394.2	45.24	36.94	8.87	10.00	7.89	2.00	19.88	0.964
01-Apr-14	10:42:00 PM	49.88	396.7	394	394.5	45.1	37.44	8.67	9.98	8.01	1.95	19.94	0.964
01-Apr-14	10:44:00 PM	49.88	397.6	394.2	395	45.5	37.18	8.84	10.08	7.96	1.99	20.03	0.964
01-Apr-14	10:46:00 PM	49.92	397.9	394.6	395.4	45.2	37.33	8.8	10.02	8.01	1.98	20.01	0.964
01-Apr-14	10:48:00 PM	49.93	397.8	394.6	395.4	45.36	37.62	8.72	10.07	8.06	1.97	20.09	0.964
01-Apr-14	10:50:00 PM	50.01	398	395	395.9	45.32	37.58	8.73	10.07	8.04	1.97	20.09	0.964
01-Apr-14	10:52:00 PM	50.04	398.1	395.2	396.2	45.15	37.45	8.82	10.03	8.02	1.99	20.05	0.964
01-Apr-14	10:54:00 PM	50.05	398.5	395.6	396.3	45.31	37.36	8.8	10.08	8.01	1.99	20.08	0.964
01-Apr-14	10:56:00 PM	50.02	398.5	395.5	396.1	45.62	36.95	9	10.14	7.93	2.03	20.10	0.964
01-Apr-14	10:58:00 PM	49.98	398.3	395.5	396.3	45.65	37.64	8.71	10.17	8.08	1.97	20.21	0.965
01-Apr-14	11:00:00 PM	49.98	398.3	395.4	396.6	45.7	37.58	8.71	10.18	8.06	1.97	20.20	0.964
01-Apr-14	11:02:00 PM	49.96	398.2	395.5	396.6	45.52	37.61	8.73	10.14	8.06	1.98	20.17	0.964
01-Apr-14	11:04:00 PM	49.94	398.9	395.8	397	45	37.39	8.77	10.03	8.04	1.99	20.05	0.964
01-Apr-14	11:06:00 PM	49.94	399.1	396.1	397.1	45.96	37.77	8.74	10.25	8.12	1.98	20.35	0.964
01-Apr-14	11:08:00 PM	49.92	399.1	396.1	397.4	45.85	37.82	8.72	10.22	8.07	1.99	20.28	0.964
01-Apr-14	11:10:00 PM	49.92	399.3	396.3	397.7	45.61	37.87	8.76	10.14	8.00	2.03	20.17	0.964
01-Apr-14	11:12:00 PM	49.95	399.1	396.5	397.7	45.65	38	8.68	10.15	8.02	2.01	20.19	0.964
01-Apr-14	11:14:00 PM	50.01	399.6	396.9	398.3	45.45	37.93	8.69	10.13	8.02	2.02	20.16	0.964
01-Apr-14	11:16:00 PM	50.02	400.3	397.5	398.9	45.91	37.86	8.77	10.24	8.02	2.04	20.30	0.964
01-Apr-14	11:18:00 PM	50.01	400.2	397.5	399	45.88	37.76	8.78	10.23	8.00	2.04	20.27	0.965

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
			Hz	V	V	V	A	A	A	kW	kW		
01-Apr-14	11:20:00 PM	50.04	400.7	397.9	399.4	45.54	37.99	8.72	10.18	8.06	2.03	20.27	0.965
01-Apr-14	11:22:00 PM	50.03	400.9	398	399.6	45.24	38.17	8.69	10.11	8.11	2.02	20.25	0.965
01-Apr-14	11:24:00 PM	50	401	397.6	399.8	45.73	38.14	8.76	10.24	8.09	2.04	20.37	0.966
01-Apr-14	11:26:00 PM	49.99	401.2	398.1	400.1	45.75	38.12	8.73	10.25	8.11	2.04	20.39	0.965
01-Apr-14	11:28:00 PM	50	401.5	398.7	400.3	45.64	38.32	8.82	10.22	8.16	2.06	20.44	0.966
01-Apr-14	11:30:00 PM	50.02	402.2	399.1	400.9	45.45	38.15	8.89	10.20	8.13	2.08	20.41	0.966
01-Apr-14	11:32:00 PM	50.03	402.4	399	400.9	45.57	38.05	8.89	10.23	8.12	2.08	20.43	0.966
01-Apr-14	11:34:00 PM	50.05	402.9	399.5	401.3	45.77	37.91	8.93	10.28	8.11	2.09	20.47	0.966
01-Apr-14	11:36:00 PM	50.07	403	399.9	401.8	45.61	38.25	8.89	10.26	8.20	2.08	20.54	0.966
01-Apr-14	11:38:00 PM	50.05	402.6	400.1	401.9	45.7	38.57	8.75	10.28	8.25	2.05	20.58	0.966
01-Apr-14	11:40:00 PM	50.01	402.6	400.3	401.8	46.05	38.6	8.82	10.35	8.25	2.07	20.67	0.966
01-Apr-14	11:42:00 PM	50.01	403.1	400.2	402.2	46.17	38.84	8.72	10.40	8.30	2.04	20.74	0.966
01-Apr-14	11:44:00 PM	50	403	400.3	402	46.04	38.79	8.71	10.37	8.29	2.04	20.69	0.966
01-Apr-14	11:46:00 PM	50.02	403.3	400.8	402	46.05	38.56	8.7	10.37	8.25	2.04	20.66	0.966
01-Apr-14	11:48:00 PM	50.02	403.9	401.2	402.3	46.55	38.63	8.71	10.49	8.30	2.04	20.83	0.966
01-Apr-14	11:50:00 PM	50.02	404.7	401.1	402.9	46.45	38.09	8.89	10.49	8.18	2.09	20.75	0.966
01-Apr-14	11:52:00 PM	50.02	404.8	401.6	402.9	46.26	38.24	8.83	10.44	8.24	2.07	20.76	0.967
01-Apr-14	11:54:00 PM	50.05	405.1	402.1	403.2	45.99	38.46	8.88	10.38	8.31	2.09	20.77	0.967
01-Apr-14	11:56:00 PM	50	404.6	401.7	402.7	46.01	38.29	8.86	10.37	8.26	2.08	20.71	0.967
01-Apr-14	11:58:00 PM	49.91	404.2	400.9	402	46.3	38.13	8.94	10.43	8.21	2.09	20.73	0.967
02-Apr-14	12:00:00 AM	49.89	404.1	401.2	402.2	46	38.16	8.94	10.36	8.22	2.10	20.68	0.967
02-Apr-14	12:02:00 AM	49.91	404.6	401.3	402.4	46.26	38.19	8.95	10.42	8.25	2.10	20.77	0.967
02-Apr-14	12:04:00 AM	49.95	404.7	401.6	402.4	46.28	38.42	8.82	10.43	8.30	2.07	20.80	0.967
02-Apr-14	12:06:00 AM	49.99	405.1	402.2	402.8	46.21	38.24	8.92	10.42	8.27	2.10	20.79	0.967
02-Apr-14	12:08:00 AM	50.01	405	402	403.3	45.77	38.49	8.83	10.33	8.31	2.07	20.72	0.967
02-Apr-14	12:10:00 AM	49.96	405	401.8	403.4	45.91	38.62	8.92	10.37	8.34	2.09	20.81	0.967
02-Apr-14	12:12:00 AM	49.91	404.5	401.6	402.6	46.33	38.29	8.93	10.45	8.26	2.09	20.80	0.967
02-Apr-14	12:14:00 AM	49.9	404.7	401.9	402.9	46.31	38.28	8.85	10.45	8.26	2.08	20.79	0.967
02-Apr-14	12:16:00 AM	49.91	405.1	402.2	403.4	46.03	38.61	8.9	10.40	8.35	2.09	20.84	0.968
02-Apr-14	12:18:00 AM	49.92	406	402.6	403.8	46.62	38.51	8.98	10.55	8.34	2.11	21.00	0.967

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
			Hz	V	V	V	A	A	A	kW	kW		
02-Apr-14	12:20:00 AM	49.93	406	402.8	403.8	46.47	38.6	8.85	10.52	8.36	2.08	20.96	0.967
02-Apr-14	12:22:00 AM	49.94	406.4	402.9	404	46.07	38.67	8.88	10.43	8.38	2.09	20.90	0.967
02-Apr-14	12:24:00 AM	49.97	406	403.2	404.4	46.35	38.85	8.9	10.49	8.41	2.10	21.00	0.967
02-Apr-14	12:26:00 AM	49.96	406.1	403.3	404.4	46.54	38.96	8.75	10.55	8.44	2.06	21.05	0.967
02-Apr-14	12:28:00 AM	49.95	406.7	403.5	404.3	46.1	38.73	8.86	10.45	8.40	2.09	20.94	0.967
02-Apr-14	12:30:00 AM	49.96	406.4	403.4	404.7	46.4	38.64	8.93	10.52	8.38	2.10	21.00	0.967
02-Apr-14	12:32:00 AM	49.92	406.5	403.5	404.5	46.72	38.8	8.92	10.59	8.42	2.10	21.12	0.967
02-Apr-14	12:34:00 AM	49.97	407	403.9	405.4	46	38.82	8.85	10.44	8.43	2.09	20.96	0.967
02-Apr-14	12:36:00 AM	50.01	407.6	404.3	405.9	46.7	38.84	8.95	10.62	8.44	2.12	21.18	0.967
02-Apr-14	12:38:00 AM	50	407.8	404.3	405.8	46.27	38.44	9.12	10.51	8.36	2.16	21.03	0.967
02-Apr-14	12:40:00 AM	50	407.8	404.4	405.4	46.39	38.51	9	10.53	8.38	2.13	21.04	0.967
02-Apr-14	12:42:00 AM	50.02	407.5	404.6	406	46.71	38.73	8.87	10.62	8.42	2.10	21.14	0.967
02-Apr-14	12:44:00 AM	50	408	405	406.4	46.61	38.92	9.01	10.61	8.47	2.13	21.21	0.967
02-Apr-14	12:46:00 AM	50	408.2	405.1	406.2	46.79	38.84	9.05	10.65	8.45	2.14	21.24	0.967
02-Apr-14	12:48:00 AM	49.95	408.9	404.6	405.9	46.63	38.7	9.09	10.62	8.44	2.15	21.20	0.967
02-Apr-14	12:50:00 AM	49.94	408.7	404.7	406.2	46.26	38.79	9.15	10.54	8.45	2.16	21.15	0.968
02-Apr-14	12:52:00 AM	49.96	408.6	405.3	406.6	47.13	38.8	9.08	10.73	8.46	2.15	21.34	0.967
02-Apr-14	12:54:00 AM	49.99	408.4	405.1	406.5	46.63	38.92	9	10.63	8.47	2.13	21.23	0.967
02-Apr-14	12:56:00 AM	50.01	408.8	405.1	407.1	46.19	39.17	8.98	10.54	8.53	2.13	21.20	0.968
02-Apr-14	12:58:00 AM	50.02	409.6	405.6	407.8	46.19	39.24	9.1	10.55	8.58	2.16	21.29	0.968
02-Apr-14	1:00:00 AM	50.02	409.7	405.4	407.9	46.29	39.05	9.05	10.59	8.52	2.15	21.26	0.968
02-Apr-14	1:02:00 AM	50	409	405.1	407.9	46.18	38.97	9.04	10.56	8.48	2.14	21.18	0.968
02-Apr-14	1:04:00 AM	49.96	408.2	404.6	407.2	46.76	39.03	9.09	10.66	8.49	2.15	21.30	0.967
02-Apr-14	1:06:00 AM	49.95	408.5	404.5	406.6	46.32	39.02	9.02	10.56	8.49	2.13	21.19	0.967
02-Apr-14	1:08:00 AM	49.97	408.6	404.5	406.3	46.38	38.59	9.21	10.56	8.40	2.18	21.14	0.967
02-Apr-14	1:10:00 AM	49.99	409	404.6	406.3	46.6	38.41	9.32	10.62	8.38	2.20	21.20	0.967
02-Apr-14	1:12:00 AM	50.04	408.6	405	406.4	46.39	38.98	9.05	10.59	8.61	2.11	21.30	0.967
02-Apr-14	1:14:00 AM	50.04	409.2	405.3	407	46.14	38.88	9.11	10.55	8.63	2.11	21.29	0.967
02-Apr-14	1:16:00 AM	50.01	409.4	405	407.2	46.02	38.91	9.21	10.54	8.64	2.13	21.31	0.967
02-Apr-14	1:18:00 AM	49.99	409	405.1	406.8	46.79	39.28	9.03	10.71	8.71	2.09	21.51	0.967

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
			Hz	V	V	V	A	A	A	kW	kW		
02-Apr-14	1:20:00 AM	49.94	409.3	405.5	407	46.4	39.18	9.15	10.62	8.70	2.12	21.44	0.967
02-Apr-14	1:22:00 AM	49.87	409.8	405.8	407.4	46.68	38.97	9.42	10.68	8.66	2.18	21.52	0.967
02-Apr-14	1:24:00 AM	49.82	409.5	405.6	407.4	47.26	39.29	9.14	10.82	8.72	2.12	21.66	0.967
02-Apr-14	1:26:00 AM	49.74	409.1	405.5	407.3	46.83	39.53	9.15	10.72	8.77	2.12	21.61	0.967
02-Apr-14	1:28:00 AM	49.71	409.4	405.3	407	47.2	39.52	9.21	10.81	8.77	2.13	21.71	0.967
02-Apr-14	1:30:00 AM	49.72	409.9	405.5	407.2	46.94	39.29	9.37	10.75	8.74	2.17	21.66	0.967
02-Apr-14	1:32:00 AM	49.8	410.2	405.8	407.6	46.68	39.21	9.32	10.70	8.74	2.16	21.60	0.967
02-Apr-14	1:34:00 AM	49.85	410	405.7	408	46.34	39.27	9.27	10.63	8.74	2.15	21.52	0.967
02-Apr-14	1:36:00 AM	49.9	410.1	406.1	408.4	46.63	39.38	9.15	10.71	8.76	2.13	21.59	0.967
02-Apr-14	1:38:00 AM	49.92	410.3	406.6	408.8	46.89	39.5	9.06	10.78	8.79	2.11	21.68	0.967
02-Apr-14	1:40:00 AM	49.87	410.7	406.7	408.7	46.3	39.49	9.18	10.64	8.80	2.13	21.58	0.968
02-Apr-14	1:42:00 AM	49.85	410.6	406.5	408.9	47.09	39.42	9.23	10.83	8.77	2.15	21.74	0.967
02-Apr-14	1:44:00 AM	49.83	410	406.4	408.9	47.04	39.69	9.09	10.82	8.82	2.12	21.75	0.967
02-Apr-14	1:46:00 AM	49.83	410.4	406.4	409.2	46.5	39.53	9.15	10.69	8.79	2.13	21.62	0.967
02-Apr-14	1:48:00 AM	49.86	411	406.6	409.6	47.14	39.3	9.29	10.85	8.75	2.16	21.76	0.967
02-Apr-14	1:50:00 AM	49.91	411.8	407.3	409.9	46.68	39.34	9.24	10.76	8.80	2.15	21.71	0.968
02-Apr-14	1:52:00 AM	49.97	412.2	407.8	410.1	46.58	39.76	9.14	10.76	8.90	2.13	21.79	0.968
02-Apr-14	1:54:00 AM	50	412.9	408.6	410.8	47.61	39.73	9.23	11.01	8.90	2.16	22.07	0.968
02-Apr-14	1:56:00 AM	49.99	412.8	409.2	411.4	47.54	39.89	9.15	10.99	8.93	2.14	22.07	0.967
02-Apr-14	1:58:00 AM	49.97	413	408.8	411.5	46.84	39.99	9.21	10.83	8.95	2.16	21.93	0.967
02-Apr-14	2:00:00 AM	49.9	413.6	408.3	411.3	47.31	39.69	9.36	10.95	8.90	2.19	22.04	0.967
02-Apr-14	2:02:00 AM	49.86	413	408.3	411.2	47.8	39.92	9.3	11.05	8.93	2.17	22.16	0.967
02-Apr-14	2:04:00 AM	49.82	412.1	408.1	411.2	47.69	40.26	9.19	11.01	8.99	2.15	22.15	0.967
02-Apr-14	2:06:00 AM	49.79	412	408.2	411.1	47.61	40.67	9.08	11.00	9.08	2.12	22.20	0.967
02-Apr-14	2:08:00 AM	49.82	412.9	408.7	411.1	47.57	40.29	9.33	10.99	9.02	2.18	22.20	0.967
02-Apr-14	2:10:00 AM	49.84	413.4	408.7	411.7	47.38	40.31	9.24	10.97	9.03	2.16	22.16	0.967
02-Apr-14	2:12:00 AM	49.87	413.4	409.3	412	47.5	40.63	9.14	11.01	9.10	2.14	22.25	0.967
02-Apr-14	2:14:00 AM	49.92	413.6	409.2	411.8	47.54	40.19	9.28	11.01	9.00	2.17	22.18	0.967
02-Apr-14	2:16:00 AM	49.96	414.1	409.4	412	47.45	39.94	9.38	10.98	8.96	2.20	22.14	0.967
02-Apr-14	2:18:00 AM	49.96	414.5	409.7	412.1	46.92	40.05	9.32	10.87	9.00	2.18	22.06	0.967

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
			Hz	V	V	V	A	A	A	kW	kW		
02-Apr-14	2:20:00 AM	49.94	413.6	409.6	411.9	47.59	40.22	9.19	11.02	9.02	2.15	22.20	0.967
02-Apr-14	2:22:00 AM	49.96	413.6	409.5	412.3	46.88	40.16	9.28	10.86	9.00	2.18	22.04	0.967
02-Apr-14	2:24:00 AM	49.97	414.2	409.8	412.7	46.8	40.06	9.39	10.85	9.00	2.20	22.05	0.967
02-Apr-14	2:26:00 AM	49.95	414.2	410	412.5	47.06	40.38	9.23	10.92	9.08	2.16	22.16	0.967
02-Apr-14	2:28:00 AM	49.95	414.4	410.2	413.2	47.02	40.19	9.25	10.92	9.03	2.17	22.12	0.967
02-Apr-14	2:30:00 AM	49.93	414.3	410.1	413.1	47.15	40.25	9.33	10.94	9.04	2.19	22.17	0.967
02-Apr-14	2:32:00 AM	49.93	414.6	410.1	413.1	47.01	40.36	9.39	10.91	9.07	2.20	22.19	0.967
02-Apr-14	2:34:00 AM	49.94	414.2	409.8	413	46.57	40.31	9.27	10.81	9.05	2.18	22.03	0.967
02-Apr-14	2:36:00 AM	49.95	413.8	409.4	413.2	47.23	40.5	9.25	10.97	9.07	2.17	22.21	0.967
02-Apr-14	2:38:00 AM	49.97	414.5	410	413.4	46.99	40.11	9.27	10.92	9.01	2.18	22.11	0.968
02-Apr-14	2:40:00 AM	50	414.1	410.1	412.9	47.05	40.32	9.17	10.92	9.05	2.15	22.13	0.967
02-Apr-14	2:42:00 AM	50.03	414	410.1	413	47.19	40.42	9.14	10.96	9.06	2.15	22.17	0.967
02-Apr-14	2:44:00 AM	50.02	414.3	410.5	413.2	47.23	40.37	9.17	10.98	9.06	2.16	22.20	0.967
02-Apr-14	2:46:00 AM	50.05	414.9	410.8	413.5	47.04	40.15	9.35	10.93	9.04	2.20	22.16	0.967
02-Apr-14	2:48:00 AM	50.05	415.2	410.9	413.4	47.61	40.08	9.3	11.07	9.03	2.19	22.28	0.967
02-Apr-14	2:50:00 AM	50.06	415.3	411.2	413.4	47.19	40.16	9.37	10.97	9.04	2.20	22.22	0.967
02-Apr-14	2:52:00 AM	50.06	415.1	411	413.5	47.68	39.97	9.35	11.08	8.98	2.20	22.26	0.967
02-Apr-14	2:54:00 AM	50.05	415.1	411.2	413.4	47.85	40.25	9.22	11.12	9.06	2.17	22.35	0.967
02-Apr-14	2:56:00 AM	50.06	415.5	411.6	414.1	47.66	40.49	9.21	11.10	9.12	2.17	22.39	0.967
02-Apr-14	2:58:00 AM	50.05	415.9	411.6	414.2	47.46	40.31	9.27	11.06	9.08	2.18	22.32	0.967
02-Apr-14	3:00:00 AM	50.01	415.9	411.2	414	47.1	40.26	9.41	10.96	9.08	2.21	22.26	0.967
02-Apr-14	3:02:00 AM	49.98	415.2	410.8	413.6	47.76	40.69	9.18	11.11	9.16	2.16	22.43	0.967
02-Apr-14	3:04:00 AM	49.99	415.2	411.1	413.8	47.28	40.63	9.2	11.01	9.14	2.17	22.31	0.968
02-Apr-14	3:06:00 AM	49.97	415.6	411.1	413.9	47.86	40.28	9.42	11.13	9.08	2.22	22.43	0.967
02-Apr-14	3:08:00 AM	49.93	415.3	411	413.7	47.74	40.16	9.4	11.09	9.06	2.21	22.36	0.967
02-Apr-14	3:10:00 AM	49.91	415.1	410.8	413.7	47.57	40.57	9.21	11.07	9.14	2.17	22.37	0.967
02-Apr-14	3:12:00 AM	49.92	415	410.9	413.7	47.9	40.51	9.25	11.14	9.11	2.18	22.42	0.967
02-Apr-14	3:14:00 AM	49.92	415.5	411	413.9	47.62	40.26	9.4	11.08	9.07	2.21	22.36	0.967
02-Apr-14	3:16:00 AM	49.91	415.3	410.9	413.9	47.49	40.58	9.28	11.04	9.15	2.18	22.38	0.967
02-Apr-14	3:18:00 AM	49.91	415	411.1	413.5	47.73	40.91	9.19	11.10	9.21	2.16	22.48	0.968

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
			Hz	V	V	V	A	A	A	kW	kW		
02-Apr-14	3:20:00 AM	49.95	415.6	411.6	413.7	47.56	40.51	9.36	11.05	9.14	2.20	22.40	0.967
02-Apr-14	3:22:00 AM	49.97	416	411.6	414.3	47.88	40.49	9.42	11.14	9.15	2.22	22.50	0.967
02-Apr-14	3:24:00 AM	49.97	415.8	411.7	414.3	47.86	40.5	9.26	11.15	9.13	2.18	22.46	0.967
02-Apr-14	3:26:00 AM	49.96	415.8	412	414.5	47.83	40.55	9.28	11.13	9.15	2.19	22.46	0.967
02-Apr-14	3:28:00 AM	49.92	415.6	411.6	414.4	47.91	40.61	9.33	11.15	9.15	2.20	22.50	0.967
02-Apr-14	3:30:00 AM	49.91	415.7	411.2	414.1	47.79	40.29	9.38	11.11	9.08	2.21	22.40	0.966
02-Apr-14	3:32:00 AM	49.9	415.7	411.2	414	47.47	40.47	9.3	11.05	9.13	2.19	22.36	0.967
02-Apr-14	3:34:00 AM	49.9	415.8	411.3	414.4	48.15	40.61	9.35	11.21	9.15	2.20	22.57	0.967
02-Apr-14	3:36:00 AM	49.91	415.7	411.4	414.1	47.63	40.54	9.39	11.09	9.14	2.21	22.44	0.967
02-Apr-14	3:38:00 AM	49.92	415.9	411.9	414.4	47.74	40.76	9.32	11.12	9.20	2.20	22.51	0.967
02-Apr-14	3:40:00 AM	49.9	415.7	411.7	414.7	47.75	41.02	9.26	11.12	9.24	2.18	22.55	0.967
02-Apr-14	3:42:00 AM	49.89	415.9	411.7	414.9	47.43	40.78	9.44	11.04	9.17	2.23	22.44	0.966
02-Apr-14	3:44:00 AM	49.87	416.3	411.7	414.7	48.13	40.63	9.45	11.20	9.13	2.23	22.57	0.966
02-Apr-14	3:46:00 AM	49.85	415.8	411.6	414.4	47.68	41.05	9.32	11.07	9.09	2.25	22.40	0.967
02-Apr-14	3:48:00 AM	49.86	415.6	411.6	414.7	48.23	41.08	9.25	11.20	9.08	2.23	22.51	0.967
02-Apr-14	3:50:00 AM	49.87	415.8	411.7	414.8	48.19	40.77	9.37	11.19	9.00	2.26	22.46	0.967
02-Apr-14	3:52:00 AM	49.86	416.3	411.3	414.7	47.7	40.73	9.45	11.08	9.01	2.28	22.37	0.967
02-Apr-14	3:54:00 AM	49.86	416.8	411.7	414.6	47.95	40.78	9.41	11.15	9.05	2.27	22.47	0.967
02-Apr-14	3:56:00 AM	49.88	416.4	412.1	414.3	48.44	41.03	9.32	11.25	9.09	2.24	22.59	0.967
02-Apr-14	3:58:00 AM	49.84	416.2	411.6	414.3	48.39	40.62	9.43	11.23	8.98	2.27	22.49	0.966
02-Apr-14	4:00:00 AM	49.82	416.2	411.5	414.2	48.55	40.68	9.43	11.27	9.00	2.27	22.54	0.967
02-Apr-14	4:02:00 AM	49.83	417	411.4	414.9	47.73	40.42	9.54	11.10	8.96	2.30	22.36	0.967
02-Apr-14	4:04:00 AM	49.85	416.7	411.4	414.8	48.08	40.72	9.43	11.18	9.03	2.27	22.48	0.967
02-Apr-14	4:06:00 AM	49.84	416.3	411.3	414.7	48.19	40.81	9.46	11.21	9.03	2.28	22.52	0.967
02-Apr-14	4:08:00 AM	49.85	416.5	411.7	414.7	47.77	40.93	9.32	11.11	9.07	2.24	22.43	0.967
02-Apr-14	4:10:00 AM	49.88	416.8	412.1	415.1	48.03	41.19	9.31	11.18	9.13	2.24	22.56	0.967
02-Apr-14	4:12:00 AM	49.91	417.2	412.3	415.4	47.32	40.81	9.48	11.02	9.06	2.29	22.36	0.967
02-Apr-14	4:14:00 AM	49.91	416.7	412.3	415.2	47.81	40.99	9.37	11.13	9.10	2.26	22.49	0.967
02-Apr-14	4:16:00 AM	49.88	416.2	412	414.6	47.79	41.34	9.22	11.12	9.16	2.22	22.50	0.967
02-Apr-14	4:18:00 AM	49.86	416.1	411.8	414.9	48.05	41.46	9.21	11.18	9.17	2.22	22.57	0.967

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
			Hz	V	V	V	A	A	A	kW	kW		
02-Apr-14	4:20:00 AM	49.88	417.3	412.1	415.3	47.79	40.84	9.52	11.13	9.06	2.29	22.48	0.967
02-Apr-14	4:22:00 AM	49.92	417.7	412.3	415.8	47.31	40.91	9.44	11.04	9.09	2.28	22.40	0.967
02-Apr-14	4:24:00 AM	49.93	416.9	412.2	415.7	48.18	41.27	9.27	11.23	9.14	2.24	22.62	0.967
02-Apr-14	4:26:00 AM	49.95	416.9	412.3	415.6	47.61	41.06	9.33	11.10	9.09	2.25	22.44	0.967
02-Apr-14	4:28:00 AM	49.94	417.3	412.3	415.5	47.61	40.61	9.56	11.09	9.02	2.31	22.41	0.967
02-Apr-14	4:30:00 AM	49.95	417.4	412.3	415.9	47.84	40.86	9.35	11.15	9.07	2.25	22.48	0.967
02-Apr-14	4:32:00 AM	49.91	416.7	411.8	415.3	47.68	40.93	9.27	11.11	9.06	2.23	22.40	0.967
02-Apr-14	4:34:00 AM	49.85	416	411.8	415	48.07	40.92	9.32	11.18	9.05	2.25	22.47	0.967
02-Apr-14	4:36:00 AM	49.82	416.1	411.7	415	48.04	41.03	9.41	11.16	9.09	2.27	22.52	0.967
02-Apr-14	4:38:00 AM	49.82	416.2	411.8	414.9	47.48	41.12	9.38	11.04	9.12	2.26	22.42	0.967
02-Apr-14	4:40:00 AM	49.87	416.5	412.1	415.5	48.13	40.92	9.41	11.20	9.07	2.27	22.54	0.967
02-Apr-14	4:42:00 AM	49.89	416.7	412.4	415.4	47.95	40.8	9.48	11.16	9.05	2.29	22.49	0.967
02-Apr-14	4:44:00 AM	49.9	416.8	412.1	415.4	47.63	40.93	9.43	11.09	9.08	2.27	22.45	0.967
02-Apr-14	4:46:00 AM	49.89	416.6	412.2	415.6	48.06	40.91	9.43	11.19	9.07	2.28	22.53	0.967
02-Apr-14	4:48:00 AM	49.88	417	412.2	415.7	47.34	40.87	9.48	11.03	9.07	2.29	22.39	0.967
02-Apr-14	4:50:00 AM	49.9	417.3	412	415.7	48.18	40.78	9.55	11.23	9.06	2.30	22.59	0.967
02-Apr-14	4:52:00 AM	49.92	417	412.4	415.7	47.55	41.09	9.34	11.09	9.12	2.25	22.46	0.967
02-Apr-14	4:54:00 AM	49.94	416.6	412.3	415.7	47.86	41.2	9.31	11.15	9.14	2.25	22.53	0.968
02-Apr-14	4:56:00 AM	49.97	417.4	412.7	415.7	47.6	40.9	9.47	11.09	9.09	2.29	22.47	0.967
02-Apr-14	4:58:00 AM	50	417.5	412.7	415.7	48.09	40.75	9.47	11.21	9.05	2.29	22.55	0.967
02-Apr-14	5:00:00 AM	50.04	417.5	413.1	415.9	47.87	40.94	9.36	11.17	9.10	2.26	22.52	0.967
02-Apr-14	5:02:00 AM	49.99	416.8	412.6	415.5	47.95	41.25	9.27	11.17	9.14	2.24	22.55	0.967
02-Apr-14	5:04:00 AM	49.94	417	412.3	415.3	47.93	40.85	9.59	11.16	9.06	2.31	22.53	0.967
02-Apr-14	5:06:00 AM	49.84	416.3	411.5	414.8	47.57	41.15	9.41	11.06	9.12	2.26	22.44	0.967
02-Apr-14	5:08:00 AM	49.77	415.5	411	414.3	47.79	41.24	9.29	11.10	9.11	2.23	22.45	0.967
02-Apr-14	5:10:00 AM	49.84	416.2	411.3	414.5	47.56	40.91	9.4	11.06	9.06	2.26	22.38	0.967
02-Apr-14	5:12:00 AM	49.92	416.1	411.4	414.2	48.2	40.85	9.44	11.20	9.05	2.27	22.52	0.967
02-Apr-14	5:14:00 AM	49.93	416	411.6	414.2	47.9	41.06	9.33	11.13	9.09	2.25	22.47	0.967
02-Apr-14	5:16:00 AM	49.88	416	411.4	414.2	47.35	40.93	9.4	11.00	9.07	2.26	22.33	0.967
02-Apr-14	5:18:00 AM	49.86	416.2	411	414.2	47.91	40.49	9.51	11.13	8.97	2.28	22.39	0.967

Measurement of Power Parameters at Labour chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
			Hz	V	V	V	A	A	A	kW	kW		
02-Apr-14	5:20:00 AM	49.8	415.5	410.5	413.8	47.76	40.51	9.46	11.11	9.07	2.24	22.42	0.967
02-Apr-14	5:22:00 AM	49.81	415	410.5	413.6	47.79	40.78	9.35	11.11	9.17	2.20	22.48	0.967
02-Apr-14	5:24:00 AM	49.91	415.8	410.6	414.2	47.53	40.45	9.44	11.06	9.11	2.22	22.39	0.967
02-Apr-14	5:26:00 AM	49.99	415.9	411	414.4	47.14	40.45	9.38	10.98	9.11	2.21	22.29	0.967
02-Apr-14	5:28:00 AM	49.99	416	410.6	414.3	47.93	40.17	9.48	11.16	9.04	2.23	22.43	0.966
02-Apr-14	5:30:00 AM	49.93	415.3	410.5	414.2	47.48	40.48	9.28	11.05	9.09	2.18	22.33	0.967
02-Apr-14	5:32:00 AM	49.88	414.7	410.1	413.2	47.84	40.69	9.31	11.11	9.13	2.18	22.42	0.966
02-Apr-14	5:34:00 AM	49.84	414.8	409.9	412.9	47.35	40.4	9.41	10.99	9.07	2.21	22.27	0.966
02-Apr-14	5:36:00 AM	49.82	415	409.6	412.9	47.28	40.2	9.46	10.97	9.04	2.22	22.23	0.967
02-Apr-14	5:38:00 AM	49.85	414.7	409.7	413	47.14	40.38	9.39	10.95	9.08	2.20	22.23	0.967
02-Apr-14	5:40:00 AM	49.87	414.5	410	413.2	47.17	40.39	9.45	10.95	9.07	2.22	22.24	0.967
02-Apr-14	5:42:00 AM	49.88	414.4	409.8	412.6	47.78	39.96	9.55	11.08	8.96	2.24	22.28	0.966
02-Apr-14	5:44:00 AM	49.89	414.4	409.8	412.4	47.62	39.91	9.47	11.04	8.97	2.22	22.23	0.967
02-Apr-14	5:46:00 AM	49.86	414.3	409.6	412.3	47.57	40.09	9.38	11.02	9.00	2.20	22.22	0.967
02-Apr-14	5:48:00 AM	49.87	414.4	409.6	412.2	48.83	40.03	9.36	11.32	8.98	2.19	22.49	0.967
02-Apr-14	5:50:00 AM	49.9	413.6	409.6	412.2	47.66	40.27	9.34	11.03	9.02	2.19	22.24	0.966
02-Apr-14	5:52:00 AM	50.04	414.7	410.2	413	47.72	40.34	9.33	11.07	9.06	2.19	22.32	0.966
02-Apr-14	5:54:00 AM	50.17	415.2	410.9	413.4	47.47	40.19	9.24	11.04	9.02	2.17	22.23	0.967
02-Apr-14	5:56:00 AM	50.18	415.4	410.8	413.7	47.86	40	9.44	11.13	8.98	2.22	22.32	0.966
02-Apr-14	5:58:00 AM	50.11	415.3	410.4	413.2	47.49	40.19	9.3	11.04	9.01	2.19	22.24	0.966
Average load in kW												21.21	0.97

Harmonics and Voltage & Current Unbalance Measurement

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
01-Apr-14	7:32:00 PM	49.93	14.1	16.5	11.9	1.8	1.9	1.9	32.3	0.7
01-Apr-14	7:34:00 PM	49.97	14.1	16.5	12.3	1.8	1.9	2	32.7	0.7
01-Apr-14	7:36:00 PM	50	14.1	16.4	12.4	1.8	1.9	2	32.7	0.7
01-Apr-14	7:38:00 PM	49.96	14.1	16.3	12.4	1.8	1.9	2	32.6	0.7
01-Apr-14	7:40:00 PM	49.96	14.1	16.4	12.5	1.8	1.9	2	32.5	0.7
01-Apr-14	7:42:00 PM	49.96	14.1	16.5	12.5	1.8	1.9	2	32.4	0.7
01-Apr-14	7:44:00 PM	49.98	14.2	16.6	12.4	1.8	1.9	2	32.6	0.7
01-Apr-14	7:46:00 PM	49.92	14.2	16.9	12.7	1.8	1.9	2	32.6	0.7
01-Apr-14	7:48:00 PM	49.97	14.1	17	12.6	1.8	1.9	2	32.6	0.7
01-Apr-14	7:50:00 PM	50.01	14.2	17.1	12.5	1.8	1.9	2	32.6	0.6
01-Apr-14	7:52:00 PM	50.01	14.2	16.7	12.4	1.8	1.9	2	32.5	0.6
01-Apr-14	7:54:00 PM	50.01	14.2	16.4	12.3	1.8	1.9	2	32.7	0.6
01-Apr-14	7:56:00 PM	50	14.1	16.7	12.1	1.8	1.9	1.9	32.6	0.6
01-Apr-14	7:58:00 PM	49.96	14.2	16.6	12.2	1.8	1.9	2	32.5	0.6
01-Apr-14	8:00:00 PM	49.98	14.2	16.7	12.5	1.8	1.9	2	32.4	0.6
01-Apr-14	8:02:00 PM	49.93	14.4	16.6	12.4	1.8	2	2	32.6	0.6
01-Apr-14	8:04:00 PM	49.99	14.3	16.5	12.3	1.8	2	2	32.5	0.6
01-Apr-14	8:06:00 PM	50	14.3	16.7	12.4	1.8	2	2	32.5	0.5
01-Apr-14	8:08:00 PM	50	14.4	16.9	12.5	1.8	2	2	32.5	0.6
01-Apr-14	8:10:00 PM	49.99	14.5	16.9	12.3	1.8	2	2.1	32.5	0.6
01-Apr-14	8:12:00 PM	49.99	14.4	16.7	12.4	1.9	1.9	2.1	32.5	0.6
01-Apr-14	8:14:00 PM	50	14.4	16.6	12.6	1.9	1.9	2	32.5	0.7
01-Apr-14	8:16:00 PM	49.95	14.5	16.5	12.5	1.9	1.9	2	32.6	0.7
01-Apr-14	8:18:00 PM	49.9	14.6	16.5	12.5	1.9	1.9	2	32.5	0.7
01-Apr-14	8:20:00 PM	49.9	14.5	16.7	12.8	1.9	1.9	2	32.4	0.7
01-Apr-14	8:22:00 PM	49.92	14.5	16.7	12.6	1.9	2	2	32.3	0.7
01-Apr-14	8:24:00 PM	49.89	14.6	16.7	12.6	1.9	1.9	2	32.3	0.7

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
01-Apr-14	8:26:00 PM	49.89	14.6	16.8	12.7	1.9	2	2.1	32.3	0.7
01-Apr-14	8:28:00 PM	49.89	14.7	16.6	12.8	1.9	2	2.1	32.5	0.7
01-Apr-14	8:30:00 PM	49.87	14.6	16.5	12.7	1.9	2	2	32.4	0.7
01-Apr-14	8:32:00 PM	49.89	14.5	16.4	12.7	1.9	2	2	32.4	0.7
01-Apr-14	8:34:00 PM	49.93	14.6	16.5	12.9	1.9	2	2.1	32.5	0.7
01-Apr-14	8:36:00 PM	50	14.6	16.5	13	1.9	1.9	2	32.6	0.6
01-Apr-14	8:38:00 PM	50.05	14.5	16.6	12.9	1.9	2	2	32.5	0.7
01-Apr-14	8:40:00 PM	49.95	14.4	16.7	13.1	1.9	1.9	2	32.7	0.7
01-Apr-14	8:42:00 PM	49.82	14.4	16.3	13	1.9	2	2	32.7	0.6
01-Apr-14	8:44:00 PM	49.81	14.4	16.2	12.9	1.9	1.9	2	32.8	0.6
01-Apr-14	8:46:00 PM	49.86	14.4	16.1	13	1.9	1.9	2	32.9	0.6
01-Apr-14	8:48:00 PM	49.93	14.4	15.8	12.8	1.9	1.9	2	33.1	0.6
01-Apr-14	8:50:00 PM	49.96	14.5	15.8	12.9	1.9	1.8	2	33	0.6
01-Apr-14	8:52:00 PM	50.01	14.5	15.8	13.1	1.9	1.9	2	32.9	0.6
01-Apr-14	8:54:00 PM	49.97	14.5	15.8	13	1.9	1.9	2	33.2	0.6
01-Apr-14	8:56:00 PM	49.83	14.7	15.9	13.2	1.9	1.8	2	33.1	0.6
01-Apr-14	8:58:00 PM	49.71	14.7	15.8	13.3	1.9	1.8	1.9	33.1	0.6
01-Apr-14	9:00:00 PM	49.78	14.7	16	13.4	1.9	1.8	2	33.2	0.6
01-Apr-14	9:02:00 PM	49.81	14.7	16	13.1	1.9	1.8	2	33.3	0.6
01-Apr-14	9:04:00 PM	49.84	14.6	16.1	13.2	1.9	1.8	1.9	32.9	0.6
01-Apr-14	9:06:00 PM	49.89	14.6	16.3	13.1	1.9	1.9	2	32.7	0.6
01-Apr-14	9:08:00 PM	49.88	14.6	16.2	13	1.9	1.9	1.9	32.6	0.5
01-Apr-14	9:10:00 PM	49.87	14.6	16.1	12.6	1.9	1.9	1.9	32.7	0.5
01-Apr-14	9:12:00 PM	49.87	14.6	16.2	12.7	1.9	1.9	2	32.5	0.6
01-Apr-14	9:14:00 PM	49.85	14.6	16.2	12.6	1.9	2	2	32.7	0.5
01-Apr-14	9:16:00 PM	49.84	14.6	16.4	12.7	1.9	1.9	2	32.8	0.5
01-Apr-14	9:18:00 PM	49.9	14.5	16.4	12.7	1.9	2	2	32.9	0.6
01-Apr-14	9:20:00 PM	49.97	14.5	16.4	12.7	1.9	1.9	2	32.8	0.6
01-Apr-14	9:22:00 PM	49.97	14.5	16.4	12.7	2	2	2	32.7	0.6

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
01-Apr-14	9:24:00 PM	49.94	14.6	16.7	12.8	2	2	2.1	32.8	0.6
01-Apr-14	9:26:00 PM	49.98	14.5	16.5	12.5	1.9	2	2	32.8	0.5
01-Apr-14	9:28:00 PM	50.02	14.5	16.7	12.5	2	2	2	32.4	0.6
01-Apr-14	9:30:00 PM	49.96	14.6	16.7	12.5	1.9	2	2	32.6	0.6
01-Apr-14	9:32:00 PM	49.99	14.7	16.6	12.5	1.9	1.9	2	32.6	0.6
01-Apr-14	9:34:00 PM	50.01	14.8	16.6	12.5	1.9	1.9	2	32.6	0.6
01-Apr-14	9:36:00 PM	49.99	14.7	16.9	12.3	1.9	2	2	32.4	0.5
01-Apr-14	9:38:00 PM	49.89	14.7	16.7	12.2	1.9	1.9	1.9	32.3	0.5
01-Apr-14	9:40:00 PM	49.84	14.9	16.7	12.3	1.9	1.9	1.9	32.4	0.5
01-Apr-14	9:42:00 PM	49.83	15	16.8	12.3	1.9	1.9	1.9	32.5	0.5
01-Apr-14	9:44:00 PM	49.92	15	16.9	12.1	1.9	1.9	1.9	32.6	0.5
01-Apr-14	9:46:00 PM	50.03	15	16.8	11.9	1.9	1.9	1.8	32.3	0.4
01-Apr-14	9:48:00 PM	50.05	15	16.9	11.8	1.8	1.9	1.9	32.2	0.4
01-Apr-14	9:50:00 PM	50.03	15	17	12.1	1.8	1.9	1.9	32.4	0.4
01-Apr-14	9:52:00 PM	50.06	15	16.7	11.9	1.8	1.8	1.8	32.5	0.4
01-Apr-14	9:54:00 PM	50.06	14.9	16.6	11.9	1.9	1.8	1.8	32.2	0.4
01-Apr-14	9:56:00 PM	50.02	14.8	16.6	11.8	1.8	1.8	1.8	32.3	0.5
01-Apr-14	9:58:00 PM	49.93	14.8	16.7	11.8	1.8	1.8	1.8	32.4	0.5
01-Apr-14	10:00:00 PM	49.88	14.8	16.6	11.8	1.8	1.8	1.8	32.3	0.5
01-Apr-14	10:02:00 PM	49.88	14.8	16.6	11.7	1.8	1.8	1.8	32.4	0.5
01-Apr-14	10:04:00 PM	49.88	14.7	16.3	11.6	1.8	1.8	1.8	32.3	0.5
01-Apr-14	10:06:00 PM	49.88	14.7	16.4	11.7	1.7	1.7	1.7	32.3	0.5
01-Apr-14	10:08:00 PM	49.86	14.7	16.3	11.8	1.7	1.7	1.8	32.5	0.5
01-Apr-14	10:10:00 PM	49.82	14.8	16.4	11.6	1.7	1.8	1.8	32.6	0.5
01-Apr-14	10:12:00 PM	49.77	14.8	16.3	11.7	1.7	1.7	1.8	32.5	0.5
01-Apr-14	10:14:00 PM	49.8	14.8	16.2	11.6	1.8	1.8	1.7	32.2	0.5
01-Apr-14	10:16:00 PM	49.82	14.9	16.3	11.6	1.8	1.8	1.7	32.3	0.4
01-Apr-14	10:18:00 PM	49.88	14.8	16.5	12	1.8	1.8	1.8	32.6	0.5
01-Apr-14	10:20:00 PM	49.91	14.7	16.3	11.9	1.7	1.7	1.8	32.5	0.5

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
01-Apr-14	10:22:00 PM	49.98	14.7	16.2	11.8	1.7	1.7	1.7	32.4	0.5
01-Apr-14	10:24:00 PM	49.96	14.6	16.3	11.7	1.7	1.7	1.8	32.5	0.4
01-Apr-14	10:26:00 PM	49.88	14.6	16.2	11.6	1.7	1.7	1.7	32.4	0.4
01-Apr-14	10:28:00 PM	49.88	14.8	16.2	11.5	1.7	1.6	1.6	32.3	0.4
01-Apr-14	10:30:00 PM	49.9	14.8	16.2	11.6	1.7	1.6	1.6	32.2	0.4
01-Apr-14	10:32:00 PM	49.89	14.8	16.2	11.8	1.7	1.6	1.7	32.2	0.5
01-Apr-14	10:34:00 PM	49.87	14.8	16.5	11.7	1.7	1.7	1.7	32.4	0.5
01-Apr-14	10:36:00 PM	49.88	14.7	16.4	11.8	1.7	1.7	1.7	32.2	0.5
01-Apr-14	10:38:00 PM	49.9	14.8	16.3	11.7	1.7	1.6	1.7	32	0.5
01-Apr-14	10:40:00 PM	49.87	14.8	16.4	11.4	1.6	1.6	1.6	31.9	0.4
01-Apr-14	10:42:00 PM	49.88	14.7	16.4	11.1	1.6	1.5	1.6	32.1	0.4
01-Apr-14	10:44:00 PM	49.88	14.8	16.3	11.3	1.6	1.5	1.6	32.1	0.5
01-Apr-14	10:46:00 PM	49.92	14.7	16.3	11.4	1.6	1.5	1.5	32.2	0.5
01-Apr-14	10:48:00 PM	49.93	14.7	16.5	11.2	1.5	1.5	1.5	32.1	0.4
01-Apr-14	10:50:00 PM	50.01	14.7	16.6	11.1	1.5	1.5	1.5	31.8	0.4
01-Apr-14	10:52:00 PM	50.04	14.6	16.5	11.2	1.6	1.5	1.5	31.7	0.4
01-Apr-14	10:54:00 PM	50.05	14.6	16.5	11.3	1.5	1.4	1.6	31.8	0.4
01-Apr-14	10:56:00 PM	50.02	14.6	16.3	11.5	1.5	1.4	1.5	31.7	0.4
01-Apr-14	10:58:00 PM	49.98	14.5	16.3	11.2	1.5	1.4	1.5	31.8	0.4
01-Apr-14	11:00:00 PM	49.98	14.5	16.2	11.1	1.5	1.4	1.4	31.8	0.4
01-Apr-14	11:02:00 PM	49.96	14.5	16.3	11.1	1.5	1.4	1.4	31.7	0.3
01-Apr-14	11:04:00 PM	49.94	14.7	16.1	11.2	1.5	1.4	1.5	31.8	0.4
01-Apr-14	11:06:00 PM	49.94	14.8	16.4	11.1	1.5	1.5	1.5	31.9	0.4
01-Apr-14	11:08:00 PM	49.92	14.9	16.5	11.1	1.5	1.5	1.5	31.8	0.4
01-Apr-14	11:10:00 PM	49.92	14.7	16.4	11.1	1.5	1.5	1.5	31.8	0.4
01-Apr-14	11:12:00 PM	49.95	14.6	16.6	11.1	1.4	1.4	1.5	31.8	0.3
01-Apr-14	11:14:00 PM	50.01	14.6	16.5	11	1.4	1.4	1.5	31.7	0.3
01-Apr-14	11:16:00 PM	50.02	14.6	16.4	11.1	1.4	1.4	1.4	31.9	0.3
01-Apr-14	11:18:00 PM	50.01	14.6	16.3	11.2	1.4	1.4	1.4	31.8	0.3

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
01-Apr-14	11:20:00 PM	50.04	14.5	16.1	11.1	1.4	1.4	1.4	31.8	0.3
01-Apr-14	11:22:00 PM	50.03	14.5	15.9	10.9	1.4	1.3	1.3	31.8	0.4
01-Apr-14	11:24:00 PM	50	14.4	15.9	11	1.3	1.3	1.3	31.7	0.4
01-Apr-14	11:26:00 PM	49.99	14.4	15.7	11	1.3	1.2	1.2	31.8	0.4
01-Apr-14	11:28:00 PM	50	14.4	15.9	11.1	1.3	1.2	1.2	31.8	0.4
01-Apr-14	11:30:00 PM	50.02	14.3	15.8	11.1	1.3	1.2	1.2	31.6	0.4
01-Apr-14	11:32:00 PM	50.03	14.4	15.7	11.1	1.2	1.2	1.2	31.7	0.4
01-Apr-14	11:34:00 PM	50.05	14.4	15.5	11.1	1.2	1.2	1.1	32	0.4
01-Apr-14	11:36:00 PM	50.07	14.4	15.5	11.3	1.2	1.2	1.1	32	0.4
01-Apr-14	11:38:00 PM	50.05	14.4	15.8	11	1.2	1.2	1.1	31.7	0.3
01-Apr-14	11:40:00 PM	50.01	14.5	15.8	11.1	1.2	1.2	1.1	31.7	0.3
01-Apr-14	11:42:00 PM	50.01	14.5	15.8	11	1.2	1.1	1.1	31.7	0.4
01-Apr-14	11:44:00 PM	50	14.6	15.8	11	1.2	1.1	1.1	31.7	0.3
01-Apr-14	11:46:00 PM	50.02	14.6	15.6	11	1.2	1.1	1	31.8	0.3
01-Apr-14	11:48:00 PM	50.02	14.7	15.1	11	1.2	1.1	1	32.1	0.4
01-Apr-14	11:50:00 PM	50.02	14.6	14.8	11.2	1.2	1	1	32.1	0.5
01-Apr-14	11:52:00 PM	50.02	14.8	14.6	11.3	1.2	1	1	32.4	0.4
01-Apr-14	11:54:00 PM	50.05	14.8	14.6	11.2	1.1	1	0.9	32.2	0.4
01-Apr-14	11:56:00 PM	50	14.7	14.6	11.2	1.1	1	0.9	32.2	0.4
01-Apr-14	11:58:00 PM	49.91	14.6	14.6	11.2	1	0.9	0.9	32.4	0.4
02-Apr-14	12:00:00 AM	49.89	14.7	14.6	11.3	1.1	0.9	0.9	32.2	0.4
02-Apr-14	12:02:00 AM	49.91	14.6	14.4	11.5	1	0.9	0.8	32.5	0.4
02-Apr-14	12:04:00 AM	49.95	14.6	14.4	11.4	1	0.9	0.8	32.7	0.4
02-Apr-14	12:06:00 AM	49.99	14.7	14.4	11.5	1	0.9	0.8	32.4	0.4
02-Apr-14	12:08:00 AM	50.01	14.6	14.4	11.3	0.9	0.8	0.8	32.3	0.4
02-Apr-14	12:10:00 AM	49.96	14.4	14.4	11.4	1	0.8	0.8	32.3	0.4
02-Apr-14	12:12:00 AM	49.91	14.5	14.3	11.5	1	0.8	0.8	32.3	0.4
02-Apr-14	12:14:00 AM	49.9	14.5	14.2	11.3	0.9	0.8	0.8	32.3	0.4
02-Apr-14	12:16:00 AM	49.91	14.6	14.3	11.4	0.9	0.8	0.8	32.4	0.4

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
02-Apr-14	12:18:00 AM	49.92	14.5	14.4	11.6	0.9	0.8	0.7	32.5	0.4
02-Apr-14	12:20:00 AM	49.93	14.6	14.4	11.4	1	0.8	0.8	32.4	0.4
02-Apr-14	12:22:00 AM	49.94	14.5	14.4	11.4	0.9	0.7	0.8	32.3	0.4
02-Apr-14	12:24:00 AM	49.97	14.5	14.4	11.4	0.9	0.7	0.8	32.3	0.3
02-Apr-14	12:26:00 AM	49.96	14.5	14.4	11.2	1	0.7	0.7	32.3	0.3
02-Apr-14	12:28:00 AM	49.95	14.6	14.3	11.3	0.9	0.7	0.8	32.2	0.4
02-Apr-14	12:30:00 AM	49.96	14.4	14.2	11.4	0.9	0.7	0.8	32.4	0.4
02-Apr-14	12:32:00 AM	49.92	14.5	14.4	11.4	0.9	0.8	0.7	32.4	0.4
02-Apr-14	12:34:00 AM	49.97	14.5	14.4	11.3	0.8	0.7	0.7	32.4	0.4
02-Apr-14	12:36:00 AM	50.01	14.5	14.5	11.4	0.9	0.7	0.7	32.4	0.4
02-Apr-14	12:38:00 AM	50	14.6	14.5	11.7	0.9	0.7	0.7	32.3	0.5
02-Apr-14	12:40:00 AM	50	14.6	14.3	11.7	0.8	0.7	0.7	32.6	0.4
02-Apr-14	12:42:00 AM	50.02	14.5	14.2	11.4	0.9	0.7	0.7	32.4	0.4
02-Apr-14	12:44:00 AM	50	14.5	14.3	11.5	0.8	0.7	0.7	32.2	0.4
02-Apr-14	12:46:00 AM	50	14.6	14.5	11.6	0.8	0.7	0.7	32.3	0.4
02-Apr-14	12:48:00 AM	49.95	14.5	14.6	11.7	0.8	0.7	0.7	32.7	0.6
02-Apr-14	12:50:00 AM	49.94	14.5	14.5	11.9	0.8	0.7	0.7	32.3	0.5
02-Apr-14	12:52:00 AM	49.96	14.6	14.4	11.7	0.8	0.7	0.7	32.5	0.4
02-Apr-14	12:54:00 AM	49.99	14.5	14.3	11.6	0.8	0.6	0.7	32.2	0.4
02-Apr-14	12:56:00 AM	50.01	14.5	14.5	11.5	0.8	0.7	0.7	32.2	0.5
02-Apr-14	12:58:00 AM	50.02	14.4	14.5	11.7	0.8	0.7	0.7	32.5	0.5
02-Apr-14	1:00:00 AM	50.02	14.3	14.5	11.6	0.8	0.7	0.7	32.3	0.6
02-Apr-14	1:02:00 AM	50	14.4	14.3	11.5	0.8	0.6	0.7	32	0.5
02-Apr-14	1:04:00 AM	49.96	14.4	14.4	11.7	0.9	0.7	0.7	32.2	0.5
02-Apr-14	1:06:00 AM	49.95	14.4	14.5	11.6	0.8	0.7	0.7	32.3	0.5
02-Apr-14	1:08:00 AM	49.97	14.5	14.7	11.8	0.8	0.6	0.7	32.2	0.5
02-Apr-14	1:10:00 AM	49.99	14.4	14.6	12.1	0.8	0.6	0.7	32.4	0.6
02-Apr-14	1:12:00 AM	50.04	14.5	14.5	11.7	0.9	0.7	0.7	32.5	0.5
02-Apr-14	1:14:00 AM	50.04	14.5	14.7	11.6	0.8	0.6	0.7	32.3	0.5

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
02-Apr-14	1:16:00 AM	50.01	14.4	14.6	11.9	0.8	0.6	0.7	32.2	0.6
02-Apr-14	1:18:00 AM	49.99	14.5	14.6	11.6	0.8	0.6	0.7	32.4	0.5
02-Apr-14	1:20:00 AM	49.94	14.5	14.7	11.7	0.8	0.6	0.7	32.2	0.5
02-Apr-14	1:22:00 AM	49.87	14.6	14.9	12.1	0.8	0.7	0.7	32.2	0.5
02-Apr-14	1:24:00 AM	49.82	14.7	14.6	11.8	0.8	0.7	0.7	32.4	0.5
02-Apr-14	1:26:00 AM	49.74	14.7	14.6	11.8	0.9	0.7	0.7	32.1	0.5
02-Apr-14	1:28:00 AM	49.71	14.8	14.8	11.8	0.9	0.7	0.7	32.3	0.5
02-Apr-14	1:30:00 AM	49.72	14.7	15	12.1	0.9	0.7	0.8	32.3	0.6
02-Apr-14	1:32:00 AM	49.8	14.6	15	12.2	0.8	0.7	0.7	32.5	0.6
02-Apr-14	1:34:00 AM	49.85	14.6	14.7	12.1	0.8	0.7	0.7	32.3	0.6
02-Apr-14	1:36:00 AM	49.9	14.6	14.6	11.8	0.8	0.7	0.7	32.2	0.5
02-Apr-14	1:38:00 AM	49.92	14.6	14.8	11.6	0.8	0.6	0.7	32.4	0.5
02-Apr-14	1:40:00 AM	49.87	14.6	14.9	11.8	0.8	0.7	0.7	32.3	0.5
02-Apr-14	1:42:00 AM	49.85	14.6	14.8	11.9	0.8	0.7	0.7	32.2	0.5
02-Apr-14	1:44:00 AM	49.83	14.6	14.5	11.7	0.8	0.7	0.7	32.1	0.5
02-Apr-14	1:46:00 AM	49.83	14.6	14.6	11.7	0.8	0.7	0.7	32.2	0.5
02-Apr-14	1:48:00 AM	49.86	14.6	14.6	11.9	0.8	0.7	0.7	32.3	0.6
02-Apr-14	1:50:00 AM	49.91	14.6	14.7	12	0.8	0.7	0.7	32.5	0.6
02-Apr-14	1:52:00 AM	49.97	14.7	14.7	11.9	0.8	0.7	0.7	32.4	0.6
02-Apr-14	1:54:00 AM	50	14.7	14.8	11.9	0.8	0.7	0.7	32.4	0.5
02-Apr-14	1:56:00 AM	49.99	14.8	14.7	11.8	0.8	0.6	0.7	32.4	0.5
02-Apr-14	1:58:00 AM	49.97	14.8	14.8	11.8	0.8	0.7	0.7	32.2	0.5
02-Apr-14	2:00:00 AM	49.9	14.6	15.1	12.1	0.8	0.7	0.7	32.5	0.7
02-Apr-14	2:02:00 AM	49.86	14.8	14.7	12	0.9	0.7	0.7	32.4	0.6
02-Apr-14	2:04:00 AM	49.82	14.8	14.8	11.8	0.8	0.7	0.7	32.4	0.5
02-Apr-14	2:06:00 AM	49.79	14.8	15	11.6	0.9	0.7	0.7	32.3	0.5
02-Apr-14	2:08:00 AM	49.82	14.8	15.1	12	0.8	0.7	0.7	32.4	0.5
02-Apr-14	2:10:00 AM	49.84	14.7	15	11.9	0.8	0.7	0.7	32.5	0.6
02-Apr-14	2:12:00 AM	49.87	14.8	14.9	11.7	0.8	0.7	0.7	32.3	0.6

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
02-Apr-14	2:14:00 AM	49.92	14.8	14.8	11.9	0.9	0.7	0.7	32.1	0.6
02-Apr-14	2:16:00 AM	49.96	14.8	15	12.1	0.8	0.7	0.7	32.5	0.6
02-Apr-14	2:18:00 AM	49.96	14.6	15.1	12.1	0.8	0.7	0.7	32.5	0.6
02-Apr-14	2:20:00 AM	49.94	14.7	14.8	11.8	0.8	0.7	0.7	32.3	0.5
02-Apr-14	2:22:00 AM	49.96	14.7	14.9	11.8	0.9	0.7	0.7	31.9	0.5
02-Apr-14	2:24:00 AM	49.97	14.5	15.1	12.2	0.8	0.7	0.8	32.3	0.6
02-Apr-14	2:26:00 AM	49.95	14.6	15	11.9	0.8	0.7	0.8	32.4	0.5
02-Apr-14	2:28:00 AM	49.95	14.6	14.9	11.9	0.9	0.7	0.8	32.1	0.6
02-Apr-14	2:30:00 AM	49.93	14.8	14.9	12	0.9	0.7	0.7	32.1	0.6
02-Apr-14	2:32:00 AM	49.93	14.7	15.1	12.2	0.8	0.7	0.7	32.3	0.6
02-Apr-14	2:34:00 AM	49.94	14.6	15	12	0.8	0.7	0.7	32.1	0.6
02-Apr-14	2:36:00 AM	49.95	14.6	15	11.9	0.9	0.7	0.7	32.1	0.6
02-Apr-14	2:38:00 AM	49.97	14.6	15	11.9	0.9	0.7	0.8	32.2	0.6
02-Apr-14	2:40:00 AM	50	14.8	14.8	11.8	0.9	0.7	0.8	32	0.5
02-Apr-14	2:42:00 AM	50.03	14.8	14.8	11.7	0.9	0.7	0.8	32	0.5
02-Apr-14	2:44:00 AM	50.02	14.8	14.9	11.7	0.9	0.7	0.8	32	0.5
02-Apr-14	2:46:00 AM	50.05	14.7	15	12.1	0.8	0.7	0.8	32.3	0.5
02-Apr-14	2:48:00 AM	50.05	14.8	15	12	0.9	0.7	0.8	32.4	0.5
02-Apr-14	2:50:00 AM	50.06	14.8	14.9	12.1	0.8	0.7	0.8	32	0.5
02-Apr-14	2:52:00 AM	50.06	14.9	14.8	12	0.9	0.7	0.8	32	0.6
02-Apr-14	2:54:00 AM	50.05	15	14.7	11.9	0.9	0.7	0.8	32.2	0.5
02-Apr-14	2:56:00 AM	50.06	14.9	14.8	11.8	0.8	0.6	0.8	32.3	0.5
02-Apr-14	2:58:00 AM	50.05	14.8	14.9	11.9	0.9	0.7	0.8	32.1	0.6
02-Apr-14	3:00:00 AM	50.01	14.8	14.9	12.2	0.8	0.7	0.7	32.3	0.6
02-Apr-14	3:02:00 AM	49.98	14.9	15	11.9	0.9	0.7	0.8	32.4	0.6
02-Apr-14	3:04:00 AM	49.99	14.9	15	11.8	0.9	0.7	0.8	31.9	0.5
02-Apr-14	3:06:00 AM	49.97	14.9	15.2	12.2	0.8	0.7	0.8	32.4	0.6
02-Apr-14	3:08:00 AM	49.93	14.9	15	12.2	0.8	0.7	0.8	32.7	0.6
02-Apr-14	3:10:00 AM	49.91	15	14.8	11.9	0.9	0.7	0.8	32.3	0.6

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
02-Apr-14	3:12:00 AM	49.92	15	14.8	11.8	0.9	0.7	0.8	32.3	0.6
02-Apr-14	3:14:00 AM	49.92	14.9	15	12.1	0.9	0.7	0.8	32.3	0.6
02-Apr-14	3:16:00 AM	49.91	15	14.9	12.1	0.9	0.7	0.8	32.6	0.6
02-Apr-14	3:18:00 AM	49.91	15	15	11.8	0.9	0.7	0.8	32.2	0.5
02-Apr-14	3:20:00 AM	49.95	15	15.1	12.1	0.9	0.7	0.8	32.4	0.5
02-Apr-14	3:22:00 AM	49.97	15	15.1	12.3	0.9	0.7	0.7	32.7	0.6
02-Apr-14	3:24:00 AM	49.97	15	14.9	12	0.9	0.7	0.8	32.4	0.5
02-Apr-14	3:26:00 AM	49.96	15.1	14.9	12	0.9	0.8	0.8	32.4	0.5
02-Apr-14	3:28:00 AM	49.92	15	15	12.1	0.9	0.8	0.8	32.4	0.5
02-Apr-14	3:30:00 AM	49.91	15.1	15	12.1	0.9	0.8	0.8	32.5	0.6
02-Apr-14	3:32:00 AM	49.9	14.9	14.9	12.1	0.9	0.7	0.8	32.4	0.6
02-Apr-14	3:34:00 AM	49.9	14.9	15.1	12.1	0.9	0.7	0.8	32.6	0.6
02-Apr-14	3:36:00 AM	49.91	15	15	12.2	0.9	0.7	0.8	32.2	0.6
02-Apr-14	3:38:00 AM	49.92	15	15	12.1	0.9	0.7	0.8	32.4	0.5
02-Apr-14	3:40:00 AM	49.9	14.9	15.1	12	0.9	0.7	0.8	32.4	0.5
02-Apr-14	3:42:00 AM	49.89	14.9	15.1	12.3	0.9	0.7	0.8	32.1	0.6
02-Apr-14	3:44:00 AM	49.87	15	15	12.4	0.9	0.8	0.8	32.4	0.6
02-Apr-14	3:46:00 AM	49.85	14.8	15	12.2	0.9	0.7	0.8	32.3	0.6
02-Apr-14	3:48:00 AM	49.86	14.9	14.9	12	0.9	0.7	0.8	32.2	0.5
02-Apr-14	3:50:00 AM	49.87	14.9	14.8	12.1	0.9	0.7	0.8	31.9	0.6
02-Apr-14	3:52:00 AM	49.86	14.9	15	12.3	0.9	0.7	0.8	32.2	0.7
02-Apr-14	3:54:00 AM	49.86	14.8	15.1	12.4	0.9	0.8	0.8	32.6	0.7
02-Apr-14	3:56:00 AM	49.88	15	15	12.1	0.9	0.8	0.8	32.2	0.6
02-Apr-14	3:58:00 AM	49.84	15.1	15	12.2	0.9	0.8	0.8	32.2	0.6
02-Apr-14	4:00:00 AM	49.82	15	15	12.2	0.9	0.8	0.8	32.4	0.6
02-Apr-14	4:02:00 AM	49.83	15	15	12.7	0.9	0.8	0.8	32.3	0.7
02-Apr-14	4:04:00 AM	49.85	14.9	14.9	12.5	0.9	0.8	0.8	32.5	0.7
02-Apr-14	4:06:00 AM	49.84	14.9	15	12.4	0.9	0.7	0.8	32.1	0.7
02-Apr-14	4:08:00 AM	49.85	15	14.9	12.2	0.9	0.8	0.8	32.2	0.6

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
02-Apr-14	4:10:00 AM	49.88	14.9	15	12.1	0.9	0.8	0.8	32.3	0.6
02-Apr-14	4:12:00 AM	49.91	14.9	15.1	12.4	0.9	0.8	0.8	32.3	0.6
02-Apr-14	4:14:00 AM	49.91	14.9	14.9	12.3	0.9	0.8	0.8	32.3	0.6
02-Apr-14	4:16:00 AM	49.88	14.9	14.9	12	0.9	0.8	0.8	32	0.6
02-Apr-14	4:18:00 AM	49.86	14.9	15	11.9	0.9	0.7	0.8	32	0.6
02-Apr-14	4:20:00 AM	49.88	14.8	15.2	12.4	0.9	0.8	0.8	32.2	0.7
02-Apr-14	4:22:00 AM	49.92	14.8	15	12.5	0.9	0.7	0.8	32.3	0.7
02-Apr-14	4:24:00 AM	49.93	14.8	14.9	12.1	0.9	0.7	0.8	32.2	0.6
02-Apr-14	4:26:00 AM	49.95	14.8	14.9	12	0.9	0.7	0.8	31.8	0.6
02-Apr-14	4:28:00 AM	49.94	14.7	14.9	12.5	0.9	0.7	0.8	32.2	0.6
02-Apr-14	4:30:00 AM	49.95	14.7	14.9	12.3	0.9	0.8	0.8	32.4	0.7
02-Apr-14	4:32:00 AM	49.91	14.8	14.9	12	0.9	0.7	0.8	32	0.6
02-Apr-14	4:34:00 AM	49.85	14.9	14.7	12.1	0.9	0.7	0.8	32	0.6
02-Apr-14	4:36:00 AM	49.82	14.9	14.9	12.3	0.9	0.7	0.8	32.3	0.6
02-Apr-14	4:38:00 AM	49.82	14.9	14.9	12.3	0.9	0.7	0.8	32.2	0.6
02-Apr-14	4:40:00 AM	49.87	14.9	14.8	12.3	0.9	0.7	0.8	32.2	0.6
02-Apr-14	4:42:00 AM	49.89	14.8	14.9	12.4	0.9	0.7	0.8	32.3	0.6
02-Apr-14	4:44:00 AM	49.9	14.8	14.9	12.4	0.9	0.7	0.8	32.2	0.6
02-Apr-14	4:46:00 AM	49.89	14.8	14.7	12.3	0.9	0.7	0.8	32.2	0.6
02-Apr-14	4:48:00 AM	49.88	14.9	14.9	12.4	0.9	0.8	0.8	32.1	0.7
02-Apr-14	4:50:00 AM	49.9	14.9	15.1	12.7	0.9	0.8	0.8	32.4	0.7
02-Apr-14	4:52:00 AM	49.92	14.9	14.9	12.3	0.9	0.8	0.8	32.1	0.6
02-Apr-14	4:54:00 AM	49.94	15	14.9	12.1	0.9	0.7	0.8	32.2	0.6
02-Apr-14	4:56:00 AM	49.97	14.9	15.1	12.4	0.9	0.7	0.8	32.2	0.6
02-Apr-14	4:58:00 AM	50	14.9	15	12.5	0.9	0.7	0.8	32.3	0.6
02-Apr-14	5:00:00 AM	50.04	14.9	15	12.4	0.9	0.7	0.8	32.1	0.6
02-Apr-14	5:02:00 AM	49.99	15	15	12.1	0.9	0.7	0.8	32	0.6
02-Apr-14	5:04:00 AM	49.94	14.9	15	12.6	0.9	0.7	0.8	32	0.6
02-Apr-14	5:06:00 AM	49.84	15	15	12.4	0.9	0.7	0.8	32.3	0.6

Harmonics & Voltage & Current Unbalance Measurement at Labour chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
02-Apr-14	5:08:00 AM	49.77	14.9	14.9	12.1	0.9	0.7	0.8	32.1	0.6
02-Apr-14	5:10:00 AM	49.84	14.9	15	12.3	0.9	0.7	0.8	32.1	0.6
02-Apr-14	5:12:00 AM	49.92	14.9	15	12.4	0.9	0.7	0.8	32.2	0.6
02-Apr-14	5:14:00 AM	49.93	14.9	15	12.2	0.9	0.7	0.8	32.1	0.6
02-Apr-14	5:16:00 AM	49.88	15	15	12.3	0.9	0.7	0.7	32.1	0.6
02-Apr-14	5:18:00 AM	49.86	14.9	15	12.5	0.8	0.7	0.7	32.3	0.7
02-Apr-14	5:20:00 AM	49.8	15	14.9	12.5	0.9	0.7	0.8	32.2	0.7
02-Apr-14	5:22:00 AM	49.81	15	15	12.2	0.9	0.7	0.8	32.3	0.6
02-Apr-14	5:24:00 AM	49.91	14.9	14.9	12.4	0.8	0.7	0.7	32.4	0.7
02-Apr-14	5:26:00 AM	49.99	15	14.9	12.2	0.9	0.7	0.8	32.2	0.7
02-Apr-14	5:28:00 AM	49.99	14.9	15.1	12.4	0.8	0.7	0.8	32.4	0.7
02-Apr-14	5:30:00 AM	49.93	14.9	14.8	12.1	0.8	0.7	0.8	32.3	0.7
02-Apr-14	5:32:00 AM	49.88	15	15	12.1	0.8	0.7	0.8	32.3	0.6
02-Apr-14	5:34:00 AM	49.84	14.8	14.8	12.3	0.8	0.7	0.7	32.1	0.6
02-Apr-14	5:36:00 AM	49.82	14.8	15	12.4	0.8	0.7	0.8	32.5	0.7
02-Apr-14	5:38:00 AM	49.85	14.8	14.8	12.3	0.8	0.7	0.8	32.5	0.7
02-Apr-14	5:40:00 AM	49.87	14.8	14.8	12.4	0.8	0.7	0.8	32.1	0.6
02-Apr-14	5:42:00 AM	49.88	14.9	14.8	12.6	0.8	0.7	0.7	32.2	0.6
02-Apr-14	5:44:00 AM	49.89	14.9	14.9	12.5	0.8	0.6	0.8	32.5	0.6
02-Apr-14	5:46:00 AM	49.86	15	14.9	12.3	0.9	0.7	0.8	32.5	0.6
02-Apr-14	5:48:00 AM	49.87	15	14.9	12.3	0.8	0.7	0.7	32.7	0.6
02-Apr-14	5:50:00 AM	49.9	15	14.8	12.2	0.9	0.7	0.7	32.3	0.5
02-Apr-14	5:52:00 AM	50.04	14.9	15.1	12.2	0.9	0.7	0.8	32.4	0.6
02-Apr-14	5:54:00 AM	50.17	15	15	12	0.8	0.7	0.8	32	0.5
02-Apr-14	5:56:00 AM	50.18	14.9	15	12.3	0.8	0.7	0.8	32	0.6
02-Apr-14	5:58:00 AM	50.11	15	15	12.2	0.8	0.7	0.8	32	0.6

❖ **Observation:**

- Voltage unbalance is within limit.
- Current unbalance is considerable.
- Average power factor is 0.97.
- Line Voltage total harmonics distortion is within limit.
- Total Current Harmonics distortion is there.

□ Study of electrical parameters at Labour chowk Switching Point

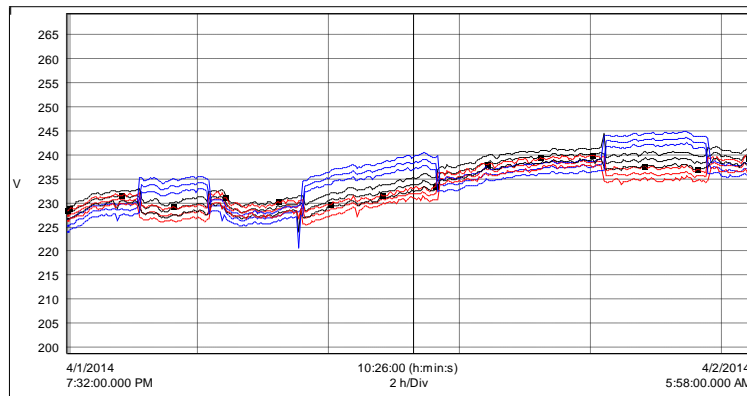
❑ Study of electrical parameters at Labour chowk Switching Point

1. Phase Voltage

Table: Phase Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
V1 RMS	01-04-2014	19:32:00	234.796	227.9	240.6	V	10:28:00	(h:min:s)
V2 RMS	01-04-2014	19:32:00	233.273	227	238.9	V	10:28:00	(h:min:s)
V3 RMS	01-04-2014	19:32:00	235.535	225.3	243.7	V	10:28:00	(h:min:s)

Graph: Phase Voltage Variation for the Recorded Time



RMS, Max RMS & Min. RMS
Phase voltage variation

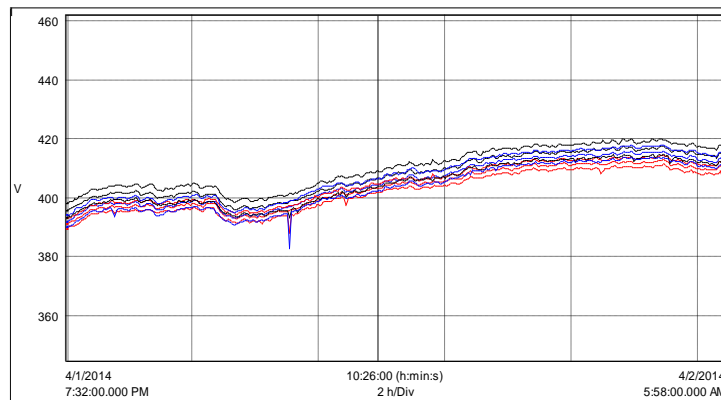
➤ Voltage unbalance is within limit

2. Line Voltage

Table : Line Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
U1 RMS	01-04-2014	19:32:00	408.249	395.8	417.7	V	10:28:00	(h:min:s)
U2 RMS	01-04-2014	19:32:00	404.267	391.2	413.1	V	10:28:00	(h:min:s)
U3 RMS	01-04-2014	19:32:00	406.101	391.9	415.9	V	10:28:00	(h:min:s)

Graph : Line Voltage Variation for the Recorded Time



RMS, Max RMS & Min. RMS

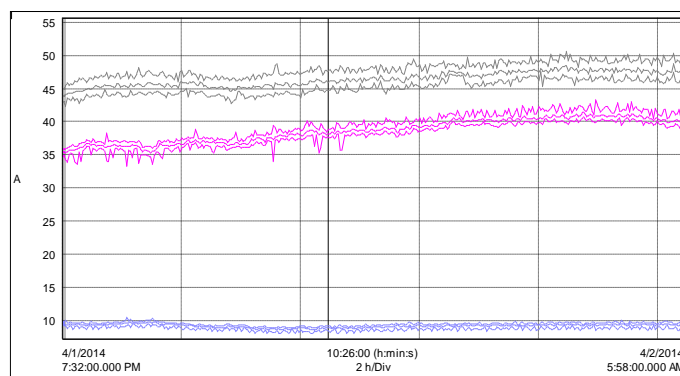
Line voltage variation

6. Current

Table: Current

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 RMS	01-04-2014	19:32:00	46.573	43.95	48.83	A	10:28:00	(h:min:s)
A2 RMS	01-04-2014	19:32:00	38.794	35.38	41.46	A	10:28:00	(h:min:s)
A3 RMS	01-04-2014	19:32:00	9.246	8.67	9.79	A	10:28:00	(h:min:s)

Graph No. : Line Current Variation for recorded time



**RMS, Max RMS & Min. RMS
Current variation**

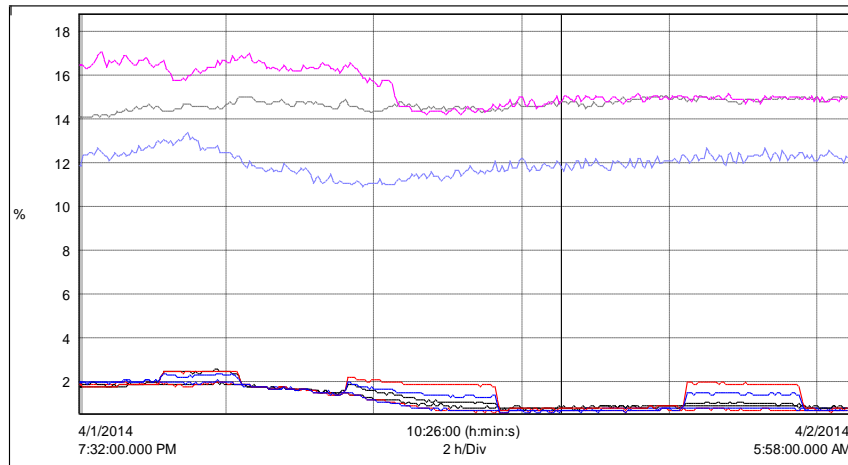
- Current unbalance is considerable.

4. Total harmonic Distortion (THD).

Table: THD

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 THD	01-04-2014	19:32:00	14.685	14.1	15.1	%	10:28:00	(h:min:s)
A2 THD	01-04-2014	19:32:00	15.448	14.2	17.1	%	10:28:00	(h:min:s)
A3 THD	01-04-2014	19:32:00	11.999	10.9	13.4	%	10:28:00	(h:min:s)
U1 THD	01-04-2014	19:32:00	1.222	0.8	2	%	10:28:00	(h:min:s)
U2 THD	01-04-2014	19:32:00	1.135	0.6	2	%	10:28:00	(h:min:s)
U3 THD	01-04-2014	19:32:00	1.179	0.7	2.1	%	10:28:00	(h:min:s)
V1 THD	01-04-2014	19:32:00	1.35	0.7	2.6	%	10:28:00	(h:min:s)
V2 THD	01-04-2014	19:32:00	1.602	0.7	2.5	%	10:28:00	(h:min:s)
V3 THD	01-04-2014	19:32:00	1.408	0.6	2.4	%	10:28:00	(h:min:s)

Graph: THD



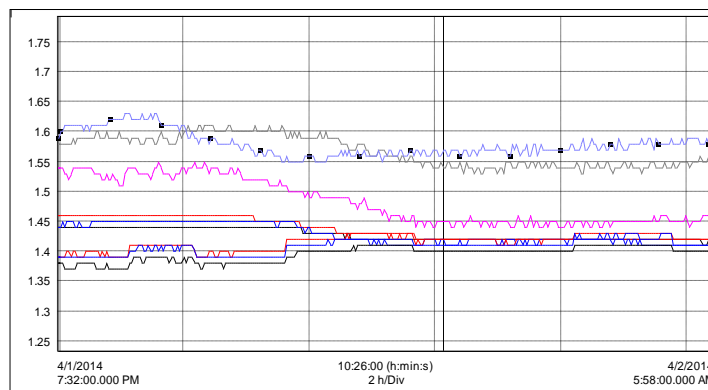
**Variation of current, Phase Voltage, Line Voltage
Total Harmonic Distortion**

5. Crest Factor

Table : Crest Factor

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 CF	01-04-2014	19:32:00	1.568	1.53	1.61		10:28:00	(h:min:s)
A2 CF	01-04-2014	19:32:00	1.483	1.44	1.55		10:28:00	(h:min:s)
A3 CF	01-04-2014	19:32:00	1.579	1.55	1.63		10:28:00	(h:min:s)
U1 CF	01-04-2014	19:32:00	1.428	1.41	1.44		10:28:00	(h:min:s)
U2 CF	01-04-2014	19:32:00	1.436	1.42	1.46		10:28:00	(h:min:s)
U3 CF	01-04-2014	19:32:00	1.429	1.41	1.45		10:28:00	(h:min:s)
V1 CF	01-04-2014	19:32:00	1.395	1.37	1.41		10:28:00	(h:min:s)
V2 CF	01-04-2014	19:32:00	1.415	1.39	1.43		10:28:00	(h:min:s)
V3 CF	01-04-2014	19:32:00	1.408	1.39	1.43		10:28:00	(h:min:s)

Graph : Crest Factor



Variation of Crest Factor

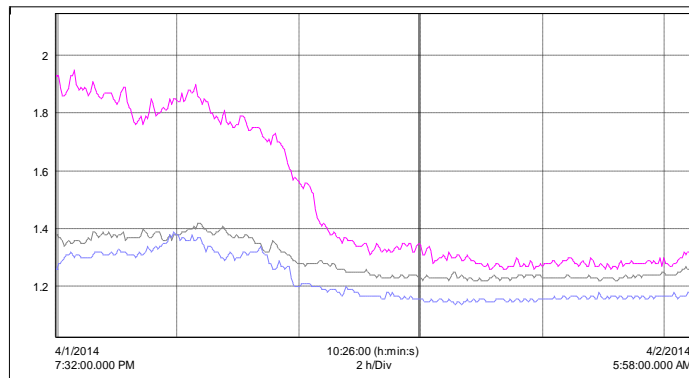
➤ Crest factor is above 1.41 hence there is some degree of impacting

11. K Factor

Table . 3.11: K- Factor

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
KF1	01-04-2014	19:32:00	1.289	1.22	1.42		10:28:00	(h:min:s)
KF2	01-04-2014	19:32:00	1.502	1.26	1.95		10:28:00	(h:min:s)
KF3	01-04-2014	19:32:00	1.223	1.14	1.39		10:28:00	(h:min:s)

Graph 3.6 K- Factor

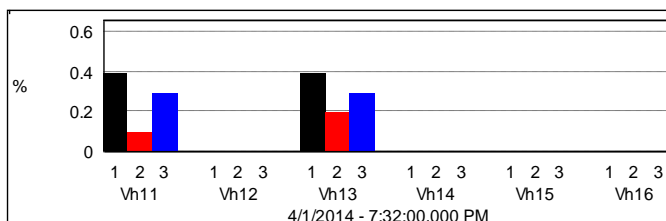
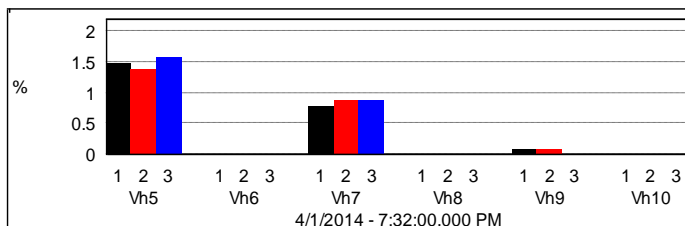
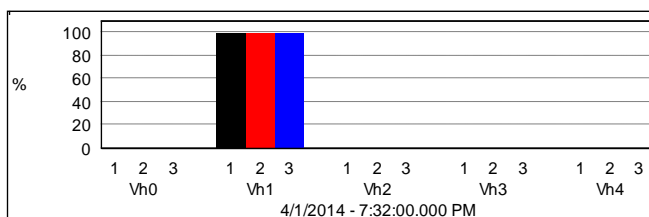


Variation of K Factor

- K-factor is from 1.1 to 1.39. K-factor above 1 indicates a non-linear load & presence of harmonics.

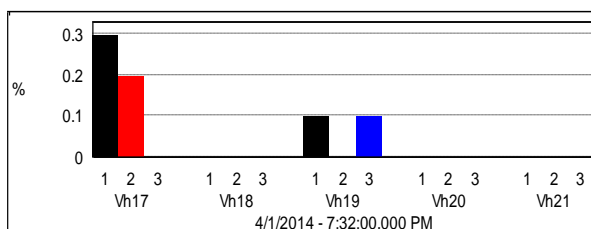
❖ Voltage Harmonics of different order & their Max, Min and average values

Name	Avg	Min	Max	Unit
V1h0	0.005	0	0.1	%
V1h1	100	100	100	%
V1h10	0	0	0	%
V1h11	0.175	0	0.6	%
V1h12	0	0	0	%
V1h13	0.213	0	0.4	%
V1h14	0	0	0	%
V1h15	0.041	0	0.2	%
V1h16	0	0	0	%
V1h2	0	0	0	%
V1h3	0.535	0.3	0.8	%
V1h4	0	0	0	%
V1h5	0.878	0.4	2	%
V1h6	0	0	0	%
V1h7	0.65	0.3	1.1	%
V1h8	0	0	0	%
V1h9	0.128	0	0.5	%
V2h0	0.1	0.1	0.1	%
V2h1	100	100	100	%
V2h10	0	0	0	%
V2h11	0.098	0	0.2	%
V2h12	0	0	0	%
V2h13	0.111	0	0.2	%
V2h14	0	0	0	%
V2h15	0	0	0.1	%
V2h16	0	0	0	%
V2h2	0	0	0	%
V2h3	0.975	0.3	1.8	%
V2h4	0	0	0	%
V2h5	0.915	0.3	1.7	%
V2h6	0	0	0	%
V2h7	0.628	0.3	1	%
V2h8	0	0	0	%
V2h9	0.089	0	0.2	%
V3h0	0.002	0	0.1	%
V3h1	100	100	100	%
V3h10	0	0	0	%
V3h11	0.122	0	0.3	%
V3h12	0	0	0	%
V3h13	0.205	0	0.4	%
V3h14	0	0	0	%
V3h15	0	0	0.1	%
V3h16	0	0	0	%
V3h2	0	0	0	%
V3h3	0.746	0	1.6	%
V3h4	0	0	0	%



V3h5	0.752	0	1.7	%	
V3h6	0	0	0	%	
V3h7	0.533	0	1.1	%	
V3h8	0	0	0	%	
V3h9	0.091	0	0.3	%	

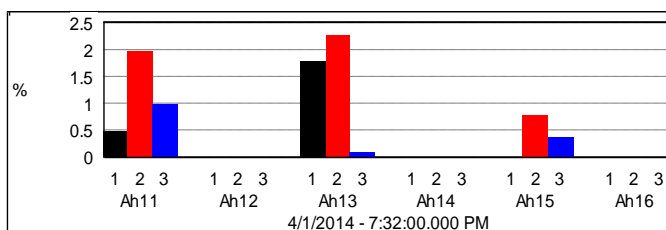
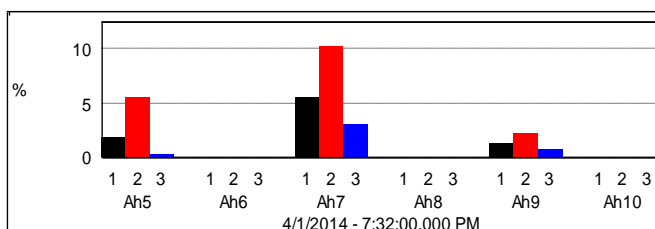
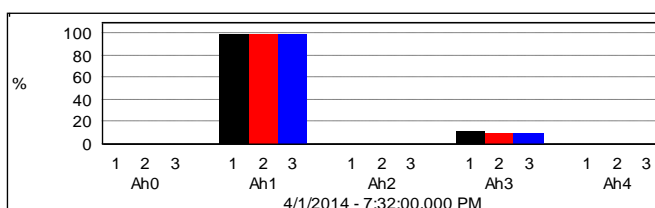
Name	Avg	Min	Max	Unit
V1h17	0.121	0	0.3	%
V1h18	0	0	0	%
V1h19	0.061	0	0.2	%
V1h20	0	0	0	%
V1h21	0	0	0	%
V1h22	0	0	0	%
V1h23	0.012	0	0.1	%
V1h24	0	0	0	%
V1h25	0	0	0	%
V1h26	0	0	0	%
V1h27	0	0	0	%
V1h28	0	0	0	%
V1h29	0	0	0	%
V1h30	0	0	0	%
V1h31	0	0	0	%
V1h32	0	0	0	%
V1h33	0	0	0	%
V2h17	0.069	0	0.2	%
V2h18	0	0	0	%
V2h19	0	0	0	%
V2h20	0	0	0	%
V2h21	0	0	0	%
V2h22	0	0	0	%
V2h23	0.001	0	0.1	%
V2h24	0	0	0	%
V2h25	0	0	0	%
V2h26	0	0	0	%
V2h27	0	0	0	%
V2h28	0	0	0	%
V2h29	0	0	0	%
V2h30	0	0	0	%
V2h31	0	0	0	%
V2h32	0	0	0	%
V2h33	0	0	0	%
V3h17	0.057	0	0.1	%
V3h18	0	0	0	%
V3h19	0.027	0	0.1	%
V3h20	0	0	0	%
V3h21	0.005	0	0.1	%
V3h22	0	0	0	%
V3h23	0	0	0	%
V3h24	0	0	0	%
V3h25	0.004	0	0.1	%



V3h26	0	0	0	%
V3h27	0	0	0	%
V3h28	0	0	0	%
V3h29	0	0	0	%
V3h30	0	0	0	%
V3h31	0	0	0	%
V3h32	0	0	0	%
V3h33	0	0	0	%

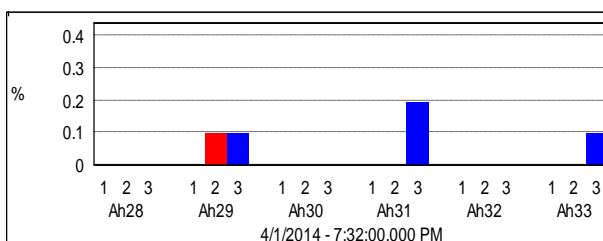
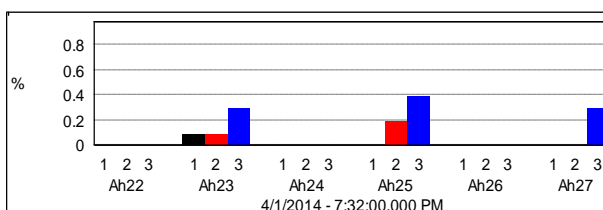
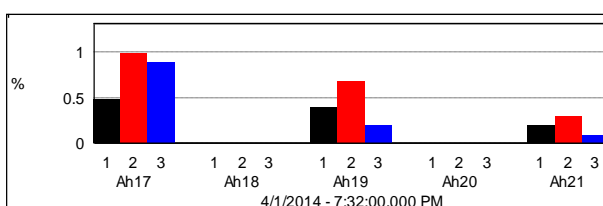
❖ Current Harmonics of different order & their Max, Min and average values

Name	Avg	Min	Max	Unit
A1h0	0	0	0	%
A1h1	100	100	100	%
A1h10	0	0	0	%
A1h11	0.745	0.1	1.4	%
A1h12	0	0	0	%
A1h13	1.197	0.8	1.8	%
A1h14	0	0	0	%
A1h15	0.065	0	0.3	%
A1h16	0	0	0	%
A1h2	0.164	0.1	0.2	%
A1h3	13.779	12.5	14.6	%
A1h4	0	0	0	%
A1h5	2.281	1.3	2.9	%
A1h6	0.038	0	0.2	%
A1h7	3.275	1.2	6	%
A1h8	0	0	0	%
A1h9	1.554	0.8	2.5	%
A2h0	0	0	0	%
A2h1	100	100	100	%
A2h10	0.001	0	0.1	%
A2h11	1.179	0.3	2	%
A2h12	0	0	0	%
A2h13	1.074	0.6	2.3	%
A2h14	0	0	0	%
A2h15	0.233	0	0.9	%
A2h16	0	0	0	%
A2h2	0.226	0.2	0.3	%
A2h3	12.736	10.6	14.2	%
A2h4	0.004	0	0.1	%
A2h5	3.904	1.8	5.9	%
A2h6	0.072	0	0.2	%
A2h7	6.22	2.1	11.4	%
A2h8	0.015	0	0.1	%
A2h9	1.852	1.2	2.8	%
A3h0	0	0	0	%
A3h1	100	100	100	%
A3h10	0	0	0	%
A3h11	0.746	0.1	1.6	%
A3h12	0	0	0	%



A3h13	0.178	0	0.6	%
A3h14	0	0	0	%
A3h15	0.198	0	0.6	%
A3h16	0	0	0	%
A3h2	0.086	0	0.1	%
A3h3	11.54	10.4	12.7	%
A3h4	0	0	0	%
A3h5	0.671	0	1.2	%
A3h6	0	0	0	%
A3h7	2.635	2.1	3.7	%
A3h8	0	0	0	%
A3h9	0.536	0.3	1	%

Name	Avg	Min	Max	Unit
A1h17	0.283	0.2	0.5	%
A1h18	0	0	0	%
A1h19	0.086	0	0.4	%
A1h20	0	0	0	%
A1h21	0.033	0	0.2	%
A1h22	0	0	0	%
A1h23	0.012	0	0.1	%
A1h24	0	0	0	%
A1h25	0	0	0	%
A1h26	0	0	0	%
A1h27	0	0	0	%
A1h28	0	0	0	%
A1h29	0.004	0	0.1	%
A1h30	0	0	0	%
A1h31	0	0	0	%
A1h32	0	0	0	%
A1h33	0	0	0	%
A2h17	0.429	0.1	1	%
A2h18	0	0	0	%
A2h19	0.452	0.1	1	%
A2h20	0	0	0	%
A2h21	0.078	0	0.5	%
A2h22	0	0	0	%
A2h23	0.075	0	0.3	%
A2h24	0	0	0	%
A2h25	0.029	0	0.2	%
A2h26	0	0	0	%
A2h27	0.005	0	0.1	%
A2h28	0	0	0	%
A2h29	0.001	0	0.1	%
A2h30	0	0	0	%
A2h31	0	0	0.1	%
A2h32	0	0	0	%
A2h33	0.004	0	0.1	%
A3h17	0.594	0.2	1.2	%
A3h18	0	0	0	%

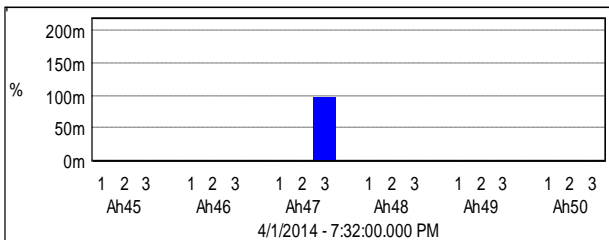
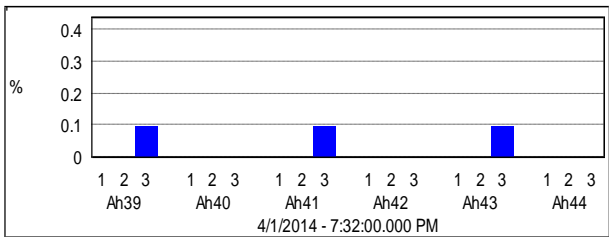
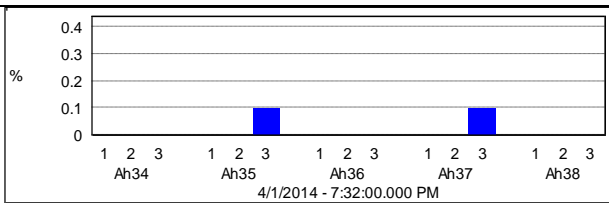


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A3h19	0.216	0	0.8	%
A3h20	0	0	0	%
A3h21	0.151	0	0.6	%
A3h22	0	0	0	%
A3h23	0.277	0	0.9	%
A3h24	0	0	0	%
A3h25	0.284	0	0.7	%
A3h26	0	0	0	%
A3h27	0.2	0	0.6	%
A3h28	0	0	0	%
A3h29	0.033	0	0.3	%
A3h30	0	0	0	%
A3h31	0.079	0	0.4	%
A3h32	0	0	0	%
A3h33	0.072	0	0.3	%



Name	Avg	Min	Max	Unit
A1h34	0	0	0	%
A1h35	0	0	0	%
A1h36	0	0	0	%
A1h37	0	0	0	%
A1h38	0	0	0	%
A1h39	0	0	0	%
A1h40	0	0	0	%
A1h41	0	0	0	%
A1h42	0	0	0	%
A1h43	0	0	0	%
A1h44	0	0	0	%
A1h45	0	0	0	%
A1h46	0	0	0	%
A1h47	0	0	0	%
A1h48	0	0	0	%
A1h49	0	0	0	%
A1h50	0	0	0	%
A2h34	0	0	0	%
A2h35	0	0	0	%
A2h36	0	0	0	%
A2h37	0	0	0	%
A2h38	0	0	0	%
A2h39	0	0	0	%
A2h40	0	0	0	%
A2h41	0	0	0	%
A2h42	0	0	0	%
A2h43	0	0	0	%
A2h44	0	0	0	%
A2h45	0	0	0	%
A2h46	0	0	0	%
A2h47	0	0	0	%
A2h48	0	0	0	%
A2h49	0	0	0	%



A2h50	0	0	0	%
A3h34	0	0	0	%
A3h35	0.071	0	0.4	%
A3h36	0	0	0	%
A3h37	0.079	0	0.2	%
A3h38	0	0	0	%
A3h39	0.079	0	0.4	%
A3h40	0	0	0	%
A3h41	0.035	0	0.2	%
A3h42	0	0	0	%
A3h43	0.049	0	0.1	%
A3h44	0	0	0	%
A3h45	0.018	0	0.2	%
A3h46	0	0	0	%
A3h47	0.034	0	0.2	%
A3h48	0	0	0	%
A3h49	0.018	0	0.1	%
A3h50	0	0	0	%

- **Study of Power Parameter and Harmonics Measurements at Mastana chowk Switching Point**

Data logging is carried out for different power parameters like voltage, current, PF, kW, Current unbalance, Voltage unbalance, THD, etc. and tabulated as under

Measurement of Power Parameters at Mastana chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
12/16/2013	6:35:00 PM	50.06	418.4	419.8	412.9	93.18	93.81	19.43	13.67	12.94	2.58	29.19	0.577
12/16/2013	6:40:00 PM	50.16	419.8	421.3	414.3	93.14	94.4	19.53	13.70	12.92	2.61	29.23	0.576
12/16/2013	6:45:00 PM	50.04	419.7	421.3	413.9	93.19	95.53	19.52	13.58	13.05	2.63	29.26	0.575
12/16/2013	6:50:00 PM	50.14	421.1	423.1	415.4	94.15	96.97	19.4	13.83	13.39	2.63	29.86	0.578
12/16/2013	6:55:00 PM	50.16	422.6	424.4	416	94.67	95.5	19.32	13.90	13.45	2.60	29.95	0.578
12/16/2013	7:00:00 PM	50.2	422.9	424.6	416.7	94.33	94.96	19.36	13.73	13.41	2.61	29.75	0.577
12/16/2013	7:05:00 PM	50.2	422.9	424.3	416.5	94.08	94.74	19.46	13.72	13.33	2.62	29.66	0.576
12/16/2013	7:10:00 PM	50.05	422.9	424.3	416.2	95.44	94.67	19.44	13.90	13.41	2.61	29.92	0.577
12/16/2013	7:15:00 PM	50.11	423.6	425.2	416.5	95.44	94.36	19.38	13.87	13.35	2.61	29.82	0.576
12/16/2013	7:20:00 PM	50.07	417.6	419.4	410.7	93.75	92.27	19	13.52	12.84	2.52	28.87	0.577
12/16/2013	7:25:00 PM	49.93	416.9	419	410.2	94.6	91	19.26	13.58	12.58	2.53	28.69	0.574
12/16/2013	7:30:00 PM	49.94	417.2	419.7	410.8	93.8	91.54	19.19	13.43	12.62	2.52	28.58	0.572
12/16/2013	7:35:00 PM	50	418.1	419.9	411.3	94.86	91.77	19.14	13.62	12.59	2.52	28.73	0.571
12/16/2013	7:40:00 PM	49.81	417.5	418.8	409.9	94.5	92.21	19.01	13.45	12.87	2.49	28.81	0.574
12/16/2013	7:45:00 PM	50.01	419.2	420.5	411.8	95.39	91.1	18.99	13.73	13.01	2.48	29.22	0.577
12/16/2013	7:50:00 PM	50.1	419.5	421.5	412.5	94.64	91.58	18.88	13.59	13.08	2.48	29.15	0.577
12/16/2013	7:55:00 PM	49.88	418.3	420.6	411.6	95.31	91.79	18.87	13.48	13.07	2.49	29.05	0.576
12/16/2013	8:00:00 PM	50.02	419.9	421.5	412.6	95.22	91.45	19.07	13.24	13.11	2.54	28.89	0.574
12/16/2013	8:05:00 PM	49.9	419.8	421	412.8	95.18	90.54	19.35	13.40	13.00	2.56	28.96	0.575
12/16/2013	8:10:00 PM	50	420.9	422.1	414.1	97.52	91.15	19.42	14.31	13.17	2.59	30.07	0.584
12/16/2013	8:15:00 PM	49.99	421.4	422.6	414.7	98.08	92.12	19.4	14.46	13.40	2.59	30.45	0.586
12/16/2013	8:20:00 PM	50.02	421.8	422.9	414.8	98.32	91.56	19.35	14.48	13.22	2.58	30.29	0.584
12/16/2013	8:25:00 PM	50.09	422.1	423.3	415.7	98.86	91.12	19.39	14.63	13.12	2.60	30.35	0.584
12/16/2013	8:30:00 PM	50.16	422.5	423.5	415.6	98.25	90.42	19.4	14.62	13.03	2.59	30.23	0.585
12/16/2013	8:35:00 PM	50.19	422.6	424.1	416	98.02	90.21	19.47	14.50	12.96	2.61	30.07	0.583

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Measurement of Power Parameters at Mastana chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
12/16/2013	8:40:00 PM	50.2	423.5	425.1	416.5	99.25	91.29	19.36	14.63	13.27	2.59	30.49	0.583
12/16/2013	8:45:00 PM	50.08	423.1	424.6	416.3	99.32	91	19.41	14.60	13.17	2.61	30.38	0.584
12/16/2013	8:50:00 PM	50.21	423.9	425.6	417.5	97.65	91.06	19.53	14.31	13.05	2.64	30.00	0.581
12/16/2013	8:55:00 PM	50.09	422.7	424.5	416.1	97.92	91.27	19.54	14.25	13.09	2.63	29.97	0.58
12/16/2013	9:00:00 PM	49.92	421.2	423.3	415.3	97.04	92.3	19.65	14.11	13.05	2.66	29.83	0.58
12/16/2013	9:05:00 PM	50.01	421.9	424.2	416.3	96.65	91.98	19.78	14.09	12.94	2.68	29.71	0.579
12/16/2013	9:10:00 PM	50.02	421.8	424.3	416.2	95.87	90.6	19.73	13.64	12.70	2.66	29.00	0.572
12/16/2013	9:15:00 PM	50.1	422.7	425	417	95.5	91.46	19.6	13.21	12.86	2.63	28.71	0.566
12/16/2013	9:20:00 PM	50.18	423.9	426.1	418.1	96.52	91.16	19.71	13.48	12.95	2.64	29.07	0.567
12/16/2013	9:25:00 PM	50.23	424.4	426.4	418.5	97.38	90.95	19.75	13.75	12.95	2.66	29.36	0.571
12/16/2013	9:30:00 PM	50.16	423.6	425.4	418	96.44	91.64	19.91	13.61	12.88	2.69	29.18	0.57
12/16/2013	9:35:00 PM	50.14	423	424.9	417.1	97.05	91.52	19.84	13.67	12.95	2.69	29.31	0.572
12/16/2013	9:40:00 PM	50.21	423.2	425.7	418.2	97.34	90.53	19.69	13.76	12.96	2.67	29.38	0.574
12/16/2013	9:45:00 PM	50.21	422.4	424.8	417.6	95.83	91.63	19.64	13.43	12.95	2.69	29.06	0.572
12/16/2013	9:50:00 PM	50.19	422	423.7	416.7	96.7	91.15	19.57	13.52	12.80	2.66	28.98	0.571
12/16/2013	9:55:00 PM	50.02	418.5	420.1	413.2	96.41	90.15	19.38	13.33	12.63	2.61	28.56	0.571
12/16/2013	10:00:00 PM	49.96	415.5	417.2	410.8	94.68	88.34	19.43	13.13	12.14	2.59	27.87	0.57
12/16/2013	10:05:00 PM	49.95	414.7	415.9	409.7	93.92	88.49	19.24	13.00	12.22	2.55	27.77	0.571
12/16/2013	10:10:00 PM	49.99	414.7	415.9	409.8	93.87	88.87	19.18	13.12	12.19	2.53	27.84	0.571
12/16/2013	10:15:00 PM	50.05	415	416.5	410.4	93.62	89.05	19.17	13.35	12.16	2.50	28.01	0.571
12/16/2013	10:20:00 PM	50.08	415.6	417.1	411.2	93.76	89	19.31	13.44	12.16	2.52	28.12	0.571
12/16/2013	10:25:00 PM	50.05	415.8	417.4	411.6	93.96	89.26	19.42	13.62	12.09	2.55	28.26	0.572
12/16/2013	10:30:00 PM	49.98	415.7	417.5	411.7	94.16	89.95	19.32	13.51	12.24	2.54	28.29	0.571
12/16/2013	10:35:00 PM	50.11	416.8	418.9	413.6	93.98	89.3	19.56	13.50	12.18	2.59	28.26	0.571
12/16/2013	10:40:00 PM	50.25	418	419.9	415	94.17	89.24	19.5	13.60	12.28	2.59	28.47	0.573
12/16/2013	10:45:00 PM	50.24	419.2	421.1	416	94.88	89.52	19.67	13.79	12.26	2.62	28.67	0.572
12/16/2013	10:50:00 PM	50.26	420.9	422.2	417.2	95.77	89.48	19.76	14.03	12.32	2.63	28.99	0.573
12/16/2013	10:55:00 PM	50.16	421.2	422.5	417.5	95.96	90.7	19.88	14.10	12.44	2.66	29.20	0.574
12/16/2013	11:00:00 PM	50.12	421.5	423	417.8	96.4	90.96	19.98	14.21	12.46	2.68	29.34	0.573
12/16/2013	11:05:00 PM	50.16	422.1	423.5	418.6	95.91	89.53	20.38	14.33	11.97	2.74	29.05	0.572

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Mastana chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
12/16/2013	11:10:00 PM	50.09	422.2	423.6	418.8	96.52	90.19	20.1	14.19	12.42	2.72	29.33	0.575
12/16/2013	11:15:00 PM	50.15	422.7	424.3	419.5	96.11	91.04	20.09	13.65	12.69	2.77	29.10	0.573
12/16/2013	11:20:00 PM	50.13	423.3	424.8	420.2	95.81	91.31	20.14	13.59	12.79	2.77	29.15	0.572
12/16/2013	11:25:00 PM	50.09	424.9	426.1	421.5	97.39	91.04	20.26	13.89	12.84	2.78	29.50	0.572
12/16/2013	11:30:00 PM	50.13	425.9	427	422.6	97.7	91.49	20.37	14.05	12.86	2.80	29.71	0.572
12/16/2013	11:35:00 PM	50.21	426.7	428.1	423.7	97.6	91.74	20.43	14.05	12.90	2.82	29.76	0.572
12/16/2013	11:40:00 PM	50.23	427.5	428.9	424.4	97.62	92.08	20.58	14.12	12.89	2.85	29.86	0.572
12/16/2013	11:45:00 PM	50.27	428.7	430.1	425.1	97.17	92.98	20.52	13.98	13.14	2.87	29.99	0.573
12/16/2013	11:50:00 PM	50.3	429.5	430.8	425.9	98.11	92.83	20.6	14.17	13.15	2.87	30.19	0.572
12/16/2013	11:55:00 PM	50.38	430.1	431.7	426.6	98.48	92.77	20.53	14.18	13.23	2.87	30.28	0.573
12/17/2013	12:00:00 AM	50.24	429.5	431.4	425.9	99.13	92.66	20.65	14.28	13.15	2.89	30.31	0.573
12/17/2013	12:05:00 AM	50.21	429.7	431.1	425.9	99.52	92.89	20.51	14.31	13.15	2.87	30.32	0.572
12/17/2013	12:10:00 AM	50.11	429.5	430.8	425.9	98.46	93.73	20.66	14.63	13.04	2.84	30.51	0.572
12/17/2013	12:15:00 AM	50.14	429.9	430.9	426	98.32	93.39	20.68	14.68	12.98	2.84	30.50	0.572
12/17/2013	12:20:00 AM	50.13	430.1	431.4	426.6	98.98	93.54	20.71	14.79	13.14	2.84	30.76	0.573
12/17/2013	12:25:00 AM	50.01	429.3	430.7	426	99.41	93.74	20.74	14.81	13.19	2.84	30.83	0.574
12/17/2013	12:30:00 AM	50.08	429.4	430.9	426.1	99.78	92.6	20.71	14.92	13.03	2.82	30.77	0.574
12/17/2013	12:35:00 AM	50.13	429.5	431.1	426.3	99.66	92.85	20.65	14.89	13.03	2.82	30.75	0.574
12/17/2013	12:40:00 AM	50.04	429.3	430.7	426	99.15	92.95	20.73	14.76	12.99	2.83	30.58	0.572
12/17/2013	12:45:00 AM	50.16	430.3	431.6	426.7	99.14	92.88	20.66	14.77	13.05	2.83	30.64	0.573
12/17/2013	12:50:00 AM	50.09	430.4	431.9	426.9	99.39	92.92	20.72	14.85	13.04	2.84	30.73	0.573
12/17/2013	12:55:00 AM	50.02	430.6	431.8	426.8	99.56	93.36	20.71	14.88	13.10	2.85	30.83	0.574
12/17/2013	1:00:00 AM	49.94	430	431.4	426.5	99.45	93.51	20.75	14.83	13.16	2.85	30.84	0.574
12/17/2013	1:05:00 AM	49.93	429.7	431.1	426.1	99.53	93.22	20.7	14.85	13.17	2.84	30.85	0.575
12/17/2013	1:10:00 AM	50	429.9	431.1	426.4	100.01	92.63	20.66	14.98	13.15	2.83	30.95	0.576
12/17/2013	1:15:00 AM	50.11	430.8	431.7	427.3	99.7	92.09	20.68	14.99	13.07	2.83	30.89	0.576
12/17/2013	1:20:00 AM	50.03	431.1	431.9	427.5	99.65	92.24	20.86	15.03	12.96	2.86	30.84	0.575
12/17/2013	1:25:00 AM	50.01	431.3	432.5	427.8	99.42	93.47	20.97	15.01	12.96	2.91	30.87	0.574
12/17/2013	1:30:00 AM	49.98	431.1	432.1	427.6	100.52	93.22	20.88	15.21	13.02	2.89	31.11	0.575
12/17/2013	1:35:00 AM	50	431.4	432.4	427.5	100.17	93.12	20.77	15.05	13.17	2.86	31.07	0.575

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Mastana chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
12/17/2013	1:40:00 AM	50.01	431.6	432.4	427.9	100.3	92.84	20.92	15.09	13.06	2.88	31.02	0.574
12/17/2013	1:45:00 AM	50.05	431.3	432.1	427.7	99.64	92.44	20.81	14.94	13.08	2.85	30.88	0.574
12/17/2013	1:50:00 AM	50.05	431.6	432.6	428.4	99.8	92.41	20.89	14.99	13.02	2.87	30.88	0.574
12/17/2013	1:55:00 AM	50.13	432.9	433.7	429.4	100.44	93.35	20.86	15.12	13.22	2.88	31.22	0.574
12/17/2013	2:00:00 AM	50.12	432.8	434.2	429.7	100.4	93.23	20.84	15.11	13.27	2.88	31.26	0.575
12/17/2013	2:05:00 AM	50.01	431.8	433.2	428.8	99.99	93.66	20.85	15.02	13.22	2.88	31.12	0.575
12/17/2013	2:10:00 AM	50.05	431.8	433.4	428.7	99.56	93.7	20.89	14.92	13.25	2.89	31.06	0.575
12/17/2013	2:15:00 AM	50.05	432.1	433.1	428.6	99.69	93.34	20.9	15.00	13.21	2.90	31.11	0.576
12/17/2013	2:20:00 AM	50.14	432.8	434	429.3	100.31	93.18	20.93	15.15	13.18	2.91	31.23	0.576
12/17/2013	2:25:00 AM	50.07	432.6	433.6	428.9	99.99	93.33	21	15.09	13.14	2.91	31.14	0.575
12/17/2013	2:30:00 AM	50.07	432.8	434	429.2	99.94	93.34	21.03	15.14	13.08	2.91	31.12	0.574
12/17/2013	2:35:00 AM	50.08	433	434.2	429.5	100.51	93.63	21	15.17	13.20	2.92	31.29	0.575
12/17/2013	2:40:00 AM	50.11	432.8	433.8	429.3	100.63	93.12	20.96	15.24	13.14	2.90	31.28	0.575
12/17/2013	2:45:00 AM	50.14	432.9	433.8	429.4	100.13	92.92	20.85	15.11	13.17	2.88	31.16	0.575
12/17/2013	2:50:00 AM	50.09	432.8	433.5	428.9	100.67	93.38	20.88	15.16	13.24	2.88	31.28	0.575
12/17/2013	2:55:00 AM	50.18	433.6	434.3	429.9	100.29	93.04	21.02	15.15	13.07	2.91	31.13	0.573
12/17/2013	3:00:00 AM	50.18	433.3	434.3	429.9	100.68	92.7	20.98	15.20	13.07	2.91	31.18	0.574
12/17/2013	3:05:00 AM	50.18	433.4	434.3	429.9	100.81	93.13	20.92	15.19	13.20	2.90	31.28	0.574
12/17/2013	3:10:00 AM	50.16	433.6	434.3	429.8	99.94	93.79	20.93	15.05	13.17	2.91	31.13	0.573
12/17/2013	3:15:00 AM	50.1	433.4	433.9	429.6	100.14	93.46	20.96	15.00	13.14	2.91	31.05	0.573
12/17/2013	3:20:00 AM	50.14	433.4	433.9	429.7	99.91	93.87	20.88	14.51	13.34	2.95	30.81	0.572
12/17/2013	3:25:00 AM	50.05	432.9	433.6	429.3	100.26	93.37	20.92	14.60	13.27	2.95	30.82	0.573
12/17/2013	3:30:00 AM	50.13	433.2	434.3	429.8	100.33	93.49	21.01	14.62	13.28	2.98	30.89	0.573
12/17/2013	3:35:00 AM	50.05	433	434	429.7	100.71	93.1	21.01	14.69	13.30	2.97	30.96	0.575
12/17/2013	3:40:00 AM	49.97	432.2	433.2	429	101.03	92.63	21.1	14.78	13.21	2.96	30.95	0.573
12/17/2013	3:45:00 AM	50.04	432.9	433.5	429.3	101.04	93.35	20.96	14.75	13.33	2.94	31.01	0.573
12/17/2013	3:50:00 AM	50.15	433.4	434.1	429.8	100.34	93.48	20.89	14.61	13.35	2.94	30.90	0.573
12/17/2013	3:55:00 AM	50.29	434.5	435.4	431.1	100.3	94.09	20.81	14.60	13.53	2.96	31.09	0.574
12/17/2013	4:00:00 AM	50.32	434.5	435.6	431	100.6	94.73	20.63	14.50	13.78	2.94	31.22	0.575
12/17/2013	4:05:00 AM	50.16	433.9	435	430.4	100.18	95.55	20.78	14.42	13.85	2.96	31.23	0.575

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Measurement of Power Parameters at Mastana chowk Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
12/17/2013	4:10:00 AM	50.04	433.2	434.2	430.1	99.9	95.44	20.95	14.45	13.63	2.99	31.08	0.574
12/17/2013	4:15:00 AM	50.19	433.9	435	430.6	99.68	95.17	20.88	14.44	13.49	2.99	30.91	0.572
12/17/2013	4:20:00 AM	50.15	433.5	434.7	430	100.27	93.88	20.91	14.53	13.33	2.97	30.83	0.571
12/17/2013	4:25:00 AM	50.09	433	433.9	429.6	100.31	93.47	20.95	14.57	13.27	2.97	30.81	0.572
12/17/2013	4:30:00 AM	50.08	432.6	433.4	429.2	100.25	94.76	20.85	15.02	13.34	2.91	31.27	0.574
12/17/2013	4:35:00 AM	50.06	431.8	432.7	428.5	101.76	92.78	20.7	15.31	13.23	2.85	31.38	0.576
12/17/2013	4:40:00 AM	50.06	431.6	433	428.2	102.64	93.24	20.69	15.54	13.23	2.85	31.62	0.577
12/17/2013	4:45:00 AM	50.01	431.4	432.8	427.7	101.28	93.98	20.72	15.20	13.28	2.87	31.34	0.576
12/17/2013	4:50:00 AM	50.04	431.3	432.6	427.7	100.19	93.83	20.72	15.00	13.27	2.87	31.14	0.576
12/17/2013	4:55:00 AM	50.28	432.6	434	429.2	101.45	95.25	20.72	16.04	13.36	2.89	32.30	0.585
12/17/2013	5:00:00 AM	50.13	431.6	433	428.3	101.61	94.11	20.69	16.13	13.16	2.88	32.17	0.586
12/17/2013	5:05:00 AM	49.92	430	431.1	426.9	101.36	93.71	20.71	16.01	13.06	2.86	31.94	0.586
12/17/2013	5:10:00 AM	50.08	430.4	431.8	427.2	101.23	92.46	20.75	15.98	12.91	2.86	31.75	0.585
12/17/2013	5:15:00 AM	50.01	430	431	426.5	101.08	92.24	20.78	16.04	12.63	2.86	31.53	0.582
12/17/2013	5:20:00 AM	49.99	429.4	430.7	426	101.04	91.57	20.85	16.02	12.50	2.85	31.37	0.581
12/17/2013	5:25:00 AM	50.21	430.1	431.7	426.8	101.11	91.28	20.77	16.04	12.46	2.87	31.37	0.582
12/17/2013	5:30:00 AM	50.07	428.4	430.1	425.4	99.74	92.92	20.7	15.68	12.73	2.87	31.28	0.584
12/17/2013	5:35:00 AM	49.86	426.6	428	423.4	98.84	93.32	20.75	15.51	12.68	2.88	31.07	0.585
12/17/2013	5:40:00 AM	50.11	427.6	428.9	424.4	98.57	93.03	20.63	15.52	12.59	2.86	30.97	0.583
12/17/2013	5:45:00 AM	50.05	426.4	428.3	423.5	98.39	94.26	20.39	15.35	12.88	2.84	31.07	0.585
12/17/2013	5:50:00 AM	49.9	425.7	427.2	422.1	100.55	92.33	20.44	15.74	12.78	2.81	31.33	0.587
12/17/2013	5:55:00 AM	50.22	427.6	429.2	423.9	100.53	90.53	20.42	15.86	12.70	2.80	31.36	0.588
12/17/2013	6:00:00 AM	50.08	426.4	428.4	421.8	100.23	92.04	20.06	15.68	13.01	2.72	31.40	0.588
12/17/2013	6:05:00 AM	50.02	425.2	427.2	420.4	99.8	92.76	19.88	15.57	13.05	2.69	31.32	0.588
12/17/2013	6:10:00 AM	50.09	424.5	426	419.6	97.92	91.95	19.96	14.36	12.77	2.67	29.80	0.571
12/17/2013	6:15:00 AM	49.96	423.3	425.3	417.7	92.09	38.32	19.93	13.29	5.16	2.82	21.27	0.571
12/17/2013	6:20:00 AM	49.86	421.9	423.5	416.3	91.15	24.66	20.1	13.18	3.09	2.92	19.19	0.57
12/17/2013	6:25:00 AM	49.79	202.5	205.1	200	45.89	12.84	10.2	6.23	1.47	1.43	9.13	0.554
Average load in kW												29.95	0.58

Harmonics and Voltage & Current Unbalance Measurement

Harmonics & Voltage & Current Unbalance Measurement										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
12/16/2013	6:35:00 PM	50.06	12.2	11.7	15.9	2.1	2.2	2.2	38.5	1
12/16/2013	6:40:00 PM	50.16	12.2	11.8	16	2.2	2.2	2.3	38.8	1
12/16/2013	6:45:00 PM	50.04	12.4	11.8	16	2.2	2.2	2.4	38.7	1
12/16/2013	6:50:00 PM	50.14	12.5	12	16	2.3	2.3	2.5	38.9	1.1
12/16/2013	6:55:00 PM	50.16	12.5	12.1	15.9	2.3	2.4	2.6	38.4	1.2
12/16/2013	7:00:00 PM	50.2	12.6	12.1	15.8	2.4	2.5	2.7	37.9	1.1
12/16/2013	7:05:00 PM	50.2	12.7	12.1	15.9	2.4	2.5	2.6	38	1.1
12/16/2013	7:10:00 PM	50.05	12.8	12.1	15.7	2.3	2.5	2.6	37.9	1.1
12/16/2013	7:15:00 PM	50.11	12.9	12.1	15.8	2.3	2.5	2.6	38	1.2
12/16/2013	7:20:00 PM	50.07	12.4	11.6	15.9	2.1	2.4	2.4	38.2	1.2
12/16/2013	7:25:00 PM	49.93	12.4	11.5	16.2	2.1	2.4	2.4	38.1	1.2
12/16/2013	7:30:00 PM	49.94	12.4	11.5	16	2.2	2.3	2.4	38	1.2
12/16/2013	7:35:00 PM	50	12.2	11.5	16	2.2	2.4	2.5	38.4	1.2
12/16/2013	7:40:00 PM	49.81	12.5	11.8	15.7	2.3	2.4	2.5	37.8	1.3
12/16/2013	7:45:00 PM	50.01	12.8	12	15.4	2.2	2.5	2.6	37.5	1.2
12/16/2013	7:50:00 PM	50.1	12.7	11.9	15.4	2.3	2.4	2.5	37.4	1.3
12/16/2013	7:55:00 PM	49.88	12.8	11.9	15.5	2.4	2.5	2.6	37.7	1.2
12/16/2013	8:00:00 PM	50.02	12.7	11.9	15.7	2.3	2.5	2.6	37.9	1.3
12/16/2013	8:05:00 PM	49.9	12.8	11.8	16.1	2.3	2.6	2.7	37.9	1.2
12/16/2013	8:10:00 PM	50	12.5	11.9	16.3	2.3	2.6	2.7	39.1	1.1
12/16/2013	8:15:00 PM	49.99	12.5	12.1	16.3	2.4	2.7	2.8	39.1	1.1
12/16/2013	8:20:00 PM	50.02	12.4	12	16.4	2.4	2.7	2.8	39.4	1.2
12/16/2013	8:25:00 PM	50.09	12.3	11.8	16.3	2.4	2.7	2.8	39.5	1.1
12/16/2013	8:30:00 PM	50.16	12.3	11.9	16.3	2.4	2.7	2.8	39.6	1.1
12/16/2013	8:35:00 PM	50.19	12.2	11.8	16.3	2.4	2.7	2.7	39.5	1.1
12/16/2013	8:40:00 PM	50.2	12.2	12	16.2	2.4	2.7	2.8	39.3	1.2
12/16/2013	8:45:00 PM	50.08	12.3	12.1	16.2	2.4	2.7	2.8	39.2	1.2

Harmonics & Voltage & Current Unbalance Measurement										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
12/16/2013	8:50:00 PM	50.21	12.4	12.1	16.3	2.4	2.7	2.8	39.1	1.1
12/16/2013	8:55:00 PM	50.09	12.6	12.1	16.3	2.4	2.7	2.8	39	1.2
12/16/2013	9:00:00 PM	49.92	12.4	12.1	16.3	2.5	2.7	2.8	39.2	1.1
12/16/2013	9:05:00 PM	50.01	12.5	12.1	16.5	2.4	2.7	2.8	39.2	1.1
12/16/2013	9:10:00 PM	50.02	12.7	12.1	16.5	2.4	2.6	2.8	38.5	1.1
12/16/2013	9:15:00 PM	50.1	13	12.2	16.3	2.4	2.6	2.8	37.7	1.1
12/16/2013	9:20:00 PM	50.18	13.2	12.3	16.3	2.4	2.7	2.9	37.7	1.1
12/16/2013	9:25:00 PM	50.23	13.1	12.3	16.3	2.4	2.7	2.9	38	1.1
12/16/2013	9:30:00 PM	50.16	13.1	12.2	16.6	2.6	2.8	3	38.2	1
12/16/2013	9:35:00 PM	50.14	13.2	12.3	16.6	2.6	2.8	3	38	1.1
12/16/2013	9:40:00 PM	50.21	13.5	12.5	16.4	2.6	2.8	3	37.8	1
12/16/2013	9:45:00 PM	50.21	13.4	12.3	16.4	2.6	2.7	3	37.8	1
12/16/2013	9:50:00 PM	50.19	13.3	12.3	16.2	2.7	2.7	3	38.1	1
12/16/2013	9:55:00 PM	50.02	13.2	12.2	16.1	2.6	2.7	2.9	37.9	1
12/16/2013	10:00:00 PM	49.96	13	12	16.2	2.5	2.6	2.8	38.2	0.9
12/16/2013	10:05:00 PM	49.95	13	12	16.1	2.5	2.6	2.8	38.1	0.9
12/16/2013	10:10:00 PM	49.99	13	12.3	16	2.5	2.6	2.8	38.2	0.9
12/16/2013	10:15:00 PM	50.05	12.9	12.3	15.9	2.5	2.6	2.8	37.8	0.8
12/16/2013	10:20:00 PM	50.08	13	12.3	16	2.5	2.6	2.7	37.8	0.8
12/16/2013	10:25:00 PM	50.05	12.7	12.2	16.1	2.3	2.5	2.6	38.3	0.8
12/16/2013	10:30:00 PM	49.98	12.7	12.1	16	2.4	2.6	2.7	38	0.8
12/16/2013	10:35:00 PM	50.11	12.8	12.1	16.2	2.4	2.5	2.6	37.7	0.7
12/16/2013	10:40:00 PM	50.25	12.8	12.2	16.1	2.3	2.4	2.5	37.6	0.6
12/16/2013	10:45:00 PM	50.24	13	12	16.2	2.2	2.3	2.4	37.9	0.7
12/16/2013	10:50:00 PM	50.26	13.1	12	16.3	2	2.2	2.3	38.1	0.7
12/16/2013	10:55:00 PM	50.16	13.1	11.9	16.4	2	2.1	2.3	38.3	0.7
12/16/2013	11:00:00 PM	50.12	12.9	11.9	16.5	2	2.1	2.2	38.4	0.7
12/16/2013	11:05:00 PM	50.16	13	11.7	16.9	1.9	2.1	2.1	39	0.7
12/16/2013	11:10:00 PM	50.09	13.3	11.8	16.5	1.8	2	2.1	38.4	0.6

Harmonics & Voltage & Current Unbalance Measurement										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
12/16/2013	11:15:00 PM	50.15	13.2	11.8	16.4	1.8	1.9	2	38.2	0.6
12/16/2013	11:20:00 PM	50.13	13.1	11.9	16.4	1.7	1.8	2	37.9	0.6
12/16/2013	11:25:00 PM	50.09	12.9	12	16.5	1.8	1.8	2	37.9	0.6
12/16/2013	11:30:00 PM	50.13	12.9	12	16.7	1.7	1.8	2	38.2	0.6
12/16/2013	11:35:00 PM	50.21	13	11.9	16.7	1.7	1.8	2	38.2	0.6
12/16/2013	11:40:00 PM	50.23	13.1	11.9	16.9	1.7	1.8	1.9	38.4	0.6
12/16/2013	11:45:00 PM	50.27	13.1	12.1	16.8	1.6	1.8	1.8	38.1	0.6
12/16/2013	11:50:00 PM	50.3	13.2	12.2	16.9	1.6	1.7	1.7	38.1	0.6
12/16/2013	11:55:00 PM	50.38	13.2	12.2	16.9	1.5	1.6	1.6	37.9	0.7
12/17/2013	12:00:00 AM	50.24	13.2	12	16.9	1.5	1.6	1.7	38	0.7
12/17/2013	12:05:00 AM	50.21	13.1	12.1	16.8	1.6	1.7	1.7	38.2	0.7
12/17/2013	12:10:00 AM	50.11	13.2	12.1	17	1.5	1.7	1.7	38.1	0.6
12/17/2013	12:15:00 AM	50.14	13.2	12.1	17.1	1.5	1.6	1.6	38.2	0.6
12/17/2013	12:20:00 AM	50.13	13.4	12.2	17	1.4	1.6	1.6	37.9	0.6
12/17/2013	12:25:00 AM	50.01	13.5	12.2	17.1	1.6	1.7	1.8	37.8	0.6
12/17/2013	12:30:00 AM	50.08	13.4	12.2	17.1	1.6	1.7	1.8	37.9	0.6
12/17/2013	12:35:00 AM	50.13	13.4	12.1	16.9	1.6	1.7	1.9	38	0.6
12/17/2013	12:40:00 AM	50.04	13.5	12.1	17.1	1.6	1.7	1.8	37.9	0.6
12/17/2013	12:45:00 AM	50.16	13.6	12.2	17	1.6	1.8	1.8	37.9	0.6
12/17/2013	12:50:00 AM	50.09	13.6	12.2	17.1	1.5	1.7	1.7	37.9	0.6
12/17/2013	12:55:00 AM	50.02	13.7	12.2	17.2	1.5	1.7	1.6	38.1	0.6
12/17/2013	1:00:00 AM	49.94	13.6	12.3	17.2	1.6	1.7	1.6	37.8	0.6
12/17/2013	1:05:00 AM	49.93	13.6	12.3	17	1.6	1.7	1.6	37.8	0.7
12/17/2013	1:10:00 AM	50	13.3	12.3	17	1.5	1.7	1.6	37.8	0.6
12/17/2013	1:15:00 AM	50.11	13.4	12.3	17	1.5	1.7	1.6	37.8	0.6
12/17/2013	1:20:00 AM	50.03	13.6	12.3	17.2	1.6	1.7	1.7	38.1	0.6
12/17/2013	1:25:00 AM	50.01	13.5	12.3	17.4	1.6	1.8	1.8	38.4	0.6
12/17/2013	1:30:00 AM	49.98	13.4	12.4	17.4	1.7	1.8	1.8	38.5	0.6
12/17/2013	1:35:00 AM	50	13.4	12.5	17.1	1.6	1.8	1.7	38	0.6

Harmonics & Voltage & Current Unbalance Measurement										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
12/17/2013	1:40:00 AM	50.01	13.6	12.4	17.3	1.7	1.9	1.8	38.1	0.6
12/17/2013	1:45:00 AM	50.05	13.8	12.4	17.2	1.6	1.8	1.7	37.8	0.6
12/17/2013	1:50:00 AM	50.05	13.9	12.3	17.3	1.7	1.9	1.9	37.9	0.6
12/17/2013	1:55:00 AM	50.13	13.9	12.5	17.2	1.8	1.9	1.9	38	0.6
12/17/2013	2:00:00 AM	50.12	13.9	12.5	17.3	1.8	2	1.9	37.8	0.6
12/17/2013	2:05:00 AM	50.01	13.8	12.5	17.3	1.8	2	1.9	37.9	0.6
12/17/2013	2:10:00 AM	50.05	13.7	12.6	17.3	1.8	1.9	1.8	37.8	0.6
12/17/2013	2:15:00 AM	50.05	13.6	12.6	17.4	1.7	1.9	1.8	37.9	0.6
12/17/2013	2:20:00 AM	50.14	13.5	12.4	17.4	1.7	1.8	1.8	38	0.6
12/17/2013	2:25:00 AM	50.07	13.7	12.5	17.5	1.8	1.9	1.9	38.1	0.6
12/17/2013	2:30:00 AM	50.07	13.6	12.4	17.5	1.7	1.8	1.8	38.3	0.6
12/17/2013	2:35:00 AM	50.08	13.5	12.4	17.4	1.6	1.8	1.7	38.1	0.6
12/17/2013	2:40:00 AM	50.11	13.5	12.3	17.4	1.5	1.7	1.6	38.2	0.6
12/17/2013	2:45:00 AM	50.14	13.7	12.4	17.4	1.6	1.7	1.6	38	0.6
12/17/2013	2:50:00 AM	50.09	13.8	12.6	17.6	1.7	1.8	1.7	38	0.6
12/17/2013	2:55:00 AM	50.18	13.7	12.5	17.6	1.7	1.8	1.7	38.2	0.6
12/17/2013	3:00:00 AM	50.18	13.8	12.4	17.6	1.7	1.8	1.7	38.1	0.6
12/17/2013	3:05:00 AM	50.18	13.8	12.5	17.4	1.7	1.9	1.8	38	0.6
12/17/2013	3:10:00 AM	50.16	13.7	12.5	17.4	1.7	1.9	1.8	38.1	0.6
12/17/2013	3:15:00 AM	50.1	13.8	12.5	17.5	1.7	1.9	1.9	38.2	0.6
12/17/2013	3:20:00 AM	50.14	13.7	12.4	17.4	1.7	1.8	1.8	38.3	0.6
12/17/2013	3:25:00 AM	50.05	13.6	12.5	17.4	1.8	1.9	1.9	38.3	0.6
12/17/2013	3:30:00 AM	50.13	13.4	12.5	17.6	1.7	1.9	1.9	38.3	0.6
12/17/2013	3:35:00 AM	50.05	13.5	12.4	17.6	1.7	1.9	1.9	38.2	0.6
12/17/2013	3:40:00 AM	49.97	13.6	12.4	17.7	1.7	1.9	1.9	38.2	0.6
12/17/2013	3:45:00 AM	50.04	13.6	12.4	17.5	1.7	1.8	1.8	38.3	0.6
12/17/2013	3:50:00 AM	50.15	13.8	12.4	17.4	1.6	1.8	1.8	38.2	0.6
12/17/2013	3:55:00 AM	50.29	13.8	12.5	17.4	1.7	1.8	1.8	38	0.6
12/17/2013	4:00:00 AM	50.32	13.8	12.6	17.2	1.7	1.8	1.7	37.6	0.6

Harmonics & Voltage & Current Unbalance Measurement										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
12/17/2013	4:05:00 AM	50.16	13.8	12.6	17.3	1.7	1.9	1.8	37.6	0.6
12/17/2013	4:10:00 AM	50.04	13.7	12.5	17.5	1.7	1.9	1.9	37.9	0.5
12/17/2013	4:15:00 AM	50.19	13.6	12.4	17.5	1.7	1.9	1.8	38.2	0.6
12/17/2013	4:20:00 AM	50.15	13.7	12.4	17.4	1.7	1.8	1.8	38.2	0.6
12/17/2013	4:25:00 AM	50.09	13.7	12.3	17.5	1.6	1.8	1.8	38.2	0.6
12/17/2013	4:30:00 AM	50.08	13.7	12.4	17.3	1.6	1.8	1.7	38.2	0.5
12/17/2013	4:35:00 AM	50.06	13.5	12.3	17.1	1.5	1.7	1.7	37.9	0.6
12/17/2013	4:40:00 AM	50.06	13.3	12.4	17.1	1.5	1.7	1.7	38.4	0.6
12/17/2013	4:45:00 AM	50.01	13.5	12.4	17.2	1.6	1.8	1.8	38.1	0.7
12/17/2013	4:50:00 AM	50.04	13.6	12.4	17.1	1.6	1.8	1.7	38	0.6
12/17/2013	4:55:00 AM	50.28	12.9	12.4	17.1	1.5	1.7	1.7	40	0.6
12/17/2013	5:00:00 AM	50.13	12.9	12.3	17.2	1.6	1.7	1.7	40.2	0.6
12/17/2013	5:05:00 AM	49.92	12.9	12.4	17.2	1.6	1.7	1.7	40.1	0.5
12/17/2013	5:10:00 AM	50.08	12.9	12.3	17.2	1.5	1.7	1.6	39.9	0.6
12/17/2013	5:15:00 AM	50.01	12.8	12.2	17.3	1.5	1.6	1.6	40.6	0.6
12/17/2013	5:20:00 AM	49.99	12.9	12.2	17.4	1.5	1.7	1.6	40.6	0.6
12/17/2013	5:25:00 AM	50.21	12.9	12.1	17.3	1.5	1.6	1.6	40.6	0.6
12/17/2013	5:30:00 AM	50.07	12.8	12.1	17.2	1.5	1.6	1.5	40.2	0.6
12/17/2013	5:35:00 AM	49.86	12.7	12.2	17.2	1.5	1.6	1.6	40.3	0.6
12/17/2013	5:40:00 AM	50.11	12.6	12	17.1	1.4	1.5	1.5	40.6	0.6
12/17/2013	5:45:00 AM	50.05	12.4	12.1	16.8	1.3	1.4	1.4	40.2	0.6
12/17/2013	5:50:00 AM	49.9	12.5	12	16.8	1.3	1.5	1.5	40.1	0.7
12/17/2013	5:55:00 AM	50.22	12.9	11.9	16.7	1.3	1.5	1.5	40	0.7
12/17/2013	6:00:00 AM	50.08	12.8	11.9	16.3	1.3	1.4	1.4	39.9	0.9
12/17/2013	6:05:00 AM	50.02	12.7	12	16	1.2	1.4	1.4	40.1	0.9
12/17/2013	6:10:00 AM	50.09	13.2	12	16.2	1.2	1.3	1.3	38.2	0.9
12/17/2013	6:15:00 AM	49.96	12.5	14.2	16.8	1.2	1.3	1.3	48.9	1
12/17/2013	6:20:00 AM	49.86	12.1	14.4	17.3	1.1	1.2	1.2	52.6	1
12/17/2013	6:25:00 AM	49.79	6.1	7.4	8.8	0.5	0.7	0.8	52.2	4

❖ **Observation:**

- Voltage unbalance is within limit.
- Current unbalance is considerable.
- Average power factor is 0.58.
- Line Voltage total harmonics distortion is there.
- Total Current Harmonics distortion is considerable.

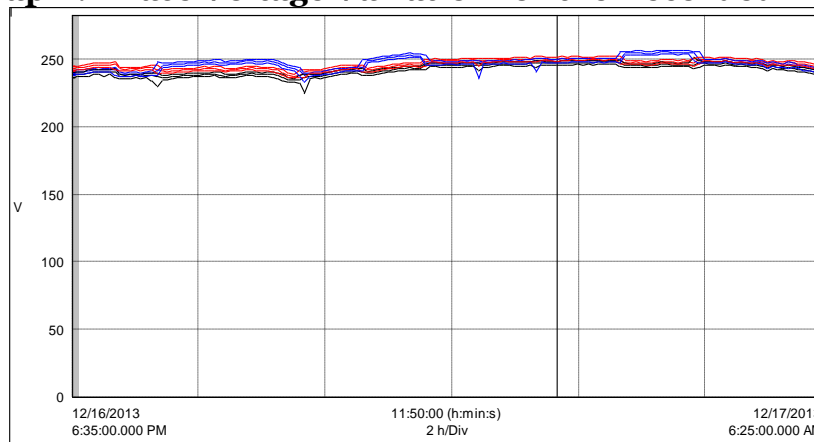
❑ Study of electrical parameters at Mastana chowk Switching Point

❑ Phase Voltage

Table : Phase Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
V1 RMS	16-12-2013	18:35:00	243.217	114.7	248.3	V	11:55:00	(h:min:s)
V2 RMS	16-12-2013	18:35:00	246.699	118.4	251.3	V	11:55:00	(h:min:s)
V3 RMS	16-12-2013	18:35:00	247.614	117.2	255.9	V	11:55:00	(h:min:s)

Graph : Phase Voltage Variation for the Recorded Time



**RMS, Max RMS & Min. RMS
Phase voltage variation**

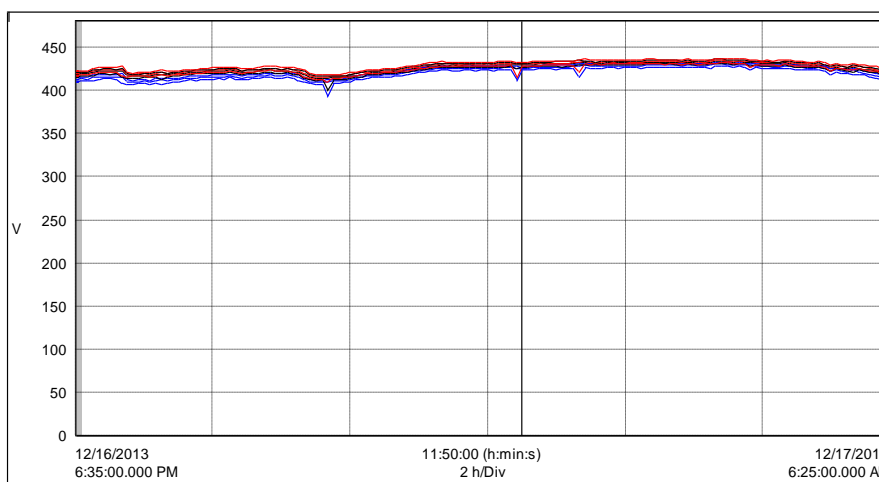
➤ Voltage unbalance is within limit

❑ Line Voltage

Table : Line Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
U1 RMS	16-12-2013	18:35:00	426.788	202.5	434.5	V	11:55:00	(h:min:s)
U2 RMS	16-12-2013	18:35:00	428.195	205.1	435.6	V	11:55:00	(h:min:s)
U3 RMS	16-12-2013	18:35:00	422.404	200	431.1	V	11:55:00	(h:min:s)

Graph : Line Voltage Variation for the Recorded Time



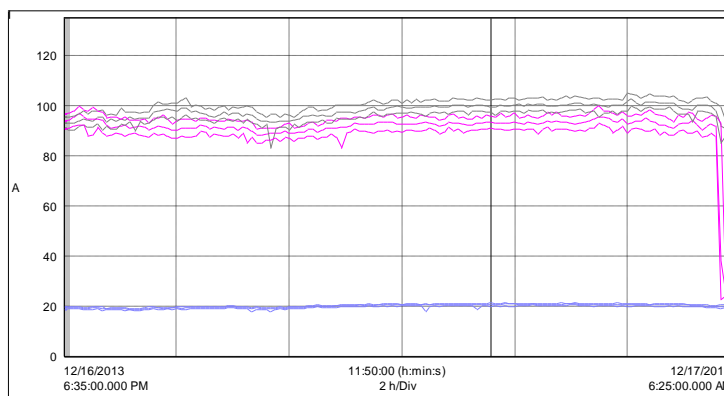
**RMS, Max RMS & Min. RMS
Line voltage variation**

12. Current

Table : Current

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 RMS	16-12-2013	18:35:00	98.137	45.89	102.64	A	11:55:00	(h:min:s)
A2 RMS	16-12-2013	18:35:00	91.879	12.84	96.97	A	11:55:00	(h:min:s)
A3 RMS	16-12-2013	18:35:00	20.244	10.2	21.1	A	11:55:00	(h:min:s)

Graph : Line Current Variation for recorded time



**RMS, Max RMS & Min. RMS
Current variation**

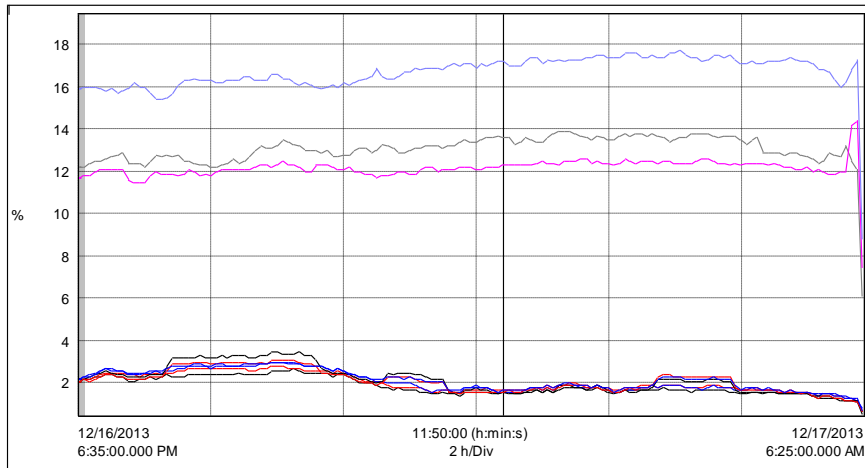
➤ Current is slightly unbalanced.

5. Total harmonic Distortion (THD).

Table : THD

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 THD	16-12-2013	18:35:00	13.064	6.1	13.9	%	11:55:00	(h:min:s)
A2 THD	16-12-2013	18:35:00	12.172	7.4	14.4	%	11:55:00	(h:min:s)
A3 THD	16-12-2013	18:35:00	16.697	8.8	17.7	%	11:55:00	(h:min:s)
U1 THD	16-12-2013	18:35:00	1.875	0.5	2.7	%	11:55:00	(h:min:s)
U2 THD	16-12-2013	18:35:00	2.034	0.7	2.8	%	11:55:00	(h:min:s)
U3 THD	16-12-2013	18:35:00	2.077	0.8	3	%	11:55:00	(h:min:s)
V1 THD	16-12-2013	18:35:00	2.182	0.6	3.5	%	11:55:00	(h:min:s)
V2 THD	16-12-2013	18:35:00	2.113	0.6	3.1	%	11:55:00	(h:min:s)
V3 THD	16-12-2013	18:35:00	2.174	0.7	3	%	11:55:00	(h:min:s)

Graph : THD



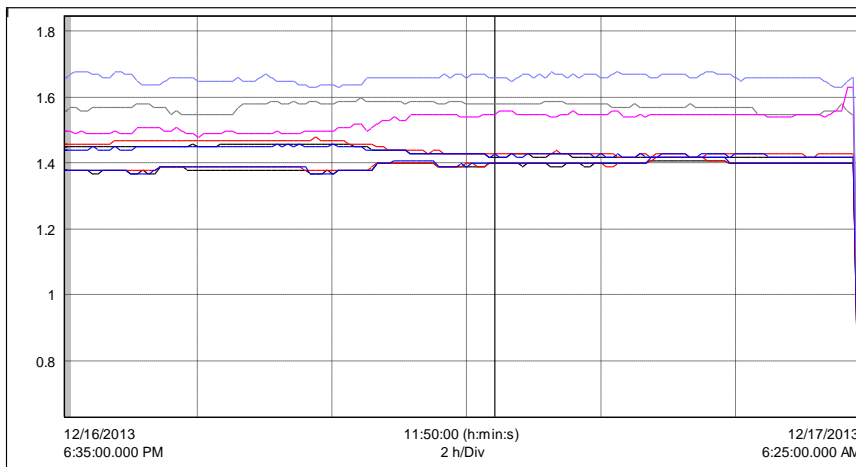
Variation of current, Phase Voltage, Line Voltage Total Harmonic Distortion

6. Crest Factor

Table.: Crest Factor

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 CF	16-12-2013	18:35:00	1.568	0.8	1.6		11:55:00	(h:min:s)
A2 CF	16-12-2013	18:35:00	1.524	0.85	1.63		11:55:00	(h:min:s)
A3 CF	16-12-2013	18:35:00	1.654	0.91	1.68		11:55:00	(h:min:s)
U1 CF	16-12-2013	18:35:00	1.431	0.7	1.46		11:55:00	(h:min:s)
U2 CF	16-12-2013	18:35:00	1.44	0.71	1.48		11:55:00	(h:min:s)
U3 CF	16-12-2013	18:35:00	1.43	0.72	1.46		11:55:00	(h:min:s)
V1 CF	16-12-2013	18:35:00	1.387	0.76	1.41		11:55:00	(h:min:s)
V2 CF	16-12-2013	18:35:00	1.39	0.71	1.42		11:55:00	(h:min:s)
V3 CF	16-12-2013	18:35:00	1.391	0.71	1.42		11:55:00	(h:min:s)

Graph : Crest Factor



Variation of Crest Factor

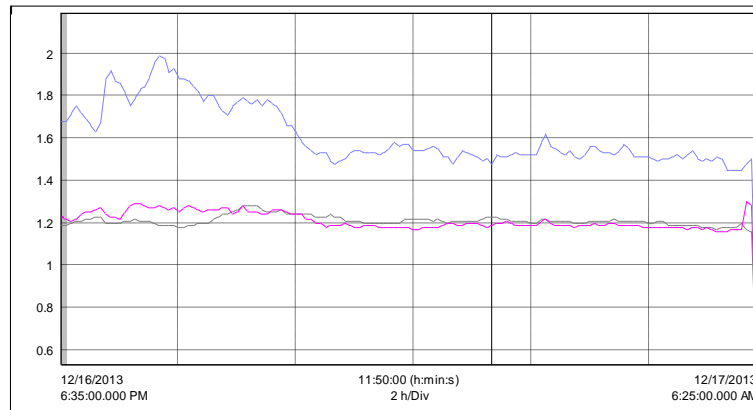
➤ Crest factor is above 1.41 hence there is some degree of impacting

17. K Factor

Table : K- Factor

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
KF1	16-12-2013	18:35:00	1.208	0.59	1.28		11:55:00	(h:min:s)
KF2	16-12-2013	18:35:00	1.208	0.64	1.3		11:55:00	(h:min:s)
KF3	16-12-2013	18:35:00	1.608	0.75	1.99		11:55:00	(h:min:s)

Graph K- Factor

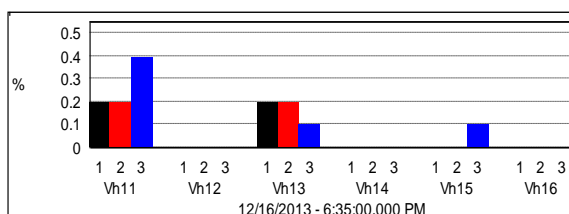
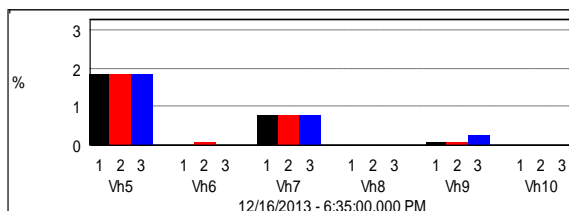
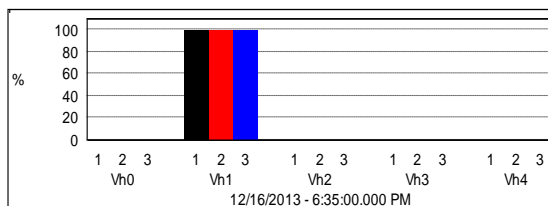


Variation of K Factor

- K-factor is from 1.1 to 1.99. K-factor above 1 indicates a non-linear load & presence of harmonics.

❖ **Voltage Harmonics of different order & their Max, Min and average values**

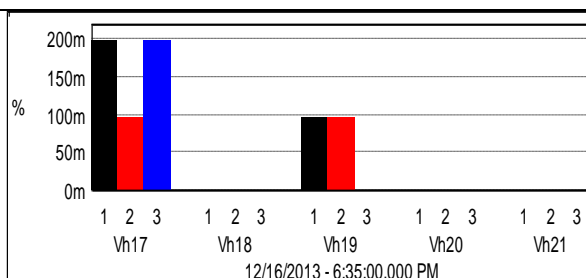
Name	Avg	Min	Max	Unit
V1h0	0	0	0	%
V1h1	100	100	100	%
V1h10	0.002	0	0.1	%
V1h11	0.142	0	0.3	%
V1h12	0	0	0	%
V1h13	0.139	0	0.3	%
V1h14	0	0	0	%
V1h15	0	0	0	%
V1h16	0	0	0	%
V1h2	0.019	0	0.1	%
V1h3	0.501	0	1.5	%
V1h4	0.008	0	0.1	%
V1h5	1.841	0.5	3	%
V1h6	0.013	0	0.1	%
V1h7	0.754	0.3	1.2	%
V1h8	0	0	0	%
V1h9	0.058	0	0.3	%
V2h0	0	0	0	%
V2h1	100	100	100	%
V2h10	0	0	0	%
V2h11	0.238	0	0.4	%
V2h12	0.001	0	0.1	%
V2h13	0.242	0.1	0.4	%
V2h14	0	0	0	%
V2h15	0.006	0	0.1	%
V2h16	0	0	0	%
V2h2	0.001	0	0.1	%
V2h3	0.539	0.1	1.3	%
V2h4	0.008	0	0.1	%
V2h5	1.827	0.5	2.7	%
V2h6	0.006	0	0.1	%
V2h7	0.597	0.3	0.8	%
V2h8	0	0	0	%
V2h9	0.069	0	0.3	%
V3h0	0	0	0	%
V3h1	100	100	100	%
V3h10	0	0	0	%
V3h11	0.201	0	0.5	%
V3h12	0	0	0	%
V3h13	0.214	0	0.4	%
V3h14	0	0	0	%
V3h15	0.049	0	0.2	%
V3h16	0	0	0	%
V3h2	0.003	0	0.1	%
V3h3	0.724	0.2	1.6	%
V3h4	0	0	0	%
V3h5	1.717	0.5	2.6	%



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V3h6	0.001	0	0.1	%	
V3h7	0.721	0.4	1	%	
V3h8	0	0	0	%	
V3h9	0.212	0	0.5	%	

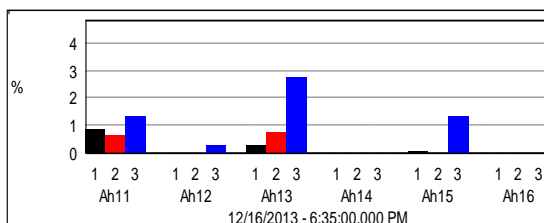
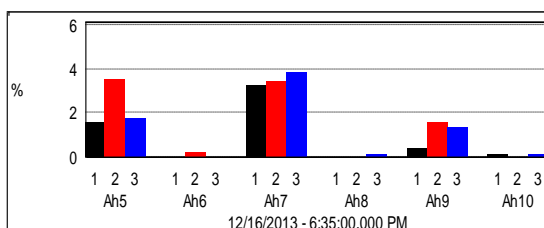
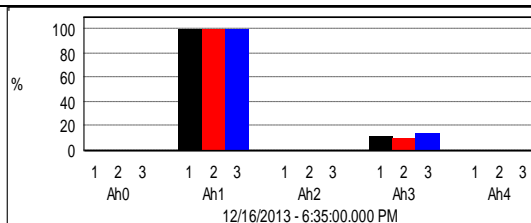
Name	Avg	Min	Max	Unit
V1h17	0.099	0	0.2	%
V1h18	0	0	0	%
V1h19	0.045	0	0.2	%
V1h20	0	0	0	%
V1h21	0	0	0	%
V1h22	0	0	0	%
V1h23	0	0	0	%
V1h24	0	0	0	%
V1h25	0	0	0	%
V1h26	0	0	0	%
V1h27	0	0	0	%
V1h28	0	0	0	%
V1h29	0	0	0	%
V1h30	0	0	0	%
V1h31	0	0	0	%
V1h32	0	0	0	%
V1h33	0	0	0	%
V2h17	0.05	0	0.2	%
V2h18	0	0	0	%
V2h19	0.015	0	0.1	%
V2h20	0	0	0	%
V2h21	0	0	0	%
V2h22	0	0	0	%
V2h23	0	0	0	%
V2h24	0	0	0	%
V2h25	0	0	0	%
V2h26	0	0	0	%
V2h27	0	0	0	%
V2h28	0	0	0	%
V2h29	0	0	0	%
V2h30	0	0	0	%
V2h31	0	0	0	%
V2h32	0	0	0	%
V2h33	0	0	0	%
V3h17	0.098	0	0.2	%
V3h18	0	0	0	%
V3h19	0.059	0	0.2	%
V3h20	0	0	0	%
V3h21	0	0	0	%
V3h22	0	0	0	%
V3h23	0	0	0	%
V3h24	0	0	0	%
V3h25	0.021	0	0.1	%



V3h26	0	0	0	%
V3h27	0	0	0	%
V3h28	0	0	0	%
V3h29	0.001	0	0.1	%
V3h30	0	0	0	%
V3h31	0	0	0	%
V3h32	0	0	0	%
V3h33	0	0	0	%

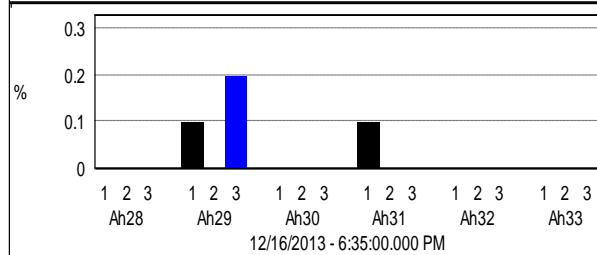
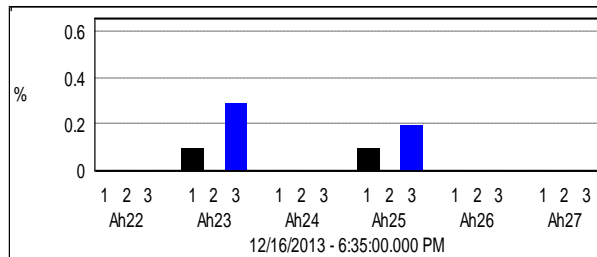
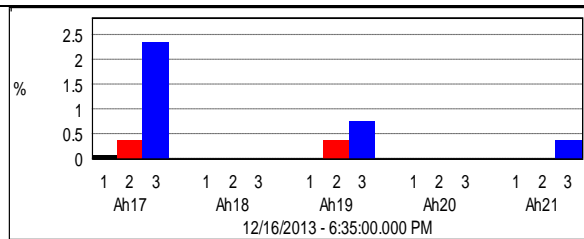
❖ **Current Harmonics of different order & their Max, Min and average values**

Name	Avg	Min	Max	Unit
A1h0	0	0	0	%
A1h1	100	100	100	%
A1h10	0.076	0	0.4	%
A1h11	0.728	0.1	1.3	%
A1h12	0.001	0	0.1	%
A1h13	0.266	0	0.7	%
A1h14	0	0	0	%
A1h15	0.041	0	0.2	%
A1h16	0	0	0	%
A1h2	0	0	0	%
A1h3	12.318	5.8	13.2	%
A1h4	0	0	0	%
A1h5	1.675	0.7	2.5	%
A1h6	0.042	0	0.2	%
A1h7	3.696	1.6	4.9	%
A1h8	0.075	0	0.2	%
A1h9	0.55	0	1.7	%
A2h0	0	0	0	%
A2h1	100	100	100	%
A2h10	0.044	0	0.6	%
A2h11	0.941	0.2	1.6	%
A2h12	0	0	0	%
A2h13	0.618	0.3	1.5	%
A2h14	0	0	0	%
A2h15	0.155	0	0.8	%
A2h16	0	0	0	%
A2h2	0	0	0	%
A2h3	11.053	7.2	13.9	%
A2h4	0.024	0	0.1	%
A2h5	3.597	0.8	5.6	%
A2h6	0.117	0	0.3	%
A2h7	2.752	1.1	4.1	%
A2h8	0.015	0	0.1	%
A2h9	1.006	0.2	1.8	%
A3h0	0	0	0	%
A3h1	100	100	100	%



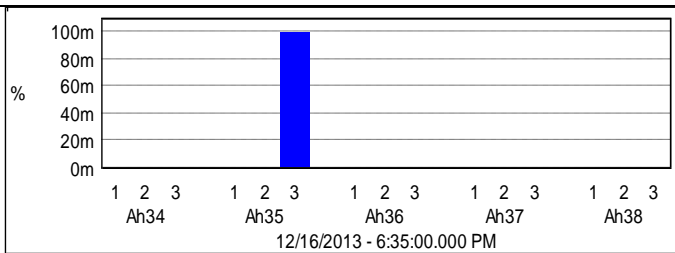
A3h10	0.086	0	0.4	%
A3h11	1.554	0.1	3.2	%
A3h12	0.194	0	0.6	%
A3h13	2.565	0.9	4.4	%
A3h14	0.073	0	0.3	%
A3h15	1.674	0.7	2.1	%
A3h16	0.015	0	0.2	%
A3h2	0.062	0	0.1	%
A3h3	15.711	8.4	17	%
A3h4	0.01	0	0.1	%
A3h5	1.405	0.2	2.7	%
A3h6	0.006	0	0.1	%
A3h7	2.91	1.8	4.2	%
A3h8	0.055	0	0.2	%
A3h9	1.249	0.4	2.3	%

Name	Avg	Min	Max	Unit
A1h17	0.033	0	0.2	%
A1h18	0	0	0	%
A1h19	0.013	0	0.1	%
A1h20	0	0	0	%
A1h21	0.007	0	0.1	%
A1h22	0	0	0	%
A1h23	0.02	0	0.1	%
A1h24	0	0	0	%
A1h25	0.041	0	0.2	%
A1h26	0	0	0	%
A1h27	0.009	0	0.1	%
A1h28	0	0	0	%
A1h29	0.055	0	0.1	%
A1h30	0	0	0	%
A1h31	0.006	0	0.1	%
A1h32	0	0	0	%
A1h33	0.003	0	0.1	%
A2h17	0.406	0.2	0.8	%
A2h18	0	0	0	%
A2h19	0.315	0	0.6	%
A2h20	0	0	0	%
A2h21	0.062	0	0.2	%
A2h22	0	0	0	%
A2h23	0.053	0	0.2	%
A2h24	0	0	0	%
A2h25	0.036	0	0.2	%
A2h26	0	0	0	%
A2h27	0.001	0	0.1	%
A2h28	0	0	0	%
A2h29	0.001	0	0.1	%
A2h30	0	0	0	%
A2h31	0	0	0	%
A2h32	0	0	0	%



A2h33	0	0	0	%
A3h17	1.692	0.6	2.6	%
A3h18	0.008	0	0.1	%
A3h19	0.599	0.1	1.6	%
A3h20	0	0	0	%
A3h21	0.142	0	0.5	%
A3h22	0	0	0	%
A3h23	0.138	0	0.4	%
A3h24	0	0	0	%
A3h25	0.226	0	0.6	%
A3h26	0	0	0	%
A3h27	0.026	0	0.2	%
A3h28	0	0	0	%
A3h29	0.168	0	0.3	%
A3h30	0	0	0	%
A3h31	0.019	0	0.1	%
A3h32	0	0	0	%
A3h33	0.001	0	0.1	%

Name	Avg	Min	Max	Unit
A1h34	0	0	0	%
A1h35	0	0	0	%
A1h36	0	0	0	%
A1h37	0	0	0	%
A1h38	0	0	0	%
A1h39	0	0	0	%
A1h40	0	0	0	%
A1h41	0	0	0	%
A1h42	0	0	0	%
A1h43	0	0	0	%
A1h44	0	0	0	%
A1h45	0	0	0	%
A1h46	0	0	0	%
A1h47	0	0	0	%
A1h48	0	0	0	%
A1h49	0	0	0	%
A1h50	0	0	0	%
A2h34	0	0	0	%
A2h35	0.001	0	0.1	%
A2h36	0	0	0	%
A2h37	0	0	0	%
A2h38	0	0	0	%
A2h39	0	0	0	%
A2h40	0	0	0	%
A2h41	0	0	0	%
A2h42	0	0	0	%
A2h43	0	0	0	%
A2h44	0	0	0	%
A2h45	0	0	0	%
A2h46	0	0	0	%



A2h47	0	0	0	%
A2h48	0	0	0	%
A2h49	0	0	0	%
A2h50	0	0	0	%
A3h34	0	0	0	%
A3h35	0.015	0	0.1	%
A3h36	0	0	0	%
A3h37	0	0	0	%
A3h38	0	0	0	%
A3h39	0	0	0	%
A3h40	0	0	0	%
A3h41	0	0	0	%
A3h42	0	0	0	%
A3h43	0	0	0	%
A3h44	0	0	0	%
A3h45	0	0	0	%
A3h46	0	0	0	%
A3h47	0	0	0	%
A3h48	0	0	0	%
A3h49	0	0	0	%
A3h50	0	0	0	%

- **Study of Power Parameter and Harmonics Measurements at Hanumantal thane ke samne Switching Point**

Data logging is carried out for different power parameters like voltage, current, PF, kW, Current unbalance, Voltage unbalance, THD, etc. and tabulated as under

Measurement of Power Parameters at Hanumantal thane ke samne													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
07-03-2014	22:40:00	49.98	400.7	409.7	385.9	1.5	88.82	98.89	0.02	20.48	22.03	42.53	0.673
07-03-2014	22:42:00	49.98	401.2	409.9	386.6	1.51	89.06	99.4	0.02	20.48	22.21	42.71	0.674
07-03-2014	22:44:00	49.97	400.7	409.7	386.4	1.52	89.93	99.33	0.02	20.61	22.19	42.83	0.676
07-03-2014	22:46:00	49.94	400.6	409.6	385.4	1.54	90.77	99.83	0.03	20.74	22.25	43.02	0.678
07-03-2014	22:48:00	49.99	401.2	411.5	385.3	1.53	90.19	99.56	0.03	20.75	22.25	43.03	0.676
07-03-2014	22:50:00	50.06	402.3	412.1	386.7	1.51	89.19	99.57	0.02	20.65	22.30	42.98	0.674
07-03-2014	22:52:00	50.09	401.9	409.5	387.5	1.52	89.7	100.07	0.02	20.66	22.33	43.01	0.676
07-03-2014	22:54:00	50.09	402.7	410.1	387.4	1.53	89.99	100.51	0.03	20.74	22.44	43.20	0.676
07-03-2014	22:56:00	50.01	402.8	409.9	386.4	1.56	91.37	100.87	0.03	20.95	22.47	43.45	0.679
07-03-2014	22:58:00	49.9	402.8	409.6	387	1.54	90.04	101.15	0.03	20.73	22.54	43.30	0.677
07-03-2014	23:00:00	49.83	403.2	411.3	386.3	1.56	91.2	101.94	0.03	20.99	22.76	43.78	0.679
07-03-2014	23:02:00	49.82	403.5	411.7	386.3	1.57	91.39	101.99	0.03	21.05	22.79	43.86	0.679
07-03-2014	23:04:00	49.85	404.2	412.2	387.4	1.56	90.98	102.56	0.03	21.02	22.96	44.02	0.678
07-03-2014	23:06:00	49.88	404.5	412.7	387.4	1.56	90.95	101.97	0.03	21.02	22.84	43.89	0.678
07-03-2014	23:08:00	49.88	403	410	386.9	1.57	92.05	101.51	0.03	21.08	22.63	43.74	0.68
07-03-2014	23:10:00	49.9	403.6	412	386.7	1.56	91.57	101.37	0.03	21.08	22.66	43.77	0.679
07-03-2014	23:12:00	49.9	404	413.1	387.3	1.56	91.2	101.56	0.03	21.04	22.77	43.84	0.679
07-03-2014	23:14:00	49.89	404.5	412.7	387.8	1.57	91.6	101.45	0.03	21.12	22.72	43.87	0.68
07-03-2014	23:16:00	49.88	404.8	413	388.2	1.57	91.71	101.47	0.03	21.18	22.74	43.95	0.68
07-03-2014	23:18:00	49.92	404.9	413.4	388.7	1.56	91.32	101.51	0.03	21.13	22.77	43.94	0.679
07-03-2014	23:20:00	49.97	404.9	413.6	388.2	1.56	91.4	101.68	0.03	21.12	22.80	43.96	0.68
07-03-2014	23:22:00	49.99	405.4	413.7	388.4	1.56	91.39	101.48	0.03	21.14	22.76	43.94	0.68
07-03-2014	23:24:00	50.02	406	413.8	388.6	1.57	91.65	101.8	0.03	21.25	22.84	44.11	0.679
07-03-2014	23:26:00	50.05	406.6	414.8	389.1	1.56	91.82	101.69	0.03	21.35	22.85	44.23	0.678
07-03-2014	23:28:00	50	407.1	415	389.1	1.57	91.85	102.16	0.03	21.38	22.96	44.37	0.678

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Measurement of Power Parameters at Hanumantal thane ke samne													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
07-03-2014	23:30:00	49.95	407	414.8	389.5	1.56	91.6	102.49	0.03	21.34	23.04	44.40	0.678
07-03-2014	23:32:00	49.97	406.6	415.2	390	1.54	90.29	102.34	0.03	21.09	23.04	44.16	0.676
07-03-2014	23:34:00	50.03	406.5	414.6	390.9	1.53	89.85	101.93	0.03	20.98	22.97	43.97	0.676
07-03-2014	23:36:00	50.09	407.2	414.7	391.2	1.54	90.1	102.08	0.02	21.05	23.02	44.09	0.676
07-03-2014	23:38:00	50.09	407.1	414.6	390.8	1.54	90.16	102.95	0.03	21.06	23.20	44.28	0.676
07-03-2014	23:40:00	49.99	407.2	415.1	389.3	1.57	91.53	103.39	0.03	21.31	23.25	44.59	0.679
07-03-2014	23:42:00	49.97	407	414.3	389.9	1.55	90.85	102.94	0.03	21.18	23.15	44.36	0.676
07-03-2014	23:44:00	49.96	406.9	414.4	390.8	1.53	89.8	102.48	0.02	21.03	23.09	44.14	0.673
07-03-2014	23:46:00	50.03	407.7	415.3	391.6	1.53	89.74	102.43	0.02	21.06	23.13	44.20	0.673
07-03-2014	23:48:00	50.07	408.6	416.4	392	1.54	90.13	103.41	0.02	21.16	23.39	44.58	0.675
07-03-2014	23:50:00	50.05	409	416.5	391	1.57	90.99	103.59	0.03	21.25	23.39	44.67	0.679
07-03-2014	23:52:00	50.03	409.6	416.8	391.9	1.55	90.02	103.46	0.02	21.16	23.41	44.59	0.675
07-03-2014	23:54:00	50.03	409.9	417.2	392.5	1.53	89.13	103.45	0.02	21.02	23.44	44.48	0.674
07-03-2014	23:56:00	50.04	409.6	417.7	392.8	1.54	89.72	102.82	0.02	21.17	23.32	44.51	0.673
07-03-2014	23:58:00	49.95	409	416.8	392.1	1.54	89.87	103.2	0.02	21.15	23.34	44.52	0.674
08-03-2014	00:00:00	49.88	409.2	417.2	391.9	1.54	89.89	103.05	0.02	21.19	23.32	44.53	0.674
08-03-2014	00:02:00	49.82	409.1	417.2	392.2	1.54	90.36	103.01	0.02	21.29	23.32	44.64	0.673
08-03-2014	00:04:00	49.76	408.8	417	392.2	1.54	90.51	103.04	0.02	21.34	23.61	44.97	0.671
08-03-2014	00:06:00	49.76	408.6	417.1	392	1.55	90.42	103.33	0.02	21.32	23.75	45.08	0.671
08-03-2014	00:08:00	49.83	409.1	417.5	392.5	1.55	90.52	103.57	0.02	21.37	23.83	45.22	0.671
08-03-2014	00:10:00	49.85	409.4	417.4	392.3	1.54	90.22	103.41	0.02	21.31	23.78	45.11	0.671
08-03-2014	00:12:00	49.86	409.2	417.5	392.2	1.55	90.26	103.39	0.02	21.32	23.79	45.13	0.67
08-03-2014	00:14:00	49.87	409.3	417.5	392.4	1.55	90.38	103.14	0.02	21.35	23.74	45.11	0.67
08-03-2014	00:16:00	49.89	409.8	417.7	392.7	1.54	89.85	103.36	0.02	21.24	23.78	45.04	0.671
08-03-2014	00:18:00	49.98	410.1	418.1	393.4	1.54	89.83	102.79	0.02	21.26	23.69	44.96	0.67
08-03-2014	00:20:00	50.02	410.5	418.7	393.3	1.54	89.86	103.24	0.02	21.30	23.81	45.13	0.67
08-03-2014	00:22:00	49.99	410.5	418.6	393.2	1.54	89.84	102.94	0.02	21.28	23.73	45.03	0.67
08-03-2014	00:24:00	49.9	409.7	417.6	392.3	1.54	90.07	102.87	0.02	21.29	23.65	44.97	0.67
08-03-2014	00:26:00	49.89	409.9	417.8	392.2	1.55	90.27	103.29	0.02	21.36	23.75	45.13	0.67
08-03-2014	00:28:00	49.89	410.2	418	392.6	1.55	90.56	103.44	0.02	21.44	23.80	45.26	0.67

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Measurement of Power Parameters at Hanumantal thane ke samne													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
08-03-2014	00:30:00	49.91	410	417.9	392.9	1.54	90.37	103.2	0.02	21.37	23.76	45.14	0.67
08-03-2014	00:32:00	49.91	410	418.1	392.9	1.55	90.48	103.51	0.02	21.41	23.83	45.26	0.67
08-03-2014	00:34:00	49.94	411.2	418.6	393.4	1.54	90.23	103.63	0.02	21.40	23.88	45.30	0.669
08-03-2014	00:36:00	49.94	411.3	418.6	393.3	1.54	90.25	103.83	0.02	21.39	23.92	45.33	0.67
08-03-2014	00:38:00	49.94	411.5	418.6	393.4	1.55	90.31	104.05	0.02	21.41	23.97	45.40	0.67
08-03-2014	00:40:00	49.99	411.9	419.2	393.7	1.55	90.11	104.14	0.02	21.39	24.02	45.43	0.67
08-03-2014	00:42:00	49.99	412.3	419.4	394.3	1.55	90.21	104.31	0.02	21.42	24.08	45.52	0.67
08-03-2014	00:44:00	49.99	412.1	419.1	394.3	1.55	90.45	104.24	0.02	21.47	24.07	45.55	0.67
08-03-2014	00:46:00	49.99	412.4	419.3	394.3	1.55	90.29	104.54	0.02	21.44	24.13	45.59	0.67
08-03-2014	00:48:00	49.97	412.8	419.3	394.4	1.55	90.44	104.38	0.02	21.49	24.09	45.60	0.67
08-03-2014	00:50:00	49.94	412.8	419.5	394.7	1.55	90.6	104.59	0.02	21.54	24.16	45.72	0.669
08-03-2014	00:52:00	50	412.8	419.8	394.9	1.55	90.41	104.66	0.02	21.49	24.19	45.70	0.67
08-03-2014	00:54:00	50.03	413.2	420.3	395.2	1.55	90.56	104.5	0.02	21.55	24.18	45.75	0.67
08-03-2014	00:56:00	50.04	412.8	420.4	394.9	1.55	90.5	104.54	0.02	21.55	24.18	45.75	0.67
08-03-2014	00:58:00	50.07	413.1	420.7	395.6	1.55	90.35	104.28	0.02	21.52	24.16	45.70	0.67
08-03-2014	01:00:00	50.04	412.9	420.3	395.2	1.55	90.06	104.67	0.02	21.43	24.22	45.66	0.671
08-03-2014	01:02:00	50	412.4	420	395	1.55	90.42	104.48	0.02	21.49	24.16	45.67	0.67
08-03-2014	01:04:00	49.93	412.8	420.1	394.9	1.55	90.64	104.66	0.02	21.55	24.20	45.77	0.67
08-03-2014	01:06:00	49.92	413.2	420	395.1	1.56	90.86	104.94	0.02	21.60	24.26	45.88	0.67
08-03-2014	01:08:00	49.9	413.1	419.9	395	1.56	90.79	104.63	0.02	21.57	24.17	45.77	0.671
08-03-2014	01:10:00	49.86	412.8	420	394.8	1.56	91.09	104.98	0.02	21.64	24.25	45.91	0.67
08-03-2014	01:12:00	49.89	413.1	420.3	395	1.56	91.08	104.94	0.02	21.65	24.26	45.93	0.67
08-03-2014	01:14:00	49.92	413.3	420.8	395.2	1.56	91.3	104.87	0.02	21.73	24.27	46.02	0.669
08-03-2014	01:16:00	49.93	413.6	421	395.4	1.56	91.21	104.49	0.02	21.72	24.20	45.93	0.669
08-03-2014	01:18:00	49.92	414	421.2	395.8	1.56	91.24	104.69	0.02	21.74	24.26	46.02	0.669
08-03-2014	01:20:00	49.91	414	421	396	1.56	91.36	104.93	0.02	21.75	24.32	46.09	0.669
08-03-2014	01:22:00	49.96	414.3	421.2	396.5	1.56	91.39	104.64	0.02	21.77	24.27	46.07	0.669
08-03-2014	01:24:00	50	414.2	421.6	396.7	1.56	91.51	104.9	0.02	21.81	24.35	46.18	0.669
08-03-2014	01:26:00	50.02	413.9	421.2	396.4	1.56	91.36	104.64	0.02	21.76	24.27	46.06	0.669
08-03-2014	01:28:00	50.01	414	421.2	396.1	1.56	91.24	105.14	0.02	21.73	24.38	46.14	0.669

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Measurement of Power Parameters at Hanumantal thane ke samne													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
08-03-2014	01:30:00	49.98	413.9	420.8	396.2	1.56	91.34	105.07	0.02	21.74	24.36	46.12	0.669
08-03-2014	01:32:00	50.02	413.7	420.8	396.6	1.56	91.34	104.9	0.02	21.73	24.34	46.09	0.669
08-03-2014	01:34:00	50.04	413.6	421.2	396.9	1.56	91.12	104.96	0.02	21.67	24.38	46.07	0.67
08-03-2014	01:36:00	50.02	413.8	421.5	397	1.56	90.97	104.87	0.02	21.66	24.37	46.05	0.67
08-03-2014	01:38:00	49.99	414	421.3	396.7	1.56	91	105.42	0.02	21.67	24.48	46.16	0.67
08-03-2014	01:40:00	49.96	413.6	421.2	396.7	1.57	91.53	105.11	0.02	21.76	24.41	46.19	0.67
08-03-2014	01:42:00	49.94	413.7	421.2	396.3	1.57	91.75	105.43	0.02	21.82	24.46	46.31	0.67
08-03-2014	01:44:00	49.91	413.4	420.4	395.8	1.58	91.87	105.3	0.02	21.82	24.39	46.23	0.67
08-03-2014	01:46:00	49.91	413.7	420.5	395.8	1.57	91.65	105.34	0.02	21.78	24.40	46.20	0.67
08-03-2014	01:48:00	49.95	414.1	420.9	396.3	1.57	91.43	105.37	0.02	21.74	24.43	46.19	0.671
08-03-2014	01:50:00	49.99	414.4	421.4	396.6	1.57	91.52	104.78	0.02	21.78	24.32	46.12	0.671
08-03-2014	01:52:00	50	414.8	421.8	396.9	1.57	91.81	105.17	0.02	21.87	24.43	46.31	0.67
08-03-2014	01:54:00	50.02	415	422.2	397.3	1.57	91.88	104.72	0.02	21.90	24.35	46.28	0.67
08-03-2014	01:56:00	50.05	415.3	422.5	397.6	1.57	92.12	104.64	0.02	21.96	24.35	46.33	0.67
08-03-2014	01:58:00	50.06	415.7	422.8	398.1	1.58	92.2	104.84	0.02	21.99	24.42	46.44	0.67
08-03-2014	02:00:00	50	415.1	422.3	397.8	1.57	91.93	104.6	0.02	21.92	24.35	46.28	0.669
08-03-2014	02:02:00	49.95	414.6	421.9	397.2	1.57	91.94	104.83	0.02	21.90	24.37	46.29	0.669
08-03-2014	02:04:00	49.91	414.1	421.7	397.1	1.57	92.1	104.66	0.02	21.92	24.32	46.26	0.67
08-03-2014	02:06:00	49.88	414	421.4	396.8	1.57	92.09	104.27	0.02	21.90	24.21	46.13	0.67
08-03-2014	02:08:00	49.88	413.9	421.4	396.7	1.58	92.07	104.47	0.02	21.89	24.25	46.17	0.67
08-03-2014	02:10:00	49.86	413.8	421.2	396.7	1.58	92.05	104.38	0.02	21.88	24.23	46.13	0.671
08-03-2014	02:12:00	49.85	413.8	421.3	396.6	1.58	92.09	104.61	0.02	21.89	24.27	46.19	0.671
08-03-2014	02:14:00	49.91	414	421.7	396.8	1.57	91.89	104.1	0.02	21.87	24.18	46.07	0.67
08-03-2014	02:16:00	49.94	414	421.9	396.9	1.57	91.95	104.82	0.02	21.89	24.36	46.27	0.671
08-03-2014	02:18:00	49.95	414.4	421.7	397.1	1.57	91.81	104.72	0.02	21.86	24.33	46.22	0.67
08-03-2014	02:20:00	49.97	414.1	421.3	396.8	1.57	91.72	104.85	0.02	21.82	24.35	46.18	0.67
08-03-2014	02:22:00	49.98	413.9	421	396.6	1.57	91.56	104.52	0.02	21.77	24.25	46.04	0.67
08-03-2014	02:24:00	50	414	421.2	396.7	1.57	91.73	104.48	0.02	21.83	24.25	46.09	0.67
08-03-2014	02:26:00	49.97	414	421.5	396.8	1.57	92.11	104.55	0.02	21.93	24.28	46.23	0.67
08-03-2014	02:28:00	49.96	413.8	421.6	396.9	1.57	92.07	104.15	0.02	21.92	24.20	46.14	0.669

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Measurement of Power Parameters at Hanumantal thane ke samne													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
08-03-2014	02:30:00	49.96	413.8	421.6	396.7	1.57	92.13	104.65	0.02	21.93	24.31	46.25	0.67
08-03-2014	02:32:00	49.96	413.9	421.6	396.9	1.57	92.02	104.83	0.02	21.90	24.36	46.28	0.669
08-03-2014	02:34:00	49.96	413.7	421.3	396.5	1.57	91.75	104.69	0.02	21.83	24.31	46.16	0.669
08-03-2014	02:36:00	49.9	413.8	421	396.2	1.57	91.79	105.35	0.02	21.84	24.43	46.29	0.669
08-03-2014	02:38:00	49.86	413.6	420.7	396.1	1.57	91.82	105.41	0.02	21.84	24.44	46.29	0.67
08-03-2014	02:40:00	49.8	413.3	420.4	395.8	1.58	92.04	105.38	0.02	21.85	24.35	46.22	0.67
08-03-2014	02:42:00	49.8	413.1	420.2	395.5	1.57	91.75	105.17	0.02	21.73	23.96	45.71	0.673
08-03-2014	02:44:00	49.84	413.7	420.4	395.9	1.57	91.73	105.17	0.02	21.74	23.98	45.74	0.672
08-03-2014	02:46:00	49.88	414	420.6	396.3	1.57	91.78	104.97	0.02	21.76	23.96	45.74	0.672
08-03-2014	02:48:00	49.92	414.2	421	396.3	1.57	91.68	104.95	0.02	21.76	23.97	45.75	0.672
08-03-2014	02:50:00	49.98	414.3	421.4	396.3	1.57	91.72	104.98	0.02	21.80	23.99	45.81	0.672
08-03-2014	02:52:00	50.01	414.4	422	397	1.57	91.96	104.53	0.02	21.87	23.93	45.82	0.672
08-03-2014	02:54:00	49.99	414.1	422.4	396.9	1.57	92.33	104.65	0.02	21.97	23.98	45.96	0.671
08-03-2014	02:56:00	49.97	414.4	422.5	397.1	1.57	92.3	104.81	0.02	21.96	24.02	46.00	0.671
08-03-2014	02:58:00	49.94	414.4	422.1	397.1	1.57	92.32	104.96	0.02	21.95	24.04	46.01	0.672
08-03-2014	03:00:00	49.89	414.3	421.8	396.8	1.58	92.4	105.1	0.02	21.96	24.04	46.02	0.671
08-03-2014	03:02:00	49.89	414.5	422	396.9	1.58	92.54	105.5	0.02	22.01	24.14	46.17	0.672
08-03-2014	03:04:00	49.87	414.4	421.9	397.1	1.58	92.64	105.53	0.02	22.02	24.15	46.19	0.672
08-03-2014	03:06:00	49.84	414.1	421.8	396.9	1.58	92.58	105.28	0.02	21.99	24.10	46.11	0.672
08-03-2014	03:08:00	49.85	413.4	421.4	396.5	1.57	92.37	104.89	0.02	21.92	23.99	45.94	0.672
08-03-2014	03:10:00	49.9	413.4	421.7	396.6	1.57	92.13	104.65	0.02	21.87	23.96	45.85	0.672
08-03-2014	03:12:00	49.95	413.7	421.6	397.1	1.57	92	104.98	0.02	21.84	24.04	45.90	0.672
08-03-2014	03:14:00	49.98	413.4	421.3	396.6	1.57	91.55	104.78	0.02	21.72	23.96	45.71	0.673
08-03-2014	03:16:00	50.03	414.2	421.8	397.2	1.57	91.67	104.85	0.02	21.78	24.01	45.82	0.673
08-03-2014	03:18:00	50.04	414.9	422.6	397.7	1.57	91.84	104.89	0.02	21.86	24.05	45.94	0.673
08-03-2014	03:20:00	50.07	415.5	422.9	397.8	1.57	91.74	105.11	0.02	21.87	24.11	46.01	0.672
08-03-2014	03:22:00	50.06	415.4	423.2	397.9	1.57	92.09	105.44	0.02	21.97	24.19	46.18	0.672
08-03-2014	03:24:00	50.06	415.4	423.1	398	1.57	92.16	105.17	0.02	21.97	24.13	46.13	0.672
08-03-2014	03:26:00	50.08	415.5	423.2	398.4	1.57	92.08	105.44	0.02	21.95	24.22	46.20	0.672
08-03-2014	03:28:00	50.03	415.4	423	398.3	1.57	91.88	105.67	0.02	21.89	24.26	46.18	0.672

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Hanumantal thane ke samne													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
08-03-2014	03:30:00	49.99	415.5	423	398.2	1.57	92.04	105.69	0.02	21.93	24.26	46.22	0.672
08-03-2014	03:32:00	49.96	415.4	422.7	397.9	1.57	92.02	105.82	0.02	21.92	24.27	46.20	0.672
08-03-2014	03:34:00	49.96	415.6	422.8	397.9	1.57	92.01	105.33	0.02	21.92	24.15	46.10	0.672
08-03-2014	03:36:00	49.94	415.4	422.9	397.6	1.57	91.96	105.62	0.02	21.91	24.21	46.15	0.672
08-03-2014	03:38:00	49.97	415.4	422.8	397.5	1.57	91.88	105.03	0.02	21.90	24.07	45.99	0.672
08-03-2014	03:40:00	50.02	415.5	423	397.7	1.57	91.87	105.25	0.02	21.90	24.13	46.06	0.672
08-03-2014	03:42:00	50	415.6	423	398.1	1.57	92.03	105.42	0.02	21.93	24.19	46.14	0.672
08-03-2014	03:44:00	49.98	415.4	423.4	398.2	1.57	92.22	105.2	0.02	21.99	24.16	46.18	0.671
08-03-2014	03:46:00	50.02	415.8	423.7	398.6	1.57	91.9	106.1	0.02	21.93	24.39	46.34	0.672
08-03-2014	03:48:00	50.02	416	423.5	398.8	1.57	91.94	105.58	0.02	21.94	24.27	46.22	0.672
08-03-2014	03:50:00	50.02	415.8	423.5	398.6	1.57	92.06	105.55	0.02	21.96	24.26	46.24	0.672
08-03-2014	03:52:00	50.09	416.6	424.2	399.1	1.57	92.07	105.65	0.02	22.01	24.30	46.33	0.672
08-03-2014	03:54:00	50.14	416.7	424.4	399.5	1.57	92.08	105.46	0.02	22.02	24.29	46.33	0.672
08-03-2014	03:56:00	50.12	416.6	424.8	399.5	1.58	92.23	106.02	0.02	22.06	24.43	46.51	0.672
08-03-2014	03:58:00	50.09	416.8	424.7	399.7	1.58	92.29	106.09	0.02	22.06	24.45	46.54	0.671
08-03-2014	04:00:00	50.03	416.9	424.4	399.4	1.58	92.18	106.1	0.02	22.03	24.43	46.48	0.672
08-03-2014	04:02:00	49.96	416.5	424	399	1.58	92.27	106.09	0.02	22.02	24.40	46.45	0.672
08-03-2014	04:04:00	49.93	416.3	423.4	398.7	1.58	92.36	105.75	0.02	22.03	24.30	46.35	0.671
08-03-2014	04:06:00	49.9	416.2	423.3	398.2	1.58	92.76	105.94	0.02	22.13	24.31	46.46	0.671
08-03-2014	04:08:00	49.89	415.9	423.1	397.8	1.58	92.83	105.74	0.02	22.13	24.25	46.40	0.671
08-03-2014	04:10:00	49.92	415.8	423.4	398.1	1.59	93.13	105.8	0.02	22.21	24.29	46.51	0.671
08-03-2014	04:12:00	49.93	415.5	423	397.7	1.58	92.86	105.47	0.02	22.13	24.19	46.34	0.671
08-03-2014	04:14:00	49.9	415.5	422.9	397.5	1.58	92.73	105.76	0.02	22.08	24.24	46.35	0.671
08-03-2014	04:16:00	49.89	415.5	422.8	397.7	1.58	92.75	105.65	0.02	22.10	24.45	46.57	0.67
08-03-2014	04:18:00	49.87	414.7	422.5	397.6	1.58	92.86	105.62	0.02	22.12	24.59	46.74	0.669
08-03-2014	04:20:00	49.88	414.8	422.6	397.5	1.58	92.77	105.83	0.02	22.11	24.64	46.77	0.669
08-03-2014	04:22:00	49.9	414.8	422.2	397.5	1.58	92.3	105.73	0.02	21.99	24.60	46.61	0.669
08-03-2014	04:24:00	49.92	414.6	422.2	397.4	1.58	92.19	105.5	0.02	21.97	24.55	46.54	0.669
08-03-2014	04:26:00	49.96	414.9	422.8	397.9	1.58	92.31	105.58	0.02	22.03	24.60	46.64	0.669
08-03-2014	04:28:00	49.93	415	422.7	397.8	1.57	92.06	105.35	0.02	21.95	24.54	46.51	0.669

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Hanumantal thane ke samne													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
08-03-2014	04:30:00	49.87	414.3	421.9	397.2	1.57	92.11	105.22	0.02	21.93	24.47	46.41	0.669
08-03-2014	04:32:00	49.87	414.1	421.8	397.1	1.57	92.1	105.13	0.02	21.92	24.43	46.37	0.669
08-03-2014	04:34:00	49.84	414.1	421.6	396.9	1.57	91.95	105.04	0.02	21.86	24.40	46.28	0.669
08-03-2014	04:36:00	49.83	414	421.9	397.2	1.58	92.2	105.52	0.02	21.93	24.54	46.48	0.669
08-03-2014	04:38:00	49.82	414.3	421.7	397	1.57	91.85	105.21	0.02	21.85	24.45	46.31	0.669
08-03-2014	04:40:00	49.89	414.5	421.9	397	1.57	91.74	105.2	0.02	21.83	24.45	46.31	0.669
08-03-2014	04:42:00	49.91	414.6	421.9	397.3	1.57	91.72	105.22	0.02	21.82	24.46	46.30	0.669
08-03-2014	04:44:00	49.94	414.7	422.2	397.4	1.57	91.62	105.64	0.02	21.82	24.58	46.42	0.67
08-03-2014	04:46:00	49.95	414.6	422.2	397.4	1.57	91.69	105.47	0.02	21.83	24.54	46.39	0.67
08-03-2014	04:48:00	49.98	414.7	422.6	397.8	1.58	92.05	105.15	0.02	21.93	24.49	46.45	0.669
08-03-2014	04:50:00	50	414.9	422.9	397.8	1.57	91.9	105.1	0.02	21.91	24.50	46.43	0.669
08-03-2014	04:52:00	50.06	415.7	423.4	398.2	1.57	91.73	105.35	0.02	21.91	24.57	46.50	0.669
08-03-2014	04:54:00	50.17	416.5	424.1	399	1.57	91.75	105.26	0.02	21.95	24.59	46.57	0.669
08-03-2014	04:56:00	50.21	417.2	425.2	399.4	1.58	91.83	105.65	0.02	22.02	24.72	46.77	0.669
08-03-2014	04:58:00	50.25	417.6	425.3	400.3	1.58	92.06	105.43	0.02	22.08	24.70	46.80	0.669
08-03-2014	05:00:00	50.21	417.9	424.2	400.5	1.58	92.13	105.56	0.02	22.05	24.69	46.76	0.669
08-03-2014	05:02:00	50.12	417.4	423.7	399.9	1.58	92.27	105.83	0.02	22.05	24.72	46.79	0.669
08-03-2014	05:04:00	50.05	416.8	422.9	399.3	1.58	92.21	105.08	0.02	21.98	24.50	46.50	0.669
08-03-2014	05:06:00	49.95	414.9	422.2	398	1.57	92.14	104.56	0.02	21.90	24.34	46.26	0.669
08-03-2014	05:08:00	49.91	414.4	422	397.9	1.57	92.25	104.11	0.02	21.90	24.23	46.15	0.669
08-03-2014	05:10:00	49.98	414.9	422.8	398.5	1.57	92.11	104.5	0.02	21.90	24.38	46.29	0.669
08-03-2014	05:12:00	50.07	415.5	423.2	398.9	1.57	91.84	104.26	0.02	21.86	24.34	46.21	0.669
08-03-2014	05:14:00	50.07	415.6	423.1	398.8	1.57	91.84	103.92	0.02	21.86	24.25	46.12	0.669
08-03-2014	05:16:00	50.02	415	422.4	398.3	1.57	91.99	104.29	0.02	21.87	24.31	46.19	0.669
08-03-2014	05:18:00	49.98	414.6	421.8	397.9	1.57	91.77	104.12	0.02	21.79	24.23	46.04	0.669
08-03-2014	05:20:00	49.9	414.3	421	397	1.57	91.53	104.96	0.02	21.69	24.37	46.08	0.67
08-03-2014	05:22:00	49.88	414.2	421	396.9	1.57	91.74	104.62	0.02	21.76	24.28	46.06	0.669
08-03-2014	05:24:00	49.9	414.8	421	397.6	1.57	91.95	104.98	0.02	21.82	24.37	46.21	0.669
08-03-2014	05:26:00	49.98	415.8	421.6	398.4	1.58	92.02	105.37	0.02	21.87	24.50	46.39	0.669
08-03-2014	05:28:00	50.04	415.2	421.2	397.9	1.57	91.47	105.09	0.02	21.72	24.41	46.15	0.67

Measurement of Power Parameters at Hanumantal thane ke samne													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
08-03-2014	05:30:00	50.06	414.5	420.5	397.6	1.56	91.22	104.9	0.02	21.63	24.33	45.99	0.67
08-03-2014	05:32:00	50	413.8	420	397	1.56	91.3	104.8	0.02	21.63	24.27	45.92	0.67
08-03-2014	05:34:00	49.9	412.8	419.3	395.7	1.56	91.44	105.44	0.02	21.64	24.35	46.01	0.67
08-03-2014	05:36:00	49.85	412.7	418.8	395.3	1.56	91.09	105.61	0.02	21.54	24.35	45.92	0.67
08-03-2014	05:38:00	49.81	412.7	418.9	395.5	1.56	91.14	105.75	0.02	21.56	24.40	45.97	0.67
08-03-2014	05:40:00	49.79	412.5	418.5	395.1	1.56	91.03	105.49	0.02	21.50	24.32	45.84	0.67
08-03-2014	05:42:00	49.79	412.3	418.2	395	1.56	91.03	105.58	0.02	21.50	24.32	45.84	0.67
08-03-2014	05:44:00	49.8	412	418.3	394.7	1.56	90.74	105.32	0.02	21.43	24.25	45.70	0.671
08-03-2014	05:46:00	49.8	411.7	418.4	394.2	1.56	90.75	105.4	0.02	21.43	24.26	45.71	0.671
08-03-2014	05:48:00	49.86	412	418.5	394.8	1.56	91.04	104.72	0.02	21.49	24.12	45.64	0.671
08-03-2014	05:50:00	49.82	411.5	417.9	393.1	1.59	92.57	105.21	0.03	21.71	24.15	45.88	0.675
08-03-2014	05:52:00	49.81	411.6	417.5	392.7	1.6	92.86	105.4	0.03	21.74	24.16	45.93	0.676
08-03-2014	05:54:00	49.91	413.1	419	394.2	1.6	93.22	105.76	0.03	21.91	24.34	46.28	0.674
08-03-2014	05:56:00	49.98	413.1	419.4	393.8	1.6	92.98	105.6	0.03	21.88	24.31	46.21	0.674
08-03-2014	05:58:00	49.94	412.6	418.4	393.3	1.59	92.71	104.83	0.03	21.76	24.07	45.86	0.675
08-03-2014	06:00:00	49.87	411.8	417.8	392.8	1.6	92.95	105.46	0.03	21.78	24.18	45.99	0.675
08-03-2014	06:02:00	49.8	419.2	421.7	407.5	1.15	74.56	60.15	0.00	17.42	13.73	31.15	0.52
Average load in kW												45.57	0.67

Harmonics and Voltage & Current Unbalance Measurement

Harmonics & Voltage & Current Unbalance Measurement at Hanumantal thane ke samne										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
07-03-2014	22:40:00	49.98	7.5	13.3	10.2	2.6	1.7	2.4	55.3	3.4
07-03-2014	22:42:00	49.98	7.5	13.4	10.1	2.5	1.6	2.4	55.7	3.3
07-03-2014	22:44:00	49.97	7.5	13.2	10.2	2.6	1.6	2.4	56.2	3.4
07-03-2014	22:46:00	49.94	7.2	12.9	10.2	2.6	1.7	2.4	57	3.5
07-03-2014	22:48:00	49.99	7.2	12.8	10.2	2.6	1.6	2.4	56.6	3.8
07-03-2014	22:50:00	50.06	7.2	13.1	10.1	2.5	1.6	2.3	55.5	3.7
07-03-2014	22:52:00	50.09	7.1	13.1	10.1	2.5	1.7	2.2	54.9	3.2
07-03-2014	22:54:00	50.09	7	13	10.1	2.5	1.6	2.2	55.2	3.3
07-03-2014	22:56:00	50.01	6.8	12.6	10.1	2.4	1.5	2.2	56.6	3.4
07-03-2014	22:58:00	49.9	6.9	12.9	10.2	2.4	1.5	2.1	55.4	3.3
07-03-2014	23:00:00	49.83	6.6	12.4	10.1	2.4	1.4	2.1	56.7	3.6
07-03-2014	23:02:00	49.82	6.7	12.4	10.1	2.4	1.4	2.2	57	3.7
07-03-2014	23:04:00	49.85	6.7	12.7	10	2.3	1.5	2	56.4	3.6
07-03-2014	23:06:00	49.88	6.7	12.7	10	2.3	1.4	2	56.6	3.6
07-03-2014	23:08:00	49.88	6.5	12.4	10	2.3	1.5	2	56.9	3.4
07-03-2014	23:10:00	49.9	6.5	12.3	10	2.3	1.4	1.9	57	3.7
07-03-2014	23:12:00	49.9	6.6	12.5	9.9	2.2	1.4	1.9	57.1	3.7
07-03-2014	23:14:00	49.89	6.6	12.5	10	2.3	1.4	1.9	56.8	3.6
07-03-2014	23:16:00	49.88	6.5	12.6	10	2.3	1.5	1.9	56.5	3.6
07-03-2014	23:18:00	49.92	6.6	12.7	9.9	2.2	1.5	1.8	56.1	3.5
07-03-2014	23:20:00	49.97	6.4	12.5	9.8	2.2	1.5	1.7	56.6	3.6
07-03-2014	23:22:00	49.99	6.4	12.4	9.9	2.2	1.4	1.7	56.6	3.6
07-03-2014	23:24:00	50.02	6.4	12.4	10	2.2	1.4	1.7	56.4	3.6
07-03-2014	23:26:00	50.05	6.5	12.6	10	2.1	1.4	1.6	56.3	3.7
07-03-2014	23:28:00	50	6.5	12.7	10	2	1.3	1.5	56.3	3.7
07-03-2014	23:30:00	49.95	6.7	12.9	10.1	2.1	1.3	1.6	55.8	3.6
07-03-2014	23:32:00	49.97	6.8	13.2	10	2	1.3	1.6	55.1	3.6

Harmonics & Voltage & Current Unbalance Measurement at Hanumantal thane ke samne										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
07-03-2014	23:34:00	50.03	6.9	13.3	10	2	1.4	1.5	54.7	3.4
07-03-2014	23:36:00	50.09	6.8	13.2	10	2	1.3	1.5	54.9	3.4
07-03-2014	23:38:00	50.09	6.7	13.3	10	2	1.3	1.4	55	3.4
07-03-2014	23:40:00	49.99	6.6	12.9	10.1	2	1.3	1.5	56.4	3.7
07-03-2014	23:42:00	49.97	6.8	13.1	10.1	2	1.3	1.5	55.5	3.5
07-03-2014	23:44:00	49.96	7.2	13.7	10.1	1.9	1.4	1.5	54.2	3.4
07-03-2014	23:46:00	50.03	7.3	13.9	10.1	2	1.4	1.6	54.2	3.4
07-03-2014	23:48:00	50.07	7.2	13.7	10.1	2.1	1.4	1.6	54.9	3.5
07-03-2014	23:50:00	50.05	6.9	13.2	10.1	2.1	1.3	1.6	56.5	3.7
07-03-2014	23:52:00	50.03	7.2	13.7	10.1	2.1	1.3	1.7	55.2	3.6
07-03-2014	23:54:00	50.03	7.4	14	10.1	2.1	1.4	1.7	54.6	3.5
07-03-2014	23:56:00	50.04	7.4	14	10.1	2	1.4	1.7	54.5	3.5
07-03-2014	23:58:00	49.95	7.5	14	10.2	2.1	1.4	1.8	54.6	3.5
08-03-2014	00:00:00	49.88	7.4	13.9	10.2	2.1	1.4	1.8	54.5	3.6
08-03-2014	00:02:00	49.82	7.6	14	10.1	2.1	1.4	1.8	54.4	3.6
08-03-2014	00:04:00	49.76	7.8	14.3	10.2	2.2	1.5	2	54.4	3.5
08-03-2014	00:06:00	49.76	7.9	14.4	10.2	2.2	1.5	2	54.6	3.6
08-03-2014	00:08:00	49.83	7.8	14.3	10.2	2.2	1.5	2	54.6	3.6
08-03-2014	00:10:00	49.85	7.8	14.3	10.2	2.2	1.5	2	54.5	3.6
08-03-2014	00:12:00	49.86	7.9	14.4	10.2	2.2	1.5	2	54.6	3.6
08-03-2014	00:14:00	49.87	7.8	14.3	10.2	2.1	1.4	1.9	54.6	3.6
08-03-2014	00:16:00	49.89	7.8	14.3	10.3	2.2	1.4	2	54.5	3.6
08-03-2014	00:18:00	49.98	7.8	14.3	10.3	2.2	1.4	2	54.4	3.5
08-03-2014	00:20:00	50.02	7.8	14.2	10.3	2.2	1.4	2	54.4	3.6
08-03-2014	00:22:00	49.99	7.9	14.4	10.3	2.2	1.4	2	54.5	3.6
08-03-2014	00:24:00	49.9	8	14.5	10.3	2.2	1.4	2.1	54.5	3.6
08-03-2014	00:26:00	49.89	7.9	14.4	10.3	2.3	1.4	2.1	54.4	3.7
08-03-2014	00:28:00	49.89	8	14.4	10.3	2.3	1.5	2.1	54.3	3.6
08-03-2014	00:30:00	49.91	8.1	14.5	10.4	2.2	1.5	2.1	54.4	3.6

Harmonics & Voltage & Current Unbalance Measurement at Hanumantal thane ke samne										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
08-03-2014	00:32:00	49.91	8	14.4	10.4	2.3	1.5	2.1	54.4	3.6
08-03-2014	00:34:00	49.94	8.1	14.6	10.4	2.3	1.4	2.1	54.3	3.6
08-03-2014	00:36:00	49.94	8.2	14.6	10.4	2.3	1.4	2.2	54.5	3.6
08-03-2014	00:38:00	49.94	8.3	14.7	10.4	2.4	1.5	2.4	54.6	3.6
08-03-2014	00:40:00	49.99	8.6	15	10.4	2.4	1.5	2.5	54.5	3.7
08-03-2014	00:42:00	49.99	8.7	15.1	10.4	2.4	1.5	2.5	54.5	3.6
08-03-2014	00:44:00	49.99	8.7	15.1	10.5	2.5	1.5	2.5	54.5	3.6
08-03-2014	00:46:00	49.99	8.8	15.2	10.6	2.5	1.5	2.6	54.6	3.6
08-03-2014	00:48:00	49.97	8.7	15.1	10.5	2.5	1.4	2.6	54.5	3.6
08-03-2014	00:50:00	49.94	8.8	15.2	10.5	2.5	1.5	2.6	54.2	3.6
08-03-2014	00:52:00	50	8.9	15.3	10.5	2.4	1.5	2.6	54.3	3.6
08-03-2014	00:54:00	50.03	9	15.3	10.5	2.5	1.5	2.7	54.2	3.6
08-03-2014	00:56:00	50.04	8.9	15.3	10.5	2.5	1.5	2.6	54.1	3.6
08-03-2014	00:58:00	50.07	9.1	15.5	10.6	2.5	1.6	2.7	54.1	3.6
08-03-2014	01:00:00	50.04	9.2	15.6	10.5	2.5	1.6	2.8	54.2	3.6
08-03-2014	01:02:00	50	9.2	15.6	10.6	2.5	1.6	2.8	54.2	3.6
08-03-2014	01:04:00	49.93	9.4	15.9	10.6	2.6	1.7	2.9	54.2	3.6
08-03-2014	01:06:00	49.92	9.6	16.1	10.7	2.7	1.7	3.1	54.2	3.6
08-03-2014	01:08:00	49.9	9.6	16.1	10.6	2.7	1.7	3.1	54.1	3.6
08-03-2014	01:10:00	49.86	9.8	16.3	10.6	2.8	1.8	3.2	54.1	3.6
08-03-2014	01:12:00	49.89	9.9	16.4	10.7	2.8	1.8	3.2	54.2	3.6
08-03-2014	01:14:00	49.92	10	16.5	10.7	2.8	1.8	3.3	54.2	3.7
08-03-2014	01:16:00	49.93	10	16.5	10.7	2.8	1.8	3.3	54.2	3.7
08-03-2014	01:18:00	49.92	10.1	16.6	10.7	2.8	1.8	3.3	54.2	3.6
08-03-2014	01:20:00	49.91	10.2	16.7	10.8	2.9	1.8	3.4	54.2	3.6
08-03-2014	01:22:00	49.96	10.2	16.6	10.8	2.9	1.8	3.4	54.2	3.5
08-03-2014	01:24:00	50	10.1	16.5	10.8	2.9	1.8	3.4	54.1	3.5
08-03-2014	01:26:00	50.02	10.1	16.5	10.8	2.9	1.8	3.4	54.1	3.5
08-03-2014	01:28:00	50.01	10.2	16.6	10.8	2.9	1.8	3.5	54.2	3.6

Harmonics & Voltage & Current Unbalance Measurement at Hanumantal thane ke samne										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
08-03-2014	01:30:00	49.98	10.4	16.8	10.8	2.9	1.9	3.5	54.2	3.5
08-03-2014	01:32:00	50.02	10.3	16.7	10.7	2.8	1.9	3.5	54.1	3.5
08-03-2014	01:34:00	50.04	10.4	16.8	10.7	2.8	1.9	3.5	54.2	3.5
08-03-2014	01:36:00	50.02	10.3	16.7	10.7	2.9	1.8	3.4	54.2	3.5
08-03-2014	01:38:00	49.99	10.2	16.7	10.7	2.9	1.8	3.4	54.2	3.5
08-03-2014	01:40:00	49.96	10.6	16.9	10.7	2.9	1.9	3.7	54.2	3.5
08-03-2014	01:42:00	49.94	10.6	17	10.7	3	1.9	3.7	54.3	3.5
08-03-2014	01:44:00	49.91	10.5	16.9	10.8	3	1.9	3.7	54.4	3.5
08-03-2014	01:46:00	49.91	10.6	16.9	10.8	3	1.9	3.7	54.3	3.5
08-03-2014	01:48:00	49.95	10.5	17	10.9	3	1.9	3.7	54.3	3.5
08-03-2014	01:50:00	49.99	10.5	16.9	10.9	3.1	1.9	3.7	54.4	3.6
08-03-2014	01:52:00	50	10.7	17.1	10.9	3.1	1.9	3.7	54.5	3.6
08-03-2014	01:54:00	50.02	10.8	17.1	10.9	3.1	2	3.8	54.4	3.6
08-03-2014	01:56:00	50.05	11	17.4	10.9	3.1	2	3.9	54.5	3.6
08-03-2014	01:58:00	50.06	10.8	17.2	10.8	3	2	3.8	54.5	3.5
08-03-2014	02:00:00	50	11	17.3	10.9	3.1	2	3.9	54.4	3.5
08-03-2014	02:02:00	49.95	10.7	17.1	10.8	3.1	1.9	3.7	54.3	3.5
08-03-2014	02:04:00	49.91	10.8	17.2	10.9	3.1	2	3.8	54.2	3.5
08-03-2014	02:06:00	49.88	10.8	17.2	10.8	3	2	3.8	54.2	3.5
08-03-2014	02:08:00	49.88	10.8	17.2	10.8	3.1	2	3.8	54.3	3.5
08-03-2014	02:10:00	49.86	10.7	17.1	10.8	3	2	3.8	54.4	3.5
08-03-2014	02:12:00	49.85	10.7	17.1	10.8	3	2	3.7	54.3	3.5
08-03-2014	02:14:00	49.91	10.6	16.9	10.8	3	1.9	3.7	54.3	3.6
08-03-2014	02:16:00	49.94	10.7	17.1	10.8	3	2	3.7	54.3	3.6
08-03-2014	02:18:00	49.95	10.6	17	10.8	3	2	3.7	54.4	3.5
08-03-2014	02:20:00	49.97	10.8	17.2	10.8	3	2	3.8	54.4	3.5
08-03-2014	02:22:00	49.98	10.5	16.9	10.8	3	1.8	3.7	54.4	3.5
08-03-2014	02:24:00	50	10.3	16.7	10.7	3	1.8	3.5	54.4	3.5
08-03-2014	02:26:00	49.97	10.4	16.7	10.7	2.9	1.8	3.6	54.3	3.5

Harmonics & Voltage & Current Unbalance Measurement at Hanumantal thane ke samne										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
08-03-2014	02:28:00	49.96	10.4	16.7	10.7	3	1.8	3.6	54.3	3.5
08-03-2014	02:30:00	49.96	10.5	16.9	10.7	3	1.8	3.6	54.2	3.5
08-03-2014	02:32:00	49.96	10.5	16.9	10.7	2.9	1.9	3.6	54.4	3.5
08-03-2014	02:34:00	49.96	10.4	16.9	10.6	2.9	1.8	3.6	54.4	3.5
08-03-2014	02:36:00	49.9	10.3	16.8	10.6	2.9	1.8	3.6	54.3	3.5
08-03-2014	02:38:00	49.86	10.4	16.9	10.7	3	1.9	3.7	54.3	3.5
08-03-2014	02:40:00	49.8	10.7	17.1	10.8	3.1	2	3.8	54.3	3.5
08-03-2014	02:42:00	49.8	10.6	17.1	10.7	3.1	2	3.8	54.2	3.5
08-03-2014	02:44:00	49.84	10.7	17.1	10.8	3.1	2	3.8	54.2	3.5
08-03-2014	02:46:00	49.88	11	17.3	10.8	3.1	2	3.9	54.4	3.5
08-03-2014	02:48:00	49.92	10.8	17.2	10.7	3	2	3.8	54.4	3.5
08-03-2014	02:50:00	49.98	10.6	17	10.7	3	1.9	3.7	54.4	3.6
08-03-2014	02:52:00	50.01	10.6	17	10.7	3	1.9	3.7	54.3	3.6
08-03-2014	02:54:00	49.99	10.8	17.2	10.7	3.1	2	3.8	54.2	3.6
08-03-2014	02:56:00	49.97	11.1	17.5	10.8	3.1	2.1	3.9	54.3	3.6
08-03-2014	02:58:00	49.94	11	17.4	10.7	3.1	2	3.9	54.3	3.6
08-03-2014	03:00:00	49.89	11.1	17.5	10.8	3.2	2	3.9	54.2	3.6
08-03-2014	03:02:00	49.89	11.1	17.5	10.8	3.2	2.1	3.9	54.2	3.6
08-03-2014	03:04:00	49.87	11.1	17.5	10.8	3.2	2	3.9	54.2	3.6
08-03-2014	03:06:00	49.84	11	17.4	10.8	3.2	2	3.9	54.2	3.6
08-03-2014	03:08:00	49.85	10.9	17.3	10.8	3.2	1.9	3.9	54.3	3.6
08-03-2014	03:10:00	49.9	10.8	17.3	10.7	3.1	2	3.8	54.4	3.6
08-03-2014	03:12:00	49.95	10.9	17.3	10.8	3.1	2	3.9	54.4	3.5
08-03-2014	03:14:00	49.98	10.7	17.1	10.8	3.1	1.9	3.8	54.4	3.5
08-03-2014	03:16:00	50.03	10.7	17.1	10.8	3.1	1.9	3.7	54.4	3.5
08-03-2014	03:18:00	50.04	10.9	17.3	10.8	3.1	1.9	3.8	54.3	3.5
08-03-2014	03:20:00	50.07	10.8	17.2	10.8	3.1	1.9	3.8	54.3	3.6
08-03-2014	03:22:00	50.06	10.7	17.1	10.8	3.1	1.9	3.7	54.2	3.6
08-03-2014	03:24:00	50.06	10.9	17.3	10.8	3.1	1.9	3.8	54.2	3.6

Harmonics & Voltage & Current Unbalance Measurement at Hanumantal thane ke samne										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
08-03-2014	03:26:00	50.08	10.9	17.3	10.8	3.1	1.9	3.8	54.3	3.5
08-03-2014	03:28:00	50.03	10.9	17.4	10.8	3.2	2	3.9	54.3	3.5
08-03-2014	03:30:00	49.99	11	17.4	10.8	3.2	2	3.9	54.3	3.5
08-03-2014	03:32:00	49.96	10.9	17.4	10.8	3.2	2	3.8	54.3	3.5
08-03-2014	03:34:00	49.96	11	17.4	10.8	3.2	2	3.9	54.3	3.6
08-03-2014	03:36:00	49.94	10.9	17.4	10.8	3.2	2	3.9	54.4	3.6
08-03-2014	03:38:00	49.97	10.8	17.3	10.8	3.2	2	3.8	54.3	3.6
08-03-2014	03:40:00	50.02	11	17.3	10.8	3.2	1.9	3.9	54.3	3.6
08-03-2014	03:42:00	50	11	17.4	10.8	3.2	2	3.9	54.3	3.5
08-03-2014	03:44:00	49.98	11.2	17.6	10.8	3.2	2.1	4	54.2	3.6
08-03-2014	03:46:00	50.02	11.1	17.6	10.8	3.2	2	3.9	54.3	3.6
08-03-2014	03:48:00	50.02	11	17.5	10.9	3.2	2	3.8	54.3	3.5
08-03-2014	03:50:00	50.02	11.1	17.5	10.9	3.2	2	3.9	54.3	3.5
08-03-2014	03:52:00	50.09	11	17.4	10.9	3.2	1.9	3.9	54.2	3.5
08-03-2014	03:54:00	50.14	10.9	17.4	10.9	3.2	1.9	3.8	54.2	3.5
08-03-2014	03:56:00	50.12	11.2	17.6	10.8	3.2	2	3.9	54.2	3.6
08-03-2014	03:58:00	50.09	11.5	17.9	10.9	3.3	2.1	4.1	54.3	3.5
08-03-2014	04:00:00	50.03	11.5	18	10.9	3.3	2.2	4.1	54.3	3.5
08-03-2014	04:02:00	49.96	11.5	18.1	11	3.4	2.2	4.1	54.4	3.5
08-03-2014	04:04:00	49.93	11.5	18.1	10.9	3.4	2.2	4.1	54.4	3.5
08-03-2014	04:06:00	49.9	11.5	18	10.9	3.4	2.2	4.2	54.3	3.6
08-03-2014	04:08:00	49.89	11.6	18	10.9	3.4	2.2	4.2	54.3	3.6
08-03-2014	04:10:00	49.92	11.5	17.9	10.9	3.4	2.1	4.2	54.3	3.6
08-03-2014	04:12:00	49.93	11.4	17.8	10.9	3.4	2.1	4.1	54.4	3.6
08-03-2014	04:14:00	49.9	11.4	17.9	10.9	3.3	2.1	4.1	54.5	3.6
08-03-2014	04:16:00	49.89	11.2	17.8	10.8	3.2	2.1	4	54.6	3.6
08-03-2014	04:18:00	49.87	11.2	17.7	10.8	3.2	2.1	4	54.5	3.5
08-03-2014	04:20:00	49.88	11.2	17.7	10.8	3.3	2.1	4	54.3	3.6
08-03-2014	04:22:00	49.9	11.3	17.8	10.9	3.2	2.1	4	54.4	3.5

Harmonics & Voltage & Current Unbalance Measurement at Hanumantal thane ke samne										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
08-03-2014	04:24:00	49.92	11.1	17.6	10.9	3.3	2.1	4	54.3	3.5
08-03-2014	04:26:00	49.96	11.1	17.5	10.8	3.2	2.1	4	54.3	3.5
08-03-2014	04:28:00	49.93	11.2	17.8	10.8	3.2	2.1	4	54.3	3.5
08-03-2014	04:30:00	49.87	11.3	17.8	10.8	3.2	2.1	4	54.3	3.5
08-03-2014	04:32:00	49.87	11.3	17.9	10.8	3.2	2.1	4.1	54.2	3.5
08-03-2014	04:34:00	49.84	11.5	18.2	10.8	3.2	2.2	4.2	54.3	3.5
08-03-2014	04:36:00	49.83	11.5	18.2	10.8	3.2	2.2	4.2	54.3	3.5
08-03-2014	04:38:00	49.82	11.3	18	10.8	3.2	2.2	4.1	54.5	3.5
08-03-2014	04:40:00	49.89	11.2	17.8	10.7	3.1	2.1	4	54.5	3.5
08-03-2014	04:42:00	49.91	11.2	17.9	10.8	3.1	2.1	4	54.5	3.5
08-03-2014	04:44:00	49.94	11	17.8	10.7	3.1	2	3.9	54.5	3.5
08-03-2014	04:46:00	49.95	10.9	17.6	10.7	3.1	2	3.9	54.4	3.5
08-03-2014	04:48:00	49.98	10.9	17.6	10.6	3.1	2	3.8	54.5	3.5
08-03-2014	04:50:00	50	11	17.8	10.6	2.9	2.1	3.8	54.6	3.6
08-03-2014	04:52:00	50.06	11	17.7	10.6	2.9	2	3.8	54.4	3.6
08-03-2014	04:54:00	50.17	11	17.7	10.7	3	2.1	3.8	54.4	3.6
08-03-2014	04:56:00	50.21	11.2	18	10.7	3.1	2.1	3.9	54.3	3.6
08-03-2014	04:58:00	50.25	11.2	17.9	10.8	3.1	2.1	3.9	54.4	3.5
08-03-2014	05:00:00	50.21	11.2	17.8	10.9	3.2	2	3.9	54.3	3.4
08-03-2014	05:02:00	50.12	11.4	18	10.9	3.2	2.1	4	54.4	3.4
08-03-2014	05:04:00	50.05	11.5	18.1	10.8	3.2	2.1	4	54.6	3.4
08-03-2014	05:06:00	49.95	11.3	18	10.7	3.1	2.2	4	54.7	3.4
08-03-2014	05:08:00	49.91	11.4	18.1	10.7	3.1	2.1	4.1	54.7	3.4
08-03-2014	05:10:00	49.98	11.4	18.1	10.7	3.2	2.1	4.1	54.8	3.5
08-03-2014	05:12:00	50.07	11.2	17.9	10.7	3.1	2.1	4	54.8	3.4
08-03-2014	05:14:00	50.07	11.3	18	10.7	3	2.1	4	54.7	3.4
08-03-2014	05:16:00	50.02	11.2	17.9	10.7	3	2.1	3.9	54.8	3.4
08-03-2014	05:18:00	49.98	11	17.7	10.7	3	2.1	3.8	54.8	3.4
08-03-2014	05:20:00	49.9	11.2	17.9	10.8	3.1	2.1	3.9	55	3.4

Harmonics & Voltage & Current Unbalance Measurement at Hanumantal thane ke samne										
Date	Time	Frequency	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			Hz	%	%	%	%	%	%	%
08-03-2014	05:22:00	49.88	11.2	17.9	10.8	3.1	2.1	3.9	54.6	3.4
08-03-2014	05:24:00	49.9	11.1	17.8	10.8	3.1	2.1	3.9	54.4	3.4
08-03-2014	05:26:00	49.98	11.1	17.9	10.8	3.1	2.1	3.9	54.4	3.3
08-03-2014	05:28:00	50.04	10.9	17.6	10.8	3	2	3.8	54.5	3.4
08-03-2014	05:30:00	50.06	10.7	17.3	10.8	3	2	3.7	54.4	3.3
08-03-2014	05:32:00	50	10.6	17.3	10.7	2.9	2	3.7	54.3	3.3
08-03-2014	05:34:00	49.9	10.6	17.3	10.7	2.9	2.1	3.7	54	3.4
08-03-2014	05:36:00	49.85	10.4	17.1	10.6	2.9	2	3.6	54	3.4
08-03-2014	05:38:00	49.81	10.5	17.2	10.6	2.9	2	3.7	54	3.4
08-03-2014	05:40:00	49.79	10.6	17.3	10.7	2.9	2	3.7	54.2	3.4
08-03-2014	05:42:00	49.79	10.5	17.2	10.7	3	2	3.7	54	3.3
08-03-2014	05:44:00	49.8	10.5	17.2	10.7	2.9	2	3.6	54.2	3.4
08-03-2014	05:46:00	49.8	10.4	17.1	10.6	2.8	2	3.6	54.2	3.5
08-03-2014	05:48:00	49.86	10.4	17	10.6	2.8	2	3.6	54.3	3.4
08-03-2014	05:50:00	49.82	9.8	16.2	10.5	2.8	1.9	3.4	55.7	3.6
08-03-2014	05:52:00	49.81	9.8	16.1	10.5	2.8	1.9	3.4	56	3.6
08-03-2014	05:54:00	49.91	9.8	16.2	10.5	2.7	1.9	3.4	56	3.6
08-03-2014	05:56:00	49.98	9.7	16	10.5	2.7	1.9	3.3	56	3.7
08-03-2014	05:58:00	49.94	9.7	16.1	10.5	2.7	1.9	3.3	55.9	3.7
08-03-2014	06:00:00	49.87	9.7	16.1	10.4	2.7	1.9	3.3	55.8	3.6
08-03-2014	06:02:00	49.8	9	12.8	7.7	2.2	1.8	2.9	68	2.7

❖ **Observation:**

- Voltage unbalance is there.
- Current unbalance is considerable.
- Average power factor is 0.67.
- Line Voltage total harmonics distortion is there.
- Total Current Harmonics distortion is there.

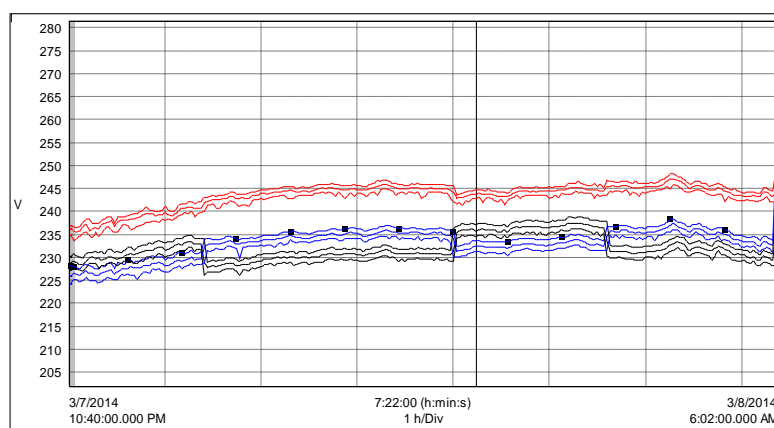
□ **Study of electrical parameters at Hanumantal thane ke samne Switching Point**

1. Phase Voltage

Table: Phase Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
V1 RMS	07-03-2014	22:40:00	232.534	227.9	237.6	V	07:24:00	(h:min:s)
V2 RMS	07-03-2014	22:40:00	243.959	235.7	247.2	V	07:24:00	(h:min:s)
V3 RMS	07-03-2014	22:40:00	233.603	226	238.6	V	07:24:00	(h:min:s)

Graph: Phase Voltage Variation for the Recorded Time



**RMS, Max RMS & Min. RMS
Phase voltage variation**

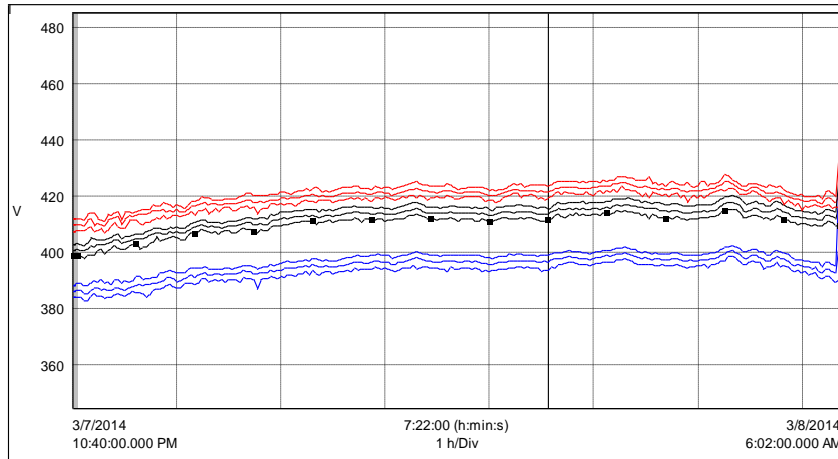
➤ Voltage unbalance is within limit

2. Line Voltage

Table.: Line Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
U1 RMS	07-03-2014	22:40:00	413.19	400.6	419.2	V	07:24:00	(h:min:s)
U2 RMS	07-03-2014	22:40:00	420.655	409.5	425.3	V	07:24:00	(h:min:s)
U3 RMS	07-03-2014	22:40:00	395.921	385.3	407.5	V	07:24:00	(h:min:s)

Graph : Line Voltage Variation for the Recorded Time



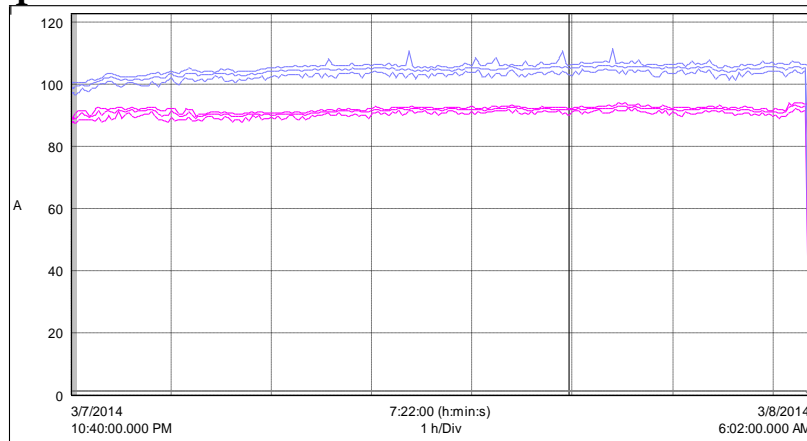
**RMS, Max RMS & Min. RMS
Line voltage variation**

3. Current

Table : Current

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 RMS	07-03-2014	22:40:00	1.565	1.15	1.6	A	07:24:00	(h:min:s)
A2 RMS	07-03-2014	22:40:00	91.563	74.56	93.22	A	07:24:00	(h:min:s)
A3 RMS	07-03-2014	22:40:00	104.371	60.15	106.1	A	07:24:00	(h:min:s)

Graph : Line Current Variation for recorded time



**RMS, Max RMS & Min. RMS
Current variation**

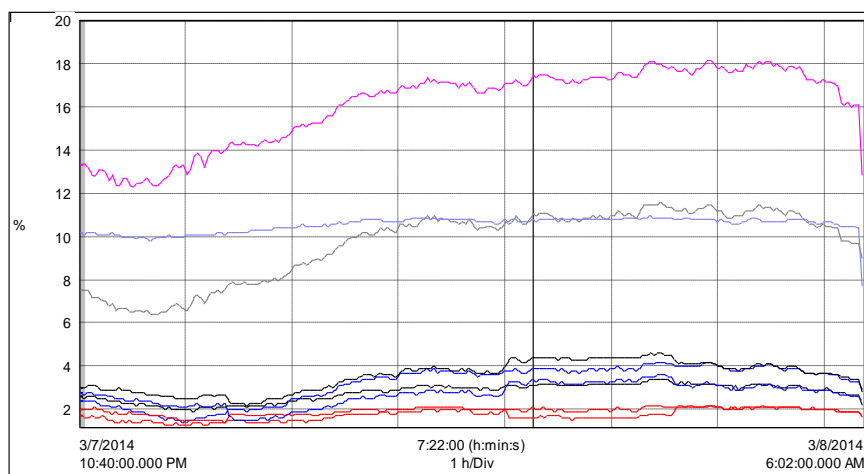
➤ Current unbalance is considerable.

4. Total harmonic Distortion (THD).

Table .: THD

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 THD	07-03-2014	22:40:00	9.707	6.4	11.6	%	07:24:00	(h:min:s)
A2 THD	07-03-2014	22:40:00	16.114	12.3	18.2	%	07:24:00	(h:min:s)
A3 THD	07-03-2014	22:40:00	10.564	7.7	11	%	07:24:00	(h:min:s)
U1 THD	07-03-2014	22:40:00	2.796	1.9	3.4	%	07:24:00	(h:min:s)
U2 THD	07-03-2014	22:40:00	1.81	1.3	2.2	%	07:24:00	(h:min:s)
U3 THD	07-03-2014	22:40:00	3.204	1.4	4.2	%	07:24:00	(h:min:s)
V1 THD	07-03-2014	22:40:00	3.563	2.2	4.6	%	07:24:00	(h:min:s)
V2 THD	07-03-2014	22:40:00	1.851	1.4	2.2	%	07:24:00	(h:min:s)
V3 THD	07-03-2014	22:40:00	2.708	1.5	3.6	%	07:24:00	(h:min:s)

Graph : THD



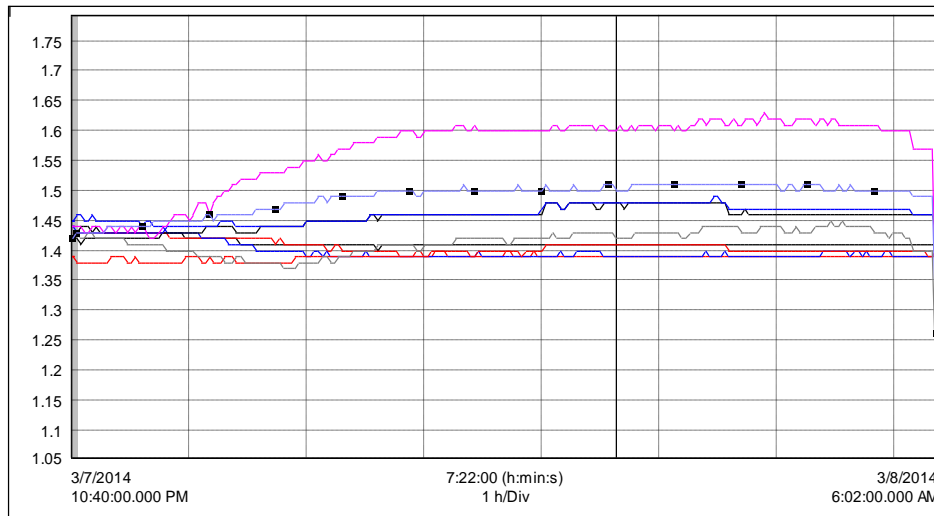
**Variation of current, Phase Voltage, Line Voltage
Total Harmonic Distortion**

5. Crest Factor

Table : Crest Factor

Name	Date	Time	Avg	Min	Max	Duration	Unit
A1 CF	07-03-2014	40:00.0	1.414	1.17	1.45	07:24:00	(h:min:s)
A2 CF	07-03-2014	40:00.0	1.565	1.27	1.63	07:24:00	(h:min:s)
A3 CF	07-03-2014	40:00.0	1.487	1.26	1.51	07:24:00	(h:min:s)
U1 CF	07-03-2014	40:00.0	1.413	1.4	1.44	07:24:00	(h:min:s)
U2 CF	07-03-2014	40:00.0	1.401	1.39	1.43	07:24:00	(h:min:s)
U3 CF	07-03-2014	40:00.0	1.401	1.39	1.46	07:24:00	(h:min:s)
V1 CF	07-03-2014	40:00.0	1.455	1.41	1.48	07:24:00	(h:min:s)
V2 CF	07-03-2014	40:00.0	1.396	1.38	1.41	07:24:00	(h:min:s)
V3 CF	07-03-2014	40:00.0	1.459	1.43	1.49	07:24:00	(h:min:s)

Graph : Crest Factor



Variation of Crest Factor

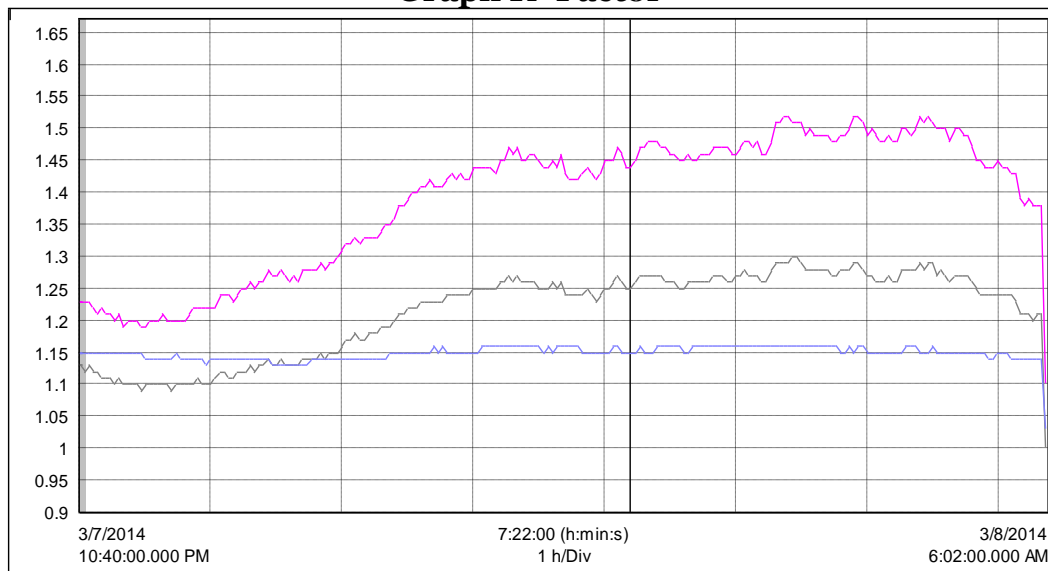
➤ Crest factor is above 1.41 hence there is some degree of impacting

6. K Factor

Table : K- Factor

Name	Date	Time	RMS	Min	Max	Duration	Unit
KF1	07-03-2014	40:00.0	1.214	1	1.3	07:24:00	(h:min:s)
KF2	07-03-2014	40:00.0	1.389	1.1	1.52	07:24:00	(h:min:s)
KF3	07-03-2014	40:00.0	1.149	1.03	1.16	07:24:00	(h:min:s)

Graph K- Factor



Variation of K Factor

- K-factor is from 1.1 to 1.6 K-factor above 1 indicates a non-linear load & presence of harmonics.

Study of Power Parameter and Harmonics at Bhawani Chowk Point

Data logging is carried out for different power parameters like voltage, current, PF, kW, Current unbalance, Voltage unbalance, THD, etc. and tabulated as under

Measurement of Power Parameters at Bhawani Chowk Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
08-03-2014	23:00:00	50.05	419.6	421.4	414.6	27.49	54.14	38.76	6.45	12.98	9.11	28.54	0.98
08-03-2014	23:02:00	50	419.4	421.2	414.3	27.49	54.38	38.74	6.45	13.02	9.11	28.57	0.98
08-03-2014	23:04:00	49.99	419.7	421.4	414.5	27.25	54.27	38.73	6.39	13.00	9.10	28.49	0.98
08-03-2014	23:06:00	49.95	419.6	421.2	414.4	27.51	54.48	38.69	6.46	13.03	9.10	28.59	0.98
08-03-2014	23:08:00	49.95	419.4	421.3	414.4	27.63	54.09	38.65	6.47	12.88	9.18	28.53	0.98
08-03-2014	23:10:00	49.95	419.6	421.5	414.7	27.5	54.53	38.72	6.42	12.89	9.32	28.63	0.98
08-03-2014	23:12:00	49.96	419.7	421.6	415	27.51	54.5	38.86	6.43	12.88	9.36	28.67	0.98
08-03-2014	23:14:00	49.99	420.1	421.9	415.1	27.54	54.2	39.13	6.44	12.83	9.43	28.70	0.98
08-03-2014	23:16:00	50.05	420.8	422.7	415.4	27.7	54.19	39.13	6.48	12.85	9.44	28.78	0.98
08-03-2014	23:18:00	50.06	421.2	423.2	415.9	27.75	54.07	39.19	6.50	12.84	9.47	28.81	0.98
08-03-2014	23:20:00	50.04	421.3	423.1	416.2	27.7	54.43	39.24	6.49	12.92	9.48	28.90	0.98
08-03-2014	23:22:00	50.03	421.3	423.1	416.7	27.73	54.33	39.08	6.51	12.88	9.45	28.84	0.98
08-03-2014	23:24:00	49.99	421.1	423.1	416.6	27.81	54.02	38.93	6.52	12.81	9.43	28.76	0.98
08-03-2014	23:26:00	49.91	421.1	423	416.3	27.9	53.93	38.72	6.54	12.79	9.40	28.73	0.98
08-03-2014	23:28:00	49.89	421.2	422.9	416.1	27.82	54.34	38.94	6.52	12.88	9.45	28.85	0.98
08-03-2014	23:30:00	49.89	421.2	422.7	416.3	27.75	54.38	38.98	6.50	12.88	9.46	28.84	0.98
08-03-2014	23:32:00	49.92	421.3	422.8	416.4	27.69	54.62	39.04	6.50	12.94	9.47	28.91	0.98
08-03-2014	23:34:00	49.95	421.5	423.1	416.6	27.76	54.74	39	6.52	12.98	9.47	28.97	0.98
08-03-2014	23:36:00	49.98	421.7	423.5	416.9	27.72	54.58	38.93	6.51	12.95	9.46	28.91	0.98
08-03-2014	23:38:00	50.04	422.5	424.2	417.3	27.65	54.86	38.94	6.50	13.04	9.47	29.01	0.98
08-03-2014	23:40:00	50.07	423.2	424.4	417.4	27.65	54.54	38.94	6.51	12.98	9.47	28.96	0.98
08-03-2014	23:42:00	50.11	423.6	425.2	418.2	27.82	54.65	38.97	6.56	13.02	9.50	29.08	0.98
08-03-2014	23:44:00	50.1	423.9	425.4	418.7	27.8	54.36	39.08	6.56	12.96	9.54	29.05	0.98
08-03-2014	23:46:00	50.05	424.1	425.3	418.7	27.87	54.74	39.15	6.57	13.05	9.55	29.17	0.98
08-03-2014	23:48:00	50.05	423.9	425.3	418.7	27.87	54.65	39.1	6.57	13.03	9.53	29.13	0.98

Measurement of Power Parameters at Bhawani Chowk Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
08-03-2014	23:50:00	50.05	424.2	425.4	418.9	27.88	54.85	39.12	6.58	13.07	9.55	29.20	0.98
08-03-2014	23:52:00	50.04	424.2	425.7	419	27.85	54.79	39.13	6.57	13.06	9.55	29.18	0.98
08-03-2014	23:54:00	50.06	424.5	426	419.1	27.89	54.82	39.1	6.59	13.08	9.55	29.22	0.98
08-03-2014	23:56:00	50.01	424.2	425.5	418.9	27.94	54.9	39.17	6.59	13.08	9.56	29.23	0.98
08-03-2014	23:58:00	49.95	424	425.3	418.7	27.94	54.87	39.24	6.59	13.07	9.57	29.23	0.98
09-03-2014	00:00:00	49.88	423.6	424.8	418	27.97	54.71	39.24	6.59	13.02	9.56	29.16	0.98
09-03-2014	00:02:00	49.85	423.3	424.5	417.8	27.87	54.5	39.27	6.57	12.96	9.56	29.08	0.98
09-03-2014	00:04:00	49.86	423.3	424.8	418.1	27.96	54.78	39.24	6.59	13.02	9.56	29.17	0.98
09-03-2014	00:06:00	49.88	423.7	425.1	418.2	27.98	54.66	39.24	6.60	13.00	9.57	29.17	0.98
09-03-2014	00:08:00	49.91	423.6	425.3	418.5	28.04	54.89	39.11	6.61	13.06	9.54	29.21	0.98
09-03-2014	00:10:00	49.93	424.1	425.6	418.8	28.05	54.78	39.2	6.62	13.04	9.57	29.23	0.98
09-03-2014	00:12:00	49.92	424.1	425.4	418.6	28	54.92	39.3	6.61	13.08	9.58	29.27	0.98
09-03-2014	00:14:00	49.9	423.8	425.4	418.5	27.96	54.81	39.24	6.59	13.05	9.57	29.22	0.98
09-03-2014	00:16:00	49.83	423.6	424.9	418.2	28.05	55.01	39.25	6.61	13.09	9.56	29.26	0.98
09-03-2014	00:18:00	49.78	423.4	424.7	418.1	28.02	54.57	39.35	6.60	12.98	9.59	29.16	0.98
09-03-2014	00:20:00	49.72	423.1	424.4	418.1	27.97	54.86	39.46	6.59	13.03	9.61	29.23	0.98
09-03-2014	00:22:00	49.75	423.3	424.6	418.4	28.04	55.04	39.48	6.61	13.08	9.62	29.31	0.98
09-03-2014	00:24:00	49.79	423.8	425	418.7	28.06	54.9	39.47	6.62	13.05	9.63	29.30	0.98
09-03-2014	00:26:00	49.79	424.3	425.5	418.8	28.12	55.22	39.45	6.64	13.15	9.62	29.41	0.98
09-03-2014	00:28:00	49.76	424.2	425.2	418.8	28.05	55.07	39.49	6.62	13.11	9.63	29.36	0.98
09-03-2014	00:30:00	49.75	423.8	425.2	418.7	28.08	55.29	39.48	6.62	13.16	9.63	29.41	0.98
09-03-2014	00:32:00	49.74	424	425.3	418.6	28.13	54.88	39.48	6.64	13.06	9.63	29.32	0.98
09-03-2014	00:34:00	49.73	423.9	425.3	418.3	28.14	55	39.46	6.63	13.10	9.62	29.34	0.98
09-03-2014	00:36:00	49.76	424	425.4	418.6	28.16	54.79	39.51	6.64	13.05	9.64	29.32	0.98
09-03-2014	00:38:00	49.74	424	425.5	418.6	28.23	54.98	39.46	6.65	13.10	9.63	29.38	0.98
09-03-2014	00:40:00	49.76	424.3	425.7	418.8	28.25	54.83	39.48	6.66	13.08	9.63	29.38	0.98
09-03-2014	00:42:00	49.8	424.5	426.1	419.1	28.28	54.99	39.53	6.68	13.13	9.66	29.47	0.98
09-03-2014	00:44:00	49.83	424.9	426.1	419.4	28.26	55.04	39.49	6.68	13.15	9.65	29.48	0.98
09-03-2014	00:46:00	49.87	425	426.3	419.5	28.25	54.93	39.44	6.68	13.11	9.64	29.43	0.98
09-03-2014	00:48:00	49.9	425.3	426.5	419.8	28.19	55.17	39.41	6.67	13.18	9.64	29.49	0.98

Measurement of Power Parameters at Bhawani Chowk Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
09-03-2014	00:50:00	49.91	425.1	426.8	420.2	28.08	55.29	39.45	6.64	13.21	9.66	29.52	0.98
09-03-2014	00:52:00	49.9	425.4	427	420.3	28.14	55.47	39.44	6.66	13.26	9.66	29.58	0.98
09-03-2014	00:54:00	49.9	425.6	427	420.6	28.17	55.42	39.47	6.67	13.28	9.65	29.60	0.98
09-03-2014	00:56:00	49.88	425.6	426.8	420.4	28.21	55.43	39.48	6.71	13.43	9.46	29.60	0.98
09-03-2014	00:58:00	49.85	425.4	426.8	420	28.23	54.9	39.49	6.72	13.30	9.45	29.46	0.98
09-03-2014	01:00:00	49.83	425.3	426.7	420	28.21	55.3	39.5	6.71	13.40	9.45	29.56	0.98
09-03-2014	01:02:00	49.84	425.1	426.9	420	28.22	55.2	39.4	6.71	13.37	9.43	29.51	0.98
09-03-2014	01:04:00	49.85	425.3	426.7	420.1	28.24	55.23	39.43	6.72	13.38	9.43	29.53	0.98
09-03-2014	01:06:00	49.89	425.5	426.9	420.5	28.18	55.07	39.55	6.71	13.34	9.47	29.53	0.98
09-03-2014	01:08:00	49.87	425.5	426.6	420.1	28.24	55.09	39.6	6.72	13.35	9.47	29.54	0.98
09-03-2014	01:10:00	49.94	426.2	427.2	420.9	28.33	54.93	39.62	6.76	13.32	9.49	29.58	0.98
09-03-2014	01:12:00	49.97	426.4	427.4	421	28.25	55.23	39.68	6.75	13.40	9.51	29.66	0.98
09-03-2014	01:14:00	50	426.9	427.6	421.2	28.19	55.01	39.69	6.74	13.36	9.52	29.62	0.98
09-03-2014	01:16:00	49.98	427.1	427.9	421.5	28.21	55.28	39.74	6.74	13.44	9.54	29.72	0.98
09-03-2014	01:18:00	49.96	426.6	427.9	421.3	28.25	55.39	39.66	6.75	13.45	9.52	29.71	0.98
09-03-2014	01:20:00	49.96	426.8	428	421.3	28.3	55.67	39.66	6.76	13.52	9.52	29.80	0.98
09-03-2014	01:22:00	49.98	427.1	428.3	421.6	28.27	55.6	39.71	6.76	13.52	9.53	29.81	0.98
09-03-2014	01:24:00	50.02	427.3	428.5	421.8	28.25	55.68	39.7	6.76	13.55	9.53	29.84	0.98
09-03-2014	01:26:00	50.02	427.5	428.5	421.7	28.35	55.48	39.71	6.79	13.50	9.53	29.82	0.98
09-03-2014	01:28:00	49.96	427.3	428.1	421.2	28.39	55.52	39.73	6.79	13.51	9.53	29.82	0.98
09-03-2014	01:30:00	49.94	427.2	427.9	421.3	28.35	55.51	39.75	6.78	13.50	9.53	29.81	0.98
09-03-2014	01:32:00	49.96	427.3	428.2	421.6	28.31	55.48	39.77	6.77	13.49	9.54	29.81	0.98
09-03-2014	01:34:00	50.03	427.7	428.6	422.1	28.34	55.41	39.76	6.79	13.48	9.56	29.83	0.98
09-03-2014	01:36:00	50	427.4	428.6	421.8	28.29	55.61	39.76	6.77	13.53	9.55	29.85	0.98
09-03-2014	01:38:00	49.99	427.2	428.5	421.6	28.3	55.75	39.73	6.77	13.57	9.54	29.87	0.98
09-03-2014	01:40:00	50	427.3	428.6	421.8	28.3	55.54	39.71	6.77	13.51	9.53	29.82	0.98
09-03-2014	01:42:00	49.98	427.3	428.4	421.6	28.29	55.6	39.72	6.77	13.53	9.53	29.83	0.98
09-03-2014	01:44:00	49.92	427.1	428.4	421.4	28.31	55.49	39.77	6.77	13.50	9.54	29.81	0.98
09-03-2014	01:46:00	49.91	427.1	428.1	421.2	28.34	55.75	39.77	6.78	13.55	9.54	29.87	0.98
09-03-2014	01:48:00	49.95	427.3	428.3	421.5	28.42	55.63	39.8	6.81	13.52	9.55	29.88	0.98

Measurement of Power Parameters at Bhawani Chowk Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
09-03-2014	01:50:00	49.95	427.3	428	421.5	28.36	55.65	39.85	6.79	13.52	9.56	29.88	0.98
09-03-2014	01:52:00	49.97	427.3	428.2	421.6	28.26	55.53	39.81	6.76	13.50	9.56	29.82	0.98
09-03-2014	01:54:00	49.98	427.3	428.3	421.6	28.31	55.68	39.83	6.78	13.54	9.56	29.88	0.98
09-03-2014	01:56:00	50.01	427.6	428.5	421.8	28.42	55.47	39.81	6.81	13.49	9.56	29.86	0.98
09-03-2014	01:58:00	50	427.4	428.3	421.6	28.46	55.54	39.76	6.81	13.51	9.54	29.86	0.98
09-03-2014	02:00:00	49.96	427.6	428.3	421.4	28.47	55.39	39.81	6.82	13.48	9.55	29.85	0.98
09-03-2014	02:02:00	49.94	427.4	428.2	421.1	28.44	55.62	39.79	6.80	13.54	9.54	29.88	0.98
09-03-2014	02:04:00	49.93	427.1	428.1	421.1	28.39	55.66	39.79	6.79	13.54	9.54	29.87	0.98
09-03-2014	02:06:00	49.94	427.3	428.2	421.1	28.43	55.82	39.81	6.80	13.58	9.55	29.93	0.98
09-03-2014	02:08:00	49.91	427.3	428.1	421.1	28.34	55.38	39.78	6.77	13.48	9.54	29.79	0.98
09-03-2014	02:10:00	49.95	427.6	428.4	421.5	28.3	55.35	39.83	6.77	13.47	9.56	29.81	0.98
09-03-2014	02:12:00	50.02	427.9	428.7	421.6	28.26	55.19	39.76	6.77	13.45	9.55	29.76	0.98
09-03-2014	02:14:00	50.03	427.8	428.9	421.7	28.29	55.44	39.77	6.78	13.51	9.56	29.84	0.98
09-03-2014	02:16:00	50.02	427.7	429.1	422.1	28.29	55.49	39.78	6.78	13.52	9.57	29.87	0.98
09-03-2014	02:18:00	50.02	427.8	429.2	422.2	28.32	55.58	39.83	6.78	13.55	9.58	29.91	0.98
09-03-2014	02:20:00	49.99	428	429.4	422.3	28.47	55.7	39.83	6.83	13.58	9.58	29.99	0.98
09-03-2014	02:22:00	50.03	428.3	429.7	422.8	28.38	55.95	39.83	6.81	13.65	9.59	30.06	0.98
09-03-2014	02:24:00	50.06	428.5	430	422.9	28.43	55.92	39.92	6.82	13.65	9.62	30.10	0.98
09-03-2014	02:26:00	50.07	428.7	430	423	28.46	55.63	39.98	6.83	13.58	9.64	30.06	0.98
09-03-2014	02:28:00	50.07	428.9	429.9	422.9	28.51	55.67	39.93	6.85	13.60	9.62	30.07	0.98
09-03-2014	02:30:00	49.99	428.6	429.7	422.6	28.51	55.49	39.95	6.84	13.55	9.62	30.00	0.98
09-03-2014	02:32:00	49.94	428.4	429.2	422.5	28.52	55.76	39.96	6.84	13.60	9.61	30.06	0.98
09-03-2014	02:34:00	49.94	428.1	429.2	422.4	28.46	55.73	39.91	6.82	13.59	9.60	30.02	0.98
09-03-2014	02:36:00	49.94	427.9	429	422.3	28.5	55.77	39.87	6.83	13.59	9.59	30.01	0.98
09-03-2014	02:38:00	49.93	428	428.9	422.5	28.5	55.56	39.96	6.83	13.53	9.61	29.98	0.98
09-03-2014	02:40:00	49.97	428.4	429.3	422.7	28.51	55.78	39.99	6.84	13.61	9.62	30.07	0.98
09-03-2014	02:42:00	49.96	428.3	429	422.4	28.49	55.45	40	6.83	13.52	9.62	29.97	0.98
09-03-2014	02:44:00	49.97	428	429	422.4	28.52	55.9	39.98	6.83	13.63	9.62	30.08	0.98
09-03-2014	02:46:00	49.97	428.1	429.6	422.7	28.61	55.67	39.93	6.85	13.58	9.62	30.06	0.98
09-03-2014	02:48:00	49.98	428.4	429.5	422.7	28.62	55.8	39.94	6.86	13.62	9.62	30.10	0.98

Measurement of Power Parameters at Bhawani Chowk Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
09-03-2014	02:50:00	50	428.6	429.6	422.9	28.55	55.63	39.98	6.85	13.58	9.63	30.06	0.98
09-03-2014	02:52:00	50.04	429	429.9	423	28.55	55.8	39.96	6.86	13.63	9.63	30.12	0.98
09-03-2014	02:54:00	50.06	429.2	430.2	423.3	28.56	55.79	40	6.86	13.64	9.65	30.15	0.98
09-03-2014	02:56:00	50.1	429.4	430.5	423.8	28.53	56.03	40.01	6.86	13.71	9.66	30.23	0.98
09-03-2014	02:58:00	50.07	429.1	430.4	423.5	28.57	55.8	40	6.86	13.64	9.66	30.16	0.98
09-03-2014	03:00:00	49.97	428.5	429.8	423	28.58	55.83	40.07	6.86	13.63	9.66	30.15	0.98
09-03-2014	03:02:00	49.92	428.2	429.3	422.6	28.76	55.7	40.07	6.90	13.58	9.65	30.12	0.98
09-03-2014	03:04:00	49.91	427.8	429	421.8	28.75	55.51	39.84	6.89	13.52	9.58	29.99	0.98
09-03-2014	03:06:00	49.93	427.9	429.2	422	28.74	55.74	39.91	6.88	13.59	9.60	30.07	0.98
09-03-2014	03:08:00	49.9	427.6	428.6	422	28.72	55.52	40.04	6.87	13.52	9.63	30.02	0.98
09-03-2014	03:10:00	49.95	427.8	429	422.3	28.73	55.61	39.99	6.88	13.54	9.62	30.05	0.98
09-03-2014	03:12:00	49.99	428	429.2	422.6	28.7	55.37	40.01	6.88	13.50	9.63	30.01	0.98
09-03-2014	03:14:00	50	428.1	429.4	422.5	28.7	55.62	39.98	6.88	13.57	9.62	30.07	0.98
09-03-2014	03:16:00	49.99	428.3	429.5	422.3	28.7	55.44	40.02	6.88	13.53	9.63	30.04	0.98
09-03-2014	03:18:00	49.98	428.6	429.5	422.5	28.73	55.61	40.07	6.89	13.58	9.65	30.11	0.98
09-03-2014	03:20:00	49.98	428.4	429.5	422.5	28.74	55.39	40.04	6.89	13.51	9.64	30.05	0.98
09-03-2014	03:22:00	49.96	428.4	429.5	422.6	28.75	55.61	40.05	6.90	13.57	9.64	30.11	0.98
09-03-2014	03:24:00	49.94	428.3	429.5	422.6	28.76	55.61	40.05	6.90	13.57	9.64	30.11	0.98
09-03-2014	03:26:00	49.92	428.1	429.5	422.4	28.72	55.49	40	6.88	13.54	9.63	30.05	0.98
09-03-2014	03:28:00	49.9	427.9	429.2	422.2	28.72	55.6	40.01	6.88	13.55	9.64	30.07	0.98
09-03-2014	03:30:00	49.88	427.6	428.7	421.9	28.76	55.5	39.9	6.89	13.51	9.60	30.00	0.98
09-03-2014	03:32:00	49.85	427.4	428.5	421.7	28.75	55.74	39.84	6.88	13.57	9.58	30.03	0.98
09-03-2014	03:34:00	49.86	427.3	428.4	421.5	28.72	55.44	39.82	6.87	13.49	9.57	29.94	0.98
09-03-2014	03:36:00	49.87	427.6	428.5	421.5	28.7	55.61	39.83	6.87	13.54	9.57	29.98	0.98
09-03-2014	03:38:00	49.87	427.5	428.7	421.8	28.8	55.34	39.93	6.89	13.47	9.61	29.97	0.98
09-03-2014	03:40:00	49.87	427.4	428.5	421.7	28.74	55.71	39.92	6.87	13.56	9.60	30.04	0.98
09-03-2014	03:42:00	49.89	427.3	428.6	421.9	28.77	55.45	39.83	6.88	13.50	9.59	29.96	0.98
09-03-2014	03:44:00	49.89	427.1	428.4	422	28.68	55.76	39.84	6.86	13.57	9.59	30.01	0.98
09-03-2014	03:46:00	49.89	427.3	428.5	421.6	28.61	55.57	39.79	6.84	13.53	9.57	29.93	0.98
09-03-2014	03:48:00	49.95	427.8	428.8	421.9	28.56	55.76	39.82	6.83	13.59	9.58	30.01	0.98

DPR Report for Energy Audit of Jabalpur City Street Lighting System

Measurement of Power Parameters at Bhawani Chowk Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
09-03-2014	03:50:00	49.95	427.7	428.9	422.2	28.79	55.38	39.91	6.90	13.50	9.62	30.01	0.98
09-03-2014	03:52:00	49.92	427.7	428.8	422.1	28.81	55.3	39.92	6.90	13.47	9.61	29.98	0.98
09-03-2014	03:54:00	49.92	427.8	429	422.2	28.8	55.26	39.95	6.90	13.46	9.62	29.98	0.98
09-03-2014	03:56:00	49.95	428.1	429.2	422.6	28.76	55.46	40	6.89	13.52	9.64	30.06	0.98
09-03-2014	03:58:00	49.94	428.1	429	422.4	28.79	55.33	39.99	6.90	13.49	9.64	30.03	0.98
09-03-2014	04:00:00	49.88	427.7	428.8	422.1	28.77	55.15	39.97	6.89	13.44	9.63	29.96	0.98
09-03-2014	04:02:00	49.87	427.5	428.9	422.3	28.69	55.47	39.96	6.87	13.52	9.63	30.02	0.98
09-03-2014	04:04:00	49.89	427.6	428.8	422.2	28.67	55.4	39.98	6.87	13.50	9.63	29.99	0.98
09-03-2014	04:06:00	49.91	427.9	428.7	422.1	28.6	55.49	40	6.85	13.53	9.63	30.01	0.98
09-03-2014	04:08:00	49.87	427.5	428.3	421.9	28.65	55.51	40.01	6.86	13.51	9.62	30.00	0.98
09-03-2014	04:10:00	49.88	427.4	428.4	421.9	28.45	55.8	40.01	6.81	13.59	9.63	30.03	0.98
09-03-2014	04:12:00	49.86	427.3	428.1	421.8	28.39	55.73	40.01	6.80	13.57	9.62	29.99	0.98
09-03-2014	04:14:00	49.82	427	428	421.4	28.41	55.9	39.98	6.80	13.60	9.61	30.01	0.98
09-03-2014	04:16:00	49.8	427.1	427.8	421.1	28.45	55.33	39.99	6.80	13.47	9.60	29.87	0.98
09-03-2014	04:18:00	49.78	426.7	427.5	420.9	28.43	55.68	39.97	6.80	13.54	9.59	29.93	0.98
09-03-2014	04:20:00	49.76	426.7	427.3	421.1	28.45	55.59	40.08	6.81	13.51	9.62	29.94	0.98
09-03-2014	04:22:00	49.75	426.6	426.7	420.6	28.39	55.31	40.12	6.79	13.43	9.61	29.83	0.98
09-03-2014	04:24:00	49.77	426.9	426.9	420.7	28.34	55.37	40.07	6.78	13.45	9.60	29.83	0.98
09-03-2014	04:26:00	49.86	427.2	427.5	421.2	28.45	54.95	40.02	6.81	13.37	9.61	29.78	0.98
09-03-2014	04:28:00	49.93	427.6	428.2	421.3	28.56	55.12	40.03	6.84	13.43	9.62	29.88	0.98
09-03-2014	04:30:00	49.95	427.6	428.1	421.2	28.52	54.83	39.99	6.83	13.35	9.61	29.79	0.98
09-03-2014	04:32:00	49.94	427.3	427.9	421.3	28.54	55.11	39.95	6.83	13.40	9.60	29.83	0.98
09-03-2014	04:34:00	49.89	426.9	427.6	420.9	28.46	54.81	39.98	6.80	13.32	9.60	29.72	0.98
09-03-2014	04:36:00	49.87	426.8	427.5	420.6	28.36	55.01	40	6.77	13.38	9.60	29.75	0.98
09-03-2014	04:38:00	49.92	426.9	427.7	420.7	28.3	54.74	39.97	6.76	13.33	9.60	29.68	0.98
09-03-2014	04:40:00	49.98	427.1	428	420.9	28.09	55.14	39.9	6.71	13.44	9.58	29.73	0.98
09-03-2014	04:42:00	50	427.4	428	421	28.17	54.94	39.89	6.74	13.38	9.58	29.70	0.98
09-03-2014	04:44:00	49.97	427.2	427.9	420.8	28.23	55.31	39.93	6.75	13.47	9.59	29.81	0.98
09-03-2014	04:46:00	49.87	426.6	427.4	420.4	28.21	55.52	39.92	6.74	13.51	9.57	29.82	0.98
09-03-2014	04:48:00	49.83	426.5	427.1	420	28.24	55.62	39.84	6.74	13.53	9.55	29.82	0.98

Measurement of Power Parameters at Bhawani Chowk Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
09-03-2014	04:50:00	49.8	426.4	427.2	420	28.17	55.43	39.98	6.72	13.48	9.58	29.79	0.98
09-03-2014	04:52:00	49.83	426.6	427.5	420.4	28.23	55.52	40	6.74	13.51	9.60	29.85	0.98
09-03-2014	04:54:00	49.92	427.2	427.9	420.8	28.1	55.48	39.92	6.72	13.53	9.58	29.83	0.98
09-03-2014	04:56:00	50	427.8	428.4	421.7	28.11	55.61	39.81	6.74	13.57	9.58	29.88	0.98
09-03-2014	04:58:00	49.99	427.3	428.5	421.5	28.1	55.45	39.78	6.72	13.53	9.57	29.82	0.98
09-03-2014	05:00:00	49.93	426.8	427.9	420.9	28.07	55.2	39.81	6.71	13.45	9.56	29.72	0.98
09-03-2014	05:02:00	49.86	426.3	427.5	420.6	28.07	55.59	39.75	6.70	13.53	9.54	29.78	0.98
09-03-2014	05:04:00	49.83	425.9	427.1	420.4	28.08	55.31	39.79	6.70	13.44	9.55	29.69	0.98
09-03-2014	05:06:00	49.83	425.8	426.9	420	28.2	55.41	39.69	6.71	13.47	9.52	29.70	0.98
09-03-2014	05:08:00	49.85	426	427.2	420.2	28.29	55.16	39.75	6.74	13.42	9.54	29.69	0.98
09-03-2014	05:10:00	49.98	427	428.3	421.2	28.25	55.55	39.75	6.75	13.55	9.56	29.86	0.98
09-03-2014	05:12:00	50.02	427.3	428.4	421.5	28.32	55.27	39.71	6.77	13.48	9.56	29.81	0.98
09-03-2014	05:14:00	50	426.8	428	421	28.26	55.36	39.64	6.74	13.49	9.53	29.76	0.98
09-03-2014	05:16:00	49.94	426.1	427.6	420.6	28.31	55.17	39.63	6.74	13.43	9.52	29.69	0.98
09-03-2014	05:18:00	49.86	425.9	427	420	28.39	55.22	39.72	6.75	13.43	9.52	29.71	0.98
09-03-2014	05:20:00	49.82	425.6	426.5	419.6	28.39	54.95	39.67	6.75	13.35	9.50	29.59	0.98
09-03-2014	05:22:00	49.82	425.2	426.2	419.4	28.41	55.12	39.34	6.75	13.37	9.40	29.52	0.98
09-03-2014	05:24:00	49.9	425.5	426.5	419.7	28.32	54.92	38.14	6.74	13.33	9.07	29.14	0.98
09-03-2014	05:26:00	50.02	426.2	427.3	420.8	28.05	55.56	38.03	6.69	13.51	9.07	29.26	0.98
09-03-2014	05:28:00	49.98	425.6	426.7	420.4	27.98	55.8	38.09	6.66	13.55	9.07	29.29	0.98
09-03-2014	05:30:00	49.94	425.3	426.4	420.2	27.78	55.81	38.2	6.61	13.55	9.09	29.25	0.98
09-03-2014	05:32:00	49.93	425.4	426.4	419.9	27.8	55.78	39.42	6.61	13.55	9.44	29.61	0.98
09-03-2014	05:34:00	49.92	425	425.9	419.5	27.92	54.74	39.34	6.63	13.27	9.41	29.32	0.98
09-03-2014	05:36:00	49.87	423.9	425.3	418.9	27.95	54.94	38.48	6.62	13.29	9.16	29.07	0.98
09-03-2014	05:38:00	49.85	423.6	424.7	418.5	27.94	54.82	38.57	6.62	13.25	9.17	29.04	0.98
09-03-2014	05:40:00	49.9	423.3	424.5	418.4	27.82	54.96	39.17	6.59	13.28	9.35	29.22	0.98
09-03-2014	05:42:00	49.9	423.1	424.2	418.1	27.89	54.48	38.25	6.61	13.15	9.07	28.82	0.98
09-03-2014	05:44:00	49.91	423.1	424.3	418.1	27.92	54.89	38.57	6.61	13.25	9.17	29.03	0.98
09-03-2014	05:46:00	49.89	422.9	424.1	417.7	27.86	54.79	39.06	6.59	13.22	9.31	29.12	0.98
09-03-2014	05:48:00	49.84	422.3	423.6	417.4	27.77	54.84	39.06	6.56	13.22	9.30	29.08	0.98

Measurement of Power Parameters at Bhawani Chowk Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS					
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
09-03-2014	05:50:00	49.86	422.5	423.6	417.6	27.63	54.96	37.86	6.53	13.25	8.95	28.73	0.98
09-03-2014	05:52:00	49.93	422.8	424.2	418.2	27.61	55.22	38.34	6.54	13.32	9.11	28.98	0.98
09-03-2014	05:54:00	50.03	423.6	424.9	418.9	27.62	55.1	39.02	6.56	13.31	9.33	29.19	0.98
09-03-2014	05:56:00	50.05	423.9	425	418.9	27.57	54.97	39.06	6.55	13.28	9.34	29.17	0.98
09-03-2014	05:58:00	50.06	423.7	425.1	418.9	27.64	54.98	38.24	6.57	13.28	9.10	28.94	0.98
09-03-2014	06:00:00	50.04	423.6	424.8	418.7	27.52	55.03	38.24	6.53	13.29	9.10	28.92	0.98
09-03-2014	06:02:00	49.98	423.1	424.3	418.1	27.54	55.07	38.04	6.53	13.28	9.03	28.85	0.98
09-03-2014	06:04:00	49.92	422.3	423.7	417.6	27.61	54.73	38.94	6.53	13.17	9.29	29.00	0.98
09-03-2014	06:06:00	49.92	421.9	423.5	417.3	27.52	54.72	38.77	6.51	13.17	9.24	28.92	0.98
09-03-2014	06:08:00	49.92	421.8	423.3	417.3	27.54	54.46	37.57	6.52	13.09	8.89	28.50	0.98
09-03-2014	06:10:00	49.94	421.9	423.3	417.3	27.67	54.19	37.6	6.55	13.04	8.89	28.49	0.98
09-03-2014	06:12:00	49.95	421.8	423	416.9	27.62	54.19	38.05	6.54	13.04	9.01	28.60	0.98
09-03-2014	06:14:00	49.94	421.3	422.5	416.4	27.59	53.98	38.29	6.52	12.98	9.08	28.58	0.98
09-03-2014	06:16:00	49.98	421.6	422.8	416.6	27.56	54.24	37.98	6.51	13.05	9.00	28.56	0.98
09-03-2014	06:18:00	49.93	420.7	422.2	416	27.47	54.23	38.54	6.49	13.00	9.16	28.65	0.98
09-03-2014	06:20:00	49.92	420.1	421.6	415.7	27.48	53.97	38.33	6.49	12.92	9.10	28.51	0.98
09-03-2014	06:22:00	49.94	419.9	421.1	415.6	27.4	54.46	38.25	6.48	13.04	9.07	28.59	0.98
09-03-2014	06:24:00	49.93	419.9	421.2	415.8	27.42	53.73	38.36	6.49	12.88	9.10	28.47	0.98
09-03-2014	06:26:00	49.97	419.9	421.2	415.6	27.22	53.82	38.32	6.44	12.91	9.09	28.44	0.98
09-03-2014	06:28:00	49.95	419.6	420.9	415.1	27.14	53.73	38.13	6.42	12.88	9.03	28.33	0.98
Average Load in kW												29.54	0.98

Table no 2.4: Harmonics and Voltage & Current Unbalance Measurement

Harmonics & Voltage & Current Unbalance Measurement at Bhawani Chowk Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
08-03-2014	23:00:00	50.05	10.1	8.9	9.7	2	2.3	2.4	18.9	0.9
08-03-2014	23:02:00	50	10.2	8.9	9.7	2	2.3	2.3	19.1	0.9
08-03-2014	23:04:00	49.99	10.1	8.9	9.6	2	2.3	2.3	19.3	1
08-03-2014	23:06:00	49.95	10.1	8.8	9.6	2.1	2.3	2.3	19.2	1
08-03-2014	23:08:00	49.95	10.1	8.9	9.6	2	2.4	2.3	18.9	1
08-03-2014	23:10:00	49.95	9.9	9	9.7	1.9	2.3	2.3	19.3	0.9
08-03-2014	23:12:00	49.96	9.9	9	9.7	1.9	2.2	2.2	19.3	0.9
08-03-2014	23:14:00	49.99	9.9	8.9	9.7	1.9	2.2	2.2	19	0.9
08-03-2014	23:16:00	50.05	10	8.9	9.8	1.9	2.2	2.2	18.7	1
08-03-2014	23:18:00	50.06	10	9	9.8	1.8	2.2	2.2	18.6	1
08-03-2014	23:20:00	50.04	9.9	9	9.8	1.9	2.2	2.2	18.9	0.9
08-03-2014	23:22:00	50.03	10	9.1	9.8	1.9	2.2	2.2	18.9	0.9
08-03-2014	23:24:00	49.99	10	9.1	10.1	1.9	2.2	2.2	19.1	0.9
08-03-2014	23:26:00	49.91	10	9.1	10.5	1.9	2.2	2.2	19.4	0.9
08-03-2014	23:28:00	49.89	10	9.1	10.6	1.9	2.1	2.1	19.7	0.9
08-03-2014	23:30:00	49.89	10	9	10.6	1.9	2.2	2.2	19.8	0.9
08-03-2014	23:32:00	49.92	10	9	10.6	1.9	2.2	2.2	19.9	0.9
08-03-2014	23:34:00	49.95	9.9	9.1	10.6	1.9	2.2	2.2	19.9	0.9
08-03-2014	23:36:00	49.98	9.9	9.3	10.6	1.8	2.1	2.2	19.9	0.9
08-03-2014	23:38:00	50.04	9.9	9.3	10.6	1.8	2.1	2.1	20.1	0.9
08-03-2014	23:40:00	50.07	9.9	9.3	10.6	1.7	2	2.1	19.9	1
08-03-2014	23:42:00	50.11	9.9	9.2	10.6	1.6	2	2	19.8	0.9
08-03-2014	23:44:00	50.1	9.9	9.2	10.6	1.6	2	2	19.7	0.9
08-03-2014	23:46:00	50.05	10	9.3	10.6	1.7	2.1	2.1	19.9	0.9
08-03-2014	23:48:00	50.05	10	9.3	10.6	1.7	2.1	2	19.9	0.9
08-03-2014	23:50:00	50.05	10	9.3	10.7	1.7	2	2	20	0.9
08-03-2014	23:52:00	50.04	10	9.3	10.7	1.7	2.1	2	20	0.9

Harmonics & Voltage & Current Unbalance Measurement at Bhawani Chowk Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
08-03-2014	23:54:00	50.06	10	9.5	10.7	1.6	2.1	2	19.9	0.9
08-03-2014	23:56:00	50.01	10	9.5	10.7	1.7	2.1	2	20	0.9
08-03-2014	23:58:00	49.95	10	9.4	10.7	1.7	2.1	2	19.9	0.9
09-03-2014	00:00:00	49.88	10	9.4	10.7	1.7	2.1	2	19.7	0.9
09-03-2014	00:02:00	49.85	10	9.6	10.7	1.7	2.1	2	19.7	0.9
09-03-2014	00:04:00	49.86	10.1	9.6	10.7	1.7	2.1	2	19.8	0.9
09-03-2014	00:06:00	49.88	10	9.6	10.8	1.6	2.1	1.9	19.8	0.9
09-03-2014	00:08:00	49.91	10.1	9.5	10.7	1.6	2.1	1.9	19.9	0.9
09-03-2014	00:10:00	49.93	10	9.5	10.7	1.6	2	1.9	19.8	0.9
09-03-2014	00:12:00	49.92	10	9.5	10.8	1.6	2	1.9	19.9	1
09-03-2014	00:14:00	49.9	9.9	9.6	10.8	1.6	1.9	1.9	19.9	1
09-03-2014	00:16:00	49.83	10	9.6	10.8	1.6	2	1.9	19.9	0.9
09-03-2014	00:18:00	49.78	10	9.5	10.8	1.6	2.1	1.9	19.7	0.9
09-03-2014	00:20:00	49.72	10	9.6	10.9	1.6	2	1.9	19.8	0.9
09-03-2014	00:22:00	49.75	10	9.7	10.9	1.6	2	1.8	19.9	0.9
09-03-2014	00:24:00	49.79	10	9.7	10.9	1.6	2	1.8	19.9	0.9
09-03-2014	00:26:00	49.79	10.1	9.7	10.9	1.7	2	1.7	20	0.9
09-03-2014	00:28:00	49.76	10.1	9.8	10.9	1.7	2.1	1.8	19.8	0.9
09-03-2014	00:30:00	49.75	10	9.8	10.9	1.6	2.1	1.8	20	0.9
09-03-2014	00:32:00	49.74	10	9.8	10.9	1.7	2.1	1.9	19.7	0.9
09-03-2014	00:34:00	49.73	10	9.7	10.9	1.6	2.1	1.8	19.8	1
09-03-2014	00:36:00	49.76	10	9.7	10.9	1.7	2	1.8	19.7	1
09-03-2014	00:38:00	49.74	10	9.7	10.9	1.6	1.9	1.8	19.7	0.9
09-03-2014	00:40:00	49.76	10.1	9.9	10.8	1.6	2	1.8	19.6	1
09-03-2014	00:42:00	49.8	10.1	9.9	10.8	1.6	2	1.7	19.6	1
09-03-2014	00:44:00	49.83	10	9.9	10.8	1.6	2	1.7	19.6	1
09-03-2014	00:46:00	49.87	10	9.9	10.8	1.6	2	1.8	19.7	1
09-03-2014	00:48:00	49.9	10	10	10.8	1.6	2	1.8	19.8	0.9
09-03-2014	00:50:00	49.91	10	10	10.8	1.5	1.9	1.8	20	0.9

Harmonics & Voltage & Current Unbalance Measurement at Bhawani Chowk Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
09-03-2014	00:52:00	49.9	10	10	10.8	1.6	1.9	1.8	20	0.9
09-03-2014	00:54:00	49.9	10.1	10.1	10.8	1.6	1.9	1.8	19.9	0.9
09-03-2014	00:56:00	49.88	10.3	10.1	10.8	1.6	2	1.8	20	0.9
09-03-2014	00:58:00	49.85	10.7	10.2	10.9	1.7	2.1	1.8	19.5	0.9
09-03-2014	01:00:00	49.83	10.7	10.4	10.8	1.7	2	1.8	19.7	0.9
09-03-2014	01:02:00	49.84	10.6	10.4	10.9	1.6	2	1.8	19.7	0.9
09-03-2014	01:04:00	49.85	10.7	10.4	10.8	1.6	2	1.7	19.7	0.9
09-03-2014	01:06:00	49.89	10.6	10.4	10.8	1.5	2	1.7	19.6	0.9
09-03-2014	01:08:00	49.87	10.6	10.4	10.8	1.6	1.9	1.7	19.5	0.9
09-03-2014	01:10:00	49.94	10.6	10.4	10.8	1.7	2	1.8	19.3	0.9
09-03-2014	01:12:00	49.97	10.6	10.4	10.8	1.7	2	1.8	19.6	0.9
09-03-2014	01:14:00	50	10.6	10.4	10.9	1.6	2	1.8	19.4	0.9
09-03-2014	01:16:00	49.98	10.6	10.4	10.9	1.7	2	1.8	19.6	0.9
09-03-2014	01:18:00	49.96	10.6	10.4	10.9	1.7	2	1.8	19.7	0.9
09-03-2014	01:20:00	49.96	10.6	10.4	10.9	1.7	2	1.8	19.8	0.9
09-03-2014	01:22:00	49.98	10.6	10.4	10.9	1.7	2	1.8	19.7	0.9
09-03-2014	01:24:00	50.02	10.6	10.4	10.8	1.7	1.9	1.8	19.7	0.9
09-03-2014	01:26:00	50.02	10.7	10.3	10.9	1.7	2	1.8	19.6	1
09-03-2014	01:28:00	49.96	10.7	10.3	10.9	1.8	2	1.8	19.5	1
09-03-2014	01:30:00	49.94	10.7	10.4	10.9	1.8	2.1	1.8	19.5	0.9
09-03-2014	01:32:00	49.96	10.7	10.4	10.9	1.8	2.1	1.9	19.6	0.9
09-03-2014	01:34:00	50.03	10.6	10.4	10.9	1.8	2.1	1.9	19.6	0.9
09-03-2014	01:36:00	50	10.7	10.4	10.9	1.9	2.1	1.9	19.7	0.9
09-03-2014	01:38:00	49.99	10.6	10.4	10.9	1.9	2.1	1.9	19.8	1
09-03-2014	01:40:00	50	10.7	10.4	10.9	1.9	2.1	1.9	19.7	1
09-03-2014	01:42:00	49.98	10.7	10.4	10.9	1.9	2.1	1.9	19.7	0.9
09-03-2014	01:44:00	49.92	10.7	10.5	10.9	1.9	2.1	2	19.6	1
09-03-2014	01:46:00	49.91	10.7	10.4	10.9	2	2.1	1.9	19.7	1
09-03-2014	01:48:00	49.95	10.7	10.5	10.9	2	2.1	1.9	19.6	1

Harmonics & Voltage & Current Unbalance Measurement at Bhawani Chowk Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
09-03-2014	01:50:00	49.95	10.7	10.5	11	1.9	2.1	1.9	19.7	0.9
09-03-2014	01:52:00	49.97	10.6	10.6	10.9	1.8	2.1	1.9	19.7	0.9
09-03-2014	01:54:00	49.98	10.6	10.5	10.9	1.7	2	1.8	19.7	0.9
09-03-2014	01:56:00	50.01	10.7	10.5	10.9	1.7	2	1.8	19.5	0.9
09-03-2014	01:58:00	50	10.6	10.4	10.9	1.6	1.9	1.8	19.6	0.9
09-03-2014	02:00:00	49.96	10.7	10.4	10.9	1.7	1.9	1.8	19.4	1
09-03-2014	02:02:00	49.94	10.7	10.4	10.9	1.8	1.9	1.8	19.6	1
09-03-2014	02:04:00	49.93	10.7	10.5	10.9	1.8	2	1.8	19.6	1
09-03-2014	02:06:00	49.94	10.7	10.5	10.9	1.8	2	1.8	19.7	1
09-03-2014	02:08:00	49.91	10.7	10.4	10.9	1.9	2.1	1.8	19.5	1
09-03-2014	02:10:00	49.95	10.7	10.4	10.9	1.8	2	1.8	19.6	1
09-03-2014	02:12:00	50.02	10.7	10.3	10.9	1.8	2	1.8	19.5	1
09-03-2014	02:14:00	50.03	10.7	10.3	10.9	1.8	2	1.8	19.6	1
09-03-2014	02:16:00	50.02	10.7	10.4	10.9	1.7	2	1.8	19.7	1
09-03-2014	02:18:00	50.02	10.7	10.4	10.9	1.8	2	1.9	19.7	1
09-03-2014	02:20:00	49.99	10.7	10.5	11	1.9	2.1	1.8	19.6	1
09-03-2014	02:22:00	50.03	10.7	10.6	10.9	1.8	2.1	1.9	19.8	1
09-03-2014	02:24:00	50.06	10.7	10.5	11	1.8	2.1	1.8	19.7	1
09-03-2014	02:26:00	50.07	10.7	10.5	10.9	1.9	2	1.8	19.5	1
09-03-2014	02:28:00	50.07	10.7	10.5	11	1.9	2.1	1.8	19.5	1
09-03-2014	02:30:00	49.99	10.8	10.5	11	1.9	2.1	1.9	19.4	1
09-03-2014	02:32:00	49.94	10.7	10.4	11	1.9	2.1	1.9	19.5	1
09-03-2014	02:34:00	49.94	10.7	10.5	11	1.9	2.1	1.9	19.5	1
09-03-2014	02:36:00	49.94	10.8	10.5	11	1.9	2.1	1.9	19.6	0.9
09-03-2014	02:38:00	49.93	10.7	10.5	11	1.9	2.1	1.9	19.5	0.9
09-03-2014	02:40:00	49.97	10.7	10.5	11	1.9	2.1	2	19.5	0.9
09-03-2014	02:42:00	49.96	10.7	10.5	10.9	1.9	2.1	1.9	19.4	0.9
09-03-2014	02:44:00	49.97	10.7	10.5	11	1.9	2.2	2	19.7	0.9
09-03-2014	02:46:00	49.97	10.8	10.5	11	2	2.2	2.1	19.5	0.9

Harmonics & Voltage & Current Unbalance Measurement at Bhawani Chowk Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
09-03-2014	02:48:00	49.98	10.8	10.5	10.9	2	2.2	2	19.5	0.9
09-03-2014	02:50:00	50	10.8	10.5	11	2	2.2	2	19.4	0.9
09-03-2014	02:52:00	50.04	10.7	10.5	11	2	2.2	2.1	19.6	1
09-03-2014	02:54:00	50.06	10.8	10.6	11.1	2	2.2	2.2	19.6	1
09-03-2014	02:56:00	50.1	10.7	10.6	11.1	2.1	2.2	2.1	19.7	0.9
09-03-2014	02:58:00	50.07	10.7	10.6	11	2	2.2	2	19.6	1
09-03-2014	03:00:00	49.97	10.8	10.6	11	2	2.2	2	19.6	0.9
09-03-2014	03:02:00	49.92	10.8	10.5	11.1	2	2.2	2	19.4	0.9
09-03-2014	03:04:00	49.91	10.8	10.6	11	2	2.1	2	19.2	1
09-03-2014	03:06:00	49.93	10.9	10.6	11	2.1	2.2	2	19.4	1
09-03-2014	03:08:00	49.9	10.9	10.5	11	2.1	2.2	2	19.3	0.9
09-03-2014	03:10:00	49.95	10.9	10.5	11.1	2	2.2	2	19.4	0.9
09-03-2014	03:12:00	49.99	10.8	10.5	11	1.9	2.2	2	19.2	0.9
09-03-2014	03:14:00	50	10.8	10.5	11	2	2.2	2	19.3	0.9
09-03-2014	03:16:00	49.99	10.8	10.6	11.1	2.1	2.2	2.1	19.2	1
09-03-2014	03:18:00	49.98	10.9	10.5	11.1	2.1	2.3	2.1	19.3	1
09-03-2014	03:20:00	49.98	10.9	10.5	11.1	2	2.3	2.1	19.2	1
09-03-2014	03:22:00	49.96	10.9	10.5	11.1	2.1	2.3	2	19.3	1
09-03-2014	03:24:00	49.94	10.8	10.6	11.1	2.1	2.3	2	19.3	1
09-03-2014	03:26:00	49.92	10.9	10.6	11.1	2.1	2.3	2.1	19.3	1
09-03-2014	03:28:00	49.9	10.9	10.6	11.2	2.1	2.3	2.1	19.6	1
09-03-2014	03:30:00	49.88	10.9	10.6	11.1	2	2.3	2	19.5	1
09-03-2014	03:32:00	49.85	10.9	10.6	11.1	2	2.2	2	19.6	1
09-03-2014	03:34:00	49.86	10.9	10.5	11.1	2.1	2.2	2	19.4	1
09-03-2014	03:36:00	49.87	10.9	10.5	11.1	2	2.2	2	19.6	1
09-03-2014	03:38:00	49.87	10.9	10.5	11.1	2	2.2	2	19.4	1
09-03-2014	03:40:00	49.87	10.8	10.5	11.1	1.9	2.2	2	19.6	1
09-03-2014	03:42:00	49.89	10.8	10.6	11.1	1.9	2.2	2	19.5	0.9
09-03-2014	03:44:00	49.89	10.8	10.5	11.1	1.9	2.2	2	19.7	0.9

Harmonics & Voltage & Current Unbalance Measurement at Bhawani Chowk Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
09-03-2014	03:46:00	49.89	10.8	10.6	11.1	1.9	2.2	2	19.7	0.9
09-03-2014	03:48:00	49.95	10.8	10.5	11	1.9	2.1	2	19.7	1
09-03-2014	03:50:00	49.95	10.9	10.5	11.1	2	2.1	2	19.2	0.9
09-03-2014	03:52:00	49.92	10.9	10.6	11.1	2	2.2	2	19.2	1
09-03-2014	03:54:00	49.92	10.9	10.6	11.1	2	2.2	2	19.3	0.9
09-03-2014	03:56:00	49.95	10.9	10.6	11.1	2	2.2	2	19.4	0.9
09-03-2014	03:58:00	49.94	10.9	10.5	11.1	2	2.2	2	19.2	0.9
09-03-2014	04:00:00	49.88	10.9	10.5	11.1	2.1	2.2	2.1	19.1	0.9
09-03-2014	04:02:00	49.87	10.9	10.5	11.1	2.1	2.3	2.1	19.3	0.9
09-03-2014	04:04:00	49.89	10.9	10.5	11.1	2.1	2.2	2	19.3	0.9
09-03-2014	04:06:00	49.91	10.9	10.4	11.1	2.1	2.2	2	19.4	1
09-03-2014	04:08:00	49.87	10.9	10.5	11.1	2.1	2.2	2	19.3	0.9
09-03-2014	04:10:00	49.88	10.8	10.5	11	2	2.2	2	19.6	0.9
09-03-2014	04:12:00	49.86	10.8	10.6	11.1	2	2.1	2	19.6	0.9
09-03-2014	04:14:00	49.82	10.8	10.6	11.1	2	2.2	2	19.7	0.9
09-03-2014	04:16:00	49.8	10.8	10.5	11.1	2	2.2	2	19.3	1
09-03-2014	04:18:00	49.78	10.8	10.5	11	1.9	2.2	2	19.5	0.9
09-03-2014	04:20:00	49.76	10.8	10.5	11.1	2	2.2	2	19.5	0.9
09-03-2014	04:22:00	49.75	10.7	10.5	11.1	1.9	2.1	1.9	19.4	0.9
09-03-2014	04:24:00	49.77	10.7	10.4	11.1	1.9	2.1	2	19.5	0.9
09-03-2014	04:26:00	49.86	10.8	10.4	11	2	2.1	1.9	19.2	0.9
09-03-2014	04:28:00	49.93	10.8	10.4	11.2	1.9	2.1	2	19.3	1
09-03-2014	04:30:00	49.95	10.8	10.3	11.2	2	2.1	2	19.2	1
09-03-2014	04:32:00	49.94	10.8	10.3	11.1	1.9	2.1	2	19.4	1
09-03-2014	04:34:00	49.89	10.8	10.4	11.1	1.9	2.1	2	19.3	1
09-03-2014	04:36:00	49.87	10.7	10.4	11.2	2	2.1	2	19.4	1
09-03-2014	04:38:00	49.92	10.7	10.4	11.1	1.9	2.1	2	19.2	1
09-03-2014	04:40:00	49.98	10.7	10.4	11	1.8	2.1	1.9	19.6	1
09-03-2014	04:42:00	50	10.6	10.3	11	1.8	2	1.9	19.5	1

Harmonics & Voltage & Current Unbalance Measurement at Bhawani Chowk Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
09-03-2014	04:44:00	49.97	10.6	10.4	11	1.9	2	1.9	19.5	1
09-03-2014	04:46:00	49.87	10.7	10.5	11.1	1.9	2.1	2	19.6	1
09-03-2014	04:48:00	49.83	10.7	10.4	11	1.9	2.1	2	19.7	1
09-03-2014	04:50:00	49.8	10.7	10.4	11.1	1.9	2.1	2	19.6	1
09-03-2014	04:52:00	49.83	10.7	10.4	11.1	1.9	2.2	2	19.6	1
09-03-2014	04:54:00	49.92	10.7	10.4	11.1	1.9	2.1	2	19.6	1
09-03-2014	04:56:00	50	10.6	10.4	11.1	1.9	2	1.9	19.7	1
09-03-2014	04:58:00	49.99	10.7	10.4	11	1.9	2.1	2	19.7	1
09-03-2014	05:00:00	49.93	10.6	10.3	11.1	1.9	2	2	19.5	1
09-03-2014	05:02:00	49.86	10.7	10.3	11	1.9	2.1	1.9	19.8	0.9
09-03-2014	05:04:00	49.83	10.6	10.3	11	1.9	2.1	1.9	19.7	0.9
09-03-2014	05:06:00	49.83	10.6	10.2	11.1	1.8	2	1.9	19.8	1
09-03-2014	05:08:00	49.85	10.7	10.2	11	1.8	2	1.9	19.5	1
09-03-2014	05:10:00	49.98	10.7	10.2	11	1.9	2.1	1.9	19.7	1
09-03-2014	05:12:00	50.02	10.7	10.3	10.9	1.9	2	1.8	19.6	1
09-03-2014	05:14:00	50	10.7	10.3	10.9	1.8	1.9	1.8	19.7	1
09-03-2014	05:16:00	49.94	10.7	10.3	10.9	1.8	2	1.8	19.5	1
09-03-2014	05:18:00	49.86	10.7	10.3	11	1.8	2	1.8	19.5	1
09-03-2014	05:20:00	49.82	10.7	10.3	11	1.8	1.9	1.8	19.3	1
09-03-2014	05:22:00	49.82	10.7	10.2	11	1.7	1.9	1.8	19.3	1
09-03-2014	05:24:00	49.9	10.6	10.2	11	1.7	1.9	1.7	18.5	1
09-03-2014	05:26:00	50.02	10.6	10.3	11	1.7	1.8	1.8	19.1	0.9
09-03-2014	05:28:00	49.98	10.6	10.3	11	1.7	1.8	1.7	19.3	0.9
09-03-2014	05:30:00	49.94	10.5	10.3	10.9	1.6	1.8	1.7	19.4	0.9
09-03-2014	05:32:00	49.93	10.5	10.2	10.8	1.7	1.9	1.7	20.1	0.9
09-03-2014	05:34:00	49.92	10.6	10.2	10.8	1.7	1.8	1.6	19.6	0.9
09-03-2014	05:36:00	49.87	10.5	10.1	10.8	1.6	1.8	1.6	19.3	0.9
09-03-2014	05:38:00	49.85	10.5	10.1	10.8	1.6	1.7	1.5	19.2	0.9
09-03-2014	05:40:00	49.9	10.5	10.1	10.7	1.5	1.6	1.6	19.8	0.9

Harmonics & Voltage & Current Unbalance Measurement at Bhawani Chowk Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
09-03-2014	05:42:00	49.9	10.5	10	10.8	1.5	1.6	1.5	18.8	0.9
09-03-2014	05:44:00	49.91	10.5	10	10.7	1.5	1.6	1.5	19.3	0.9
09-03-2014	05:46:00	49.89	10.5	10.1	10.7	1.5	1.7	1.5	19.7	0.9
09-03-2014	05:48:00	49.84	10.5	10.1	10.7	1.5	1.7	1.4	19.8	0.9
09-03-2014	05:50:00	49.86	10.4	10	10.8	1.5	1.6	1.4	19.1	0.8
09-03-2014	05:52:00	49.93	10.4	10.1	10.8	1.4	1.6	1.4	19.6	0.8
09-03-2014	05:54:00	50.03	10.4	10.1	10.6	1.4	1.6	1.4	20.1	0.8
09-03-2014	05:56:00	50.05	10.4	10.1	10.6	1.4	1.6	1.4	20.1	0.8
09-03-2014	05:58:00	50.06	10.4	10.1	10.7	1.4	1.6	1.4	19.5	0.9
09-03-2014	06:00:00	50.04	10.4	10.2	10.7	1.4	1.6	1.5	19.6	0.8
09-03-2014	06:02:00	49.98	10.4	10.2	10.7	1.4	1.6	1.5	19.6	0.9
09-03-2014	06:04:00	49.92	10.4	10.2	10.6	1.4	1.6	1.5	20.1	0.8
09-03-2014	06:06:00	49.92	10.3	10.1	10.6	1.4	1.6	1.4	20.1	0.8
09-03-2014	06:08:00	49.92	10.3	10.1	10.8	1.4	1.6	1.5	19	0.8
09-03-2014	06:10:00	49.94	10.4	9.9	10.8	1.4	1.6	1.5	18.6	0.8
09-03-2014	06:12:00	49.95	10.3	9.7	10.7	1.3	1.6	1.4	18.9	0.9
09-03-2014	06:14:00	49.94	10.4	9.6	10.6	1.4	1.6	1.4	19.2	0.9
09-03-2014	06:16:00	49.98	10.4	9.5	10.7	1.4	1.6	1.4	19.2	0.9
09-03-2014	06:18:00	49.93	10.3	9.6	10.5	1.3	1.5	1.4	19.9	0.8
09-03-2014	06:20:00	49.92	10.3	9.5	10.5	1.3	1.5	1.4	19.7	0.8
09-03-2014	06:22:00	49.94	10.2	9.4	10.4	1.3	1.5	1.3	19.8	0.8
09-03-2014	06:24:00	49.93	10.2	9.4	10.5	1.2	1.5	1.4	19.2	0.7
09-03-2014	06:26:00	49.97	10.3	9.3	10.4	1.2	1.5	1.4	19.3	0.8
09-03-2014	06:28:00	49.95	10.4	9.4	10.4	1.3	1.5	1.3	19.3	0.8

❖ **Observation:**

- Voltage unbalance is there.
- Current unbalance is considerable.
- Average power factor is 0.98.
- Line Voltage total harmonics distortion is there.
- Total Current Harmonics distortion is there.

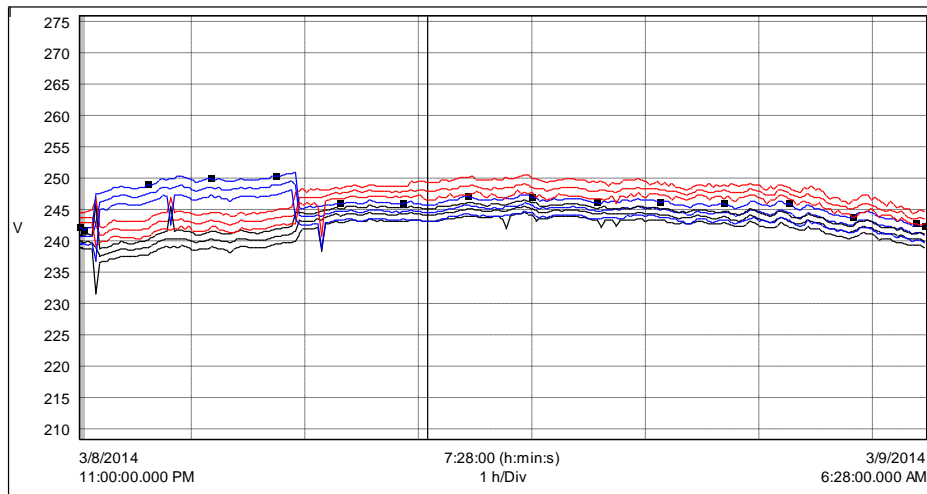
□ Study of electrical parameters at Bhawani Chowk Switching Point

1. Phase Voltage

Table : Phase Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
V1 RMS	3/8/2014	23:00:00	243.328	237.7	245.6	V	7:30:00	(h:min:s)
V2 RMS	3/8/2014	23:00:00	246.96	241.1	249.2	V	7:30:00	(h:min:s)
V3 RMS	3/8/2014	23:00:00	245.874	240.8	249.6	V	7:30:00	(h:min:s)

Graph No. : Phase Voltage Variation for the Recorded Time



**RMS, Max RMS & Min. RMS
Phase voltage variation**

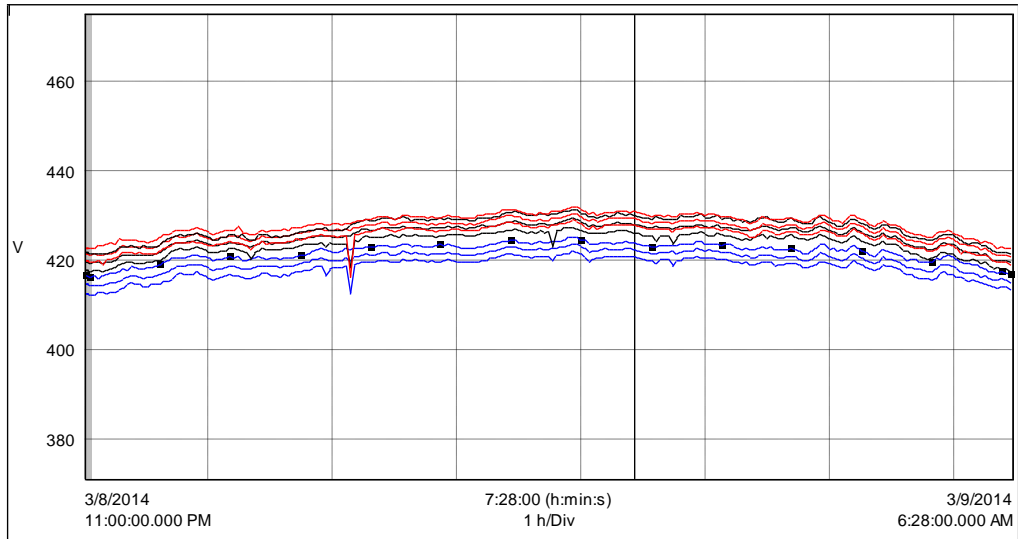
➤ Voltage unbalance is within limit

1. Line Voltage

Table : Line Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
U1 RMS	3/8/2014	00:00.0	426.464	419.4	429.4	V	7:30:00	(h:min:s)
U2 RMS	3/8/2014	00:00.0	427.651	420.9	430.5	V	7:30:00	(h:min:s)
U3 RMS	3/8/2014	00:00.0	420.961	414.3	423.8	V	7:30:00	(h:min:s)

Graph No. : Line Voltage Variation for the Recorded Time



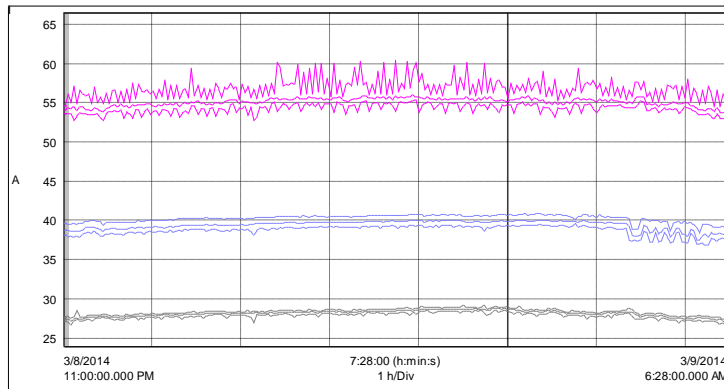
**RMS, Max RMS & Min. RMS
Line voltage variation**

18.Current

Table: Current

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 RMS	3/8/2014	00:00.0	28.253	27.14	28.81	A	7:30:00	(h:min:s)
A2 RMS	3/8/2014	00:00.0	55.287	53.73	56.03	A	7:30:00	(h:min:s)
A3 RMS	3/8/2014	00:00.0	39.561	37.57	40.12	A	7:30:00	(h:min:s)

Graph : Line Current Variation for recorded time



**RMS, Max RMS & Min. RMS
Current variation**

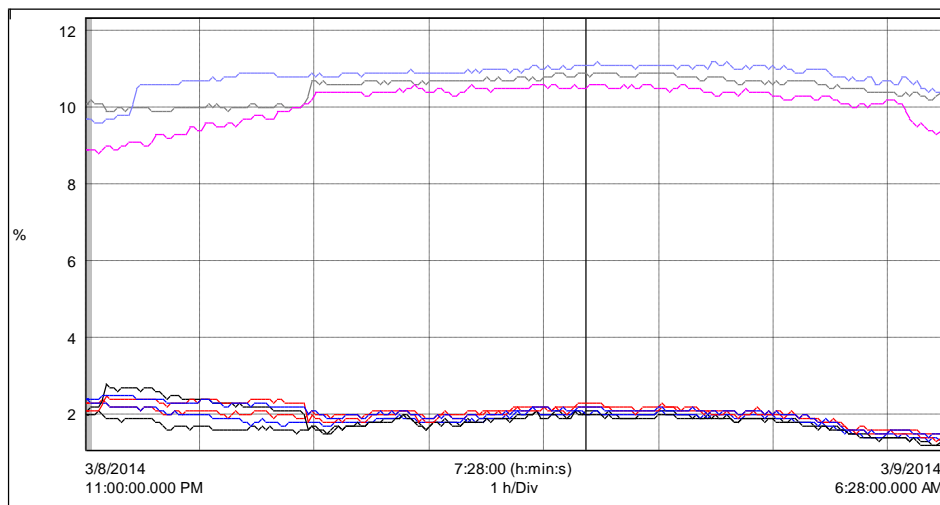
➤ Current is slightly unbalanced.

7. Total harmonic Distortion (THD).

Table.: THD

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 THD	3/8/2014	00:00.0	10.501	9.9	10.9	%	7:30:00	(h:min:s)
A2 THD	3/8/2014	00:00.0	10.108	8.8	10.6	%	7:30:00	(h:min:s)
A3 THD	3/8/2014	00:00.0	10.831	9.6	11.2	%	7:30:00	(h:min:s)
U1 THD	3/8/2014	00:00.0	1.785	1.2	2.1	%	7:30:00	(h:min:s)
U2 THD	3/8/2014	00:00.0	2.033	1.5	2.4	%	7:30:00	(h:min:s)
U3 THD	3/8/2014	00:00.0	1.882	1.3	2.4	%	7:30:00	(h:min:s)
V1 THD	3/8/2014	00:00.0	1.918	1.2	2.8	%	7:30:00	(h:min:s)
V2 THD	3/8/2014	00:00.0	2.035	1.3	2.5	%	7:30:00	(h:min:s)
V3 THD	3/8/2014	00:00.0	2.057	1.4	2.5	%	7:30:00	(h:min:s)

Graph No. : THD



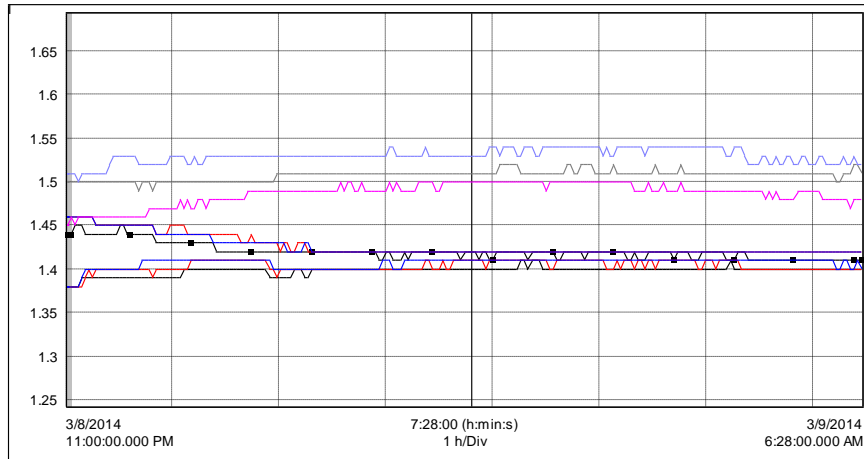
**Variation of current, Phase Voltage, Line Voltage
Total Harmonic Distortion**

7. Crest Factor

Table.: Crest Factor

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 CF	3/8/2014	00:00.0	1.508	1.49	1.52		7:30:00	(h:min:s)
A2 CF	3/8/2014	00:00.0	1.487	1.45	1.5		7:30:00	(h:min:s)
A3 CF	3/8/2014	00:00.0	1.53	1.5	1.54		7:30:00	(h:min:s)
U1 CF	3/8/2014	00:00.0	1.421	1.41	1.45		7:30:00	(h:min:s)
U2 CF	3/8/2014	00:00.0	1.427	1.42	1.46		7:30:00	(h:min:s)
U3 CF	3/8/2014	00:00.0	1.426	1.42	1.46		7:30:00	(h:min:s)
V1 CF	3/8/2014	00:00.0	1.398	1.38	1.41		7:30:00	(h:min:s)
V2 CF	3/8/2014	00:00.0	1.404	1.38	1.41		7:30:00	(h:min:s)
V3 CF	3/8/2014	00:00.0	1.407	1.38	1.41		7:30:00	(h:min:s)

Graph No. 3.5: Crest Factor



Variation of Crest Factor

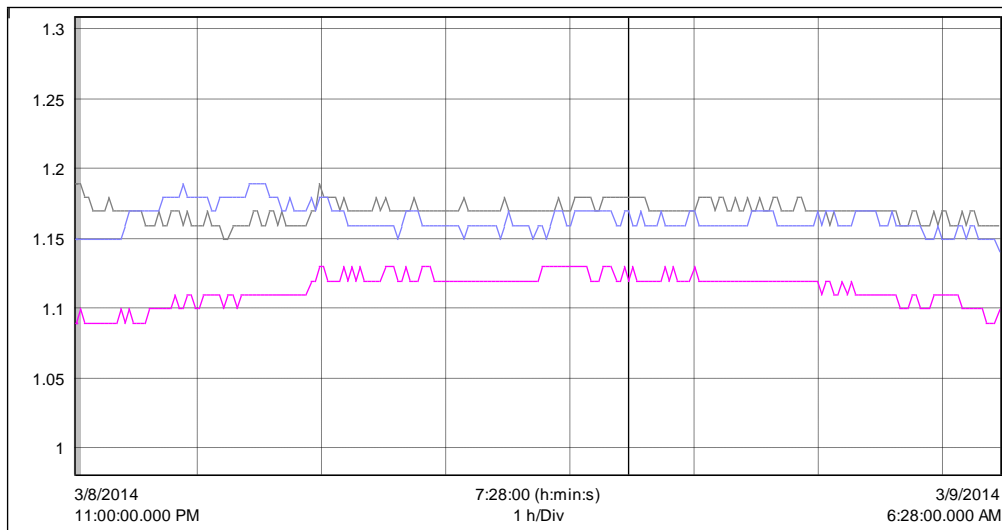
➤ Crest factor is above 1.41 hence there is some degree of impacting

14.K Factor

Table. 3.11: K- Factor

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
KF1	3/8/2014	00:00.0	1.17	1.15	1.19		7:30:00	(h:min:s)
KF2	3/8/2014	00:00.0	1.114	1.09	1.13		7:30:00	(h:min:s)
KF3	3/8/2014	00:00.0	1.164	1.14	1.19		7:30:00	(h:min:s)

Graph K- Factor



Variation of K Factor

- K-factor is from 1.1 to 4.65. K-factor above 1 indicates a non-linear load & presence of harmonics.

- **Study of Power Parameter and Harmonics Measurements at Aadhartal Tiraha Switching Point**

Data logging is carried out for different power parameters like voltage, current, PF, kW, Current unbalance, Voltage unbalance, THD, etc. and tabulated as under

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
02-Apr-14	8:22:00 PM	50.08	406.7	401.8	411	25.77	53.94	48.12	5.92	9.59	7.32	22.83	0.79
02-Apr-14	8:24:00 PM	50.07	406.9	401.6	411.4	25.47	54.07	48.14	5.86	9.60	7.34	22.79	0.79
02-Apr-14	8:26:00 PM	50.02	407	401.5	411.3	25.3	54.35	48.41	5.82	9.61	7.38	22.81	0.79
02-Apr-14	8:28:00 PM	50.02	407.2	401.9	411.8	25.2	54.55	48.48	5.80	9.65	7.42	22.87	0.79
02-Apr-14	8:30:00 PM	50.04	407.4	402.7	411.9	25.47	54.4	48.92	5.86	9.61	7.50	22.98	0.79
02-Apr-14	8:32:00 PM	50.04	407.9	402.8	411.6	25.41	54.36	48.74	5.84	9.63	7.52	22.99	0.79
02-Apr-14	8:34:00 PM	50.04	407.3	401.7	411.8	25.08	54.17	48.59	5.77	9.62	7.45	22.84	0.79
02-Apr-14	8:36:00 PM	49.98	406.5	401	410.9	25.13	54.45	48.66	5.78	9.64	7.43	22.85	0.79
02-Apr-14	8:38:00 PM	49.97	406.6	401.3	411	25.19	54.66	48.37	5.79	9.68	7.41	22.88	0.80
02-Apr-14	8:40:00 PM	49.93	406	401.6	410.3	25.12	54.69	48.81	5.76	9.68	7.49	22.92	0.79
02-Apr-14	8:42:00 PM	49.93	406.3	401.7	410.1	25.01	54.76	48.76	5.73	9.69	7.52	22.95	0.80
02-Apr-14	8:44:00 PM	49.88	406.1	401	410.1	25.26	54.96	48.47	5.80	9.75	7.42	22.96	0.80
02-Apr-14	8:46:00 PM	49.92	406.3	401.1	410.7	25.38	54.82	48.52	5.83	9.74	7.43	23.00	0.80
02-Apr-14	8:48:00 PM	49.93	406.7	401.8	410.9	25.44	54.72	48.63	5.84	9.71	7.47	23.02	0.80
02-Apr-14	8:50:00 PM	49.95	407	402.4	411.3	25.35	54.62	48.66	5.83	9.69	7.49	23.01	0.80
02-Apr-14	8:52:00 PM	49.93	407.1	402	411.6	25.4	54.68	48.42	5.84	9.70	7.42	22.95	0.79
02-Apr-14	8:54:00 PM	49.92	407	401.6	411.3	25.14	54.77	48.56	5.78	9.71	7.47	22.95	0.80
02-Apr-14	8:56:00 PM	49.94	407.5	402	411.9	25.13	54.78	48.34	5.78	9.72	7.48	22.98	0.80
02-Apr-14	8:58:00 PM	49.92	407	402.2	411.8	25.42	54.53	48.63	5.84	9.69	7.48	23.01	0.80
02-Apr-14	9:00:00 PM	49.92	406.8	402.9	411.7	25.52	54.66	48.46	5.85	9.71	7.48	23.05	0.80
02-Apr-14	9:02:00 PM	49.93	407	402.4	411.4	25.36	54.81	48.62	5.83	9.77	7.47	23.06	0.80
02-Apr-14	9:04:00 PM	49.87	406.6	401.8	411	25.39	50.52	48.53	5.83	8.08	7.50	21.41	0.77
02-Apr-14	9:06:00 PM	49.84	406.8	402	411.6	25.38	49.1	48.49	5.83	7.60	7.48	20.91	0.76

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
02-Apr-14	9:08:00 PM	49.83	406.9	402.8	412	25.47	49.14	48.61	5.85	7.59	7.55	20.99	0.76
02-Apr-14	9:10:00 PM	49.87	407.5	403.4	412	25.42	49.04	48.24	5.84	7.61	7.47	20.91	0.76
02-Apr-14	9:12:00 PM	49.92	408	402.9	412.2	25.52	49.23	48.29	5.88	7.65	7.45	20.98	0.76
02-Apr-14	9:14:00 PM	49.96	408.6	403.5	412.7	25.5	49.27	48.47	5.88	7.66	7.53	21.07	0.76
02-Apr-14	9:16:00 PM	50.04	409.1	403.8	413.5	25.26	49.18	48.49	5.83	7.65	7.52	21.00	0.76
02-Apr-14	9:18:00 PM	50.06	409.2	404.6	414	25.81	49.18	48.9	5.96	7.62	7.60	21.18	0.76
02-Apr-14	9:20:00 PM	50.04	408.9	404.5	413.8	25.43	49.22	48.41	5.87	7.62	7.52	21.01	0.76
02-Apr-14	9:22:00 PM	50.04	409	404.4	414	25.34	49.39	48.21	5.86	7.66	7.44	20.96	0.76
02-Apr-14	9:24:00 PM	50.08	409.4	404.9	414.1	25.6	49.3	47.98	5.92	7.67	7.35	20.94	0.76
02-Apr-14	9:26:00 PM	49.99	408.8	403.9	413.7	25.49	49.59	47.8	5.88	7.71	7.30	20.89	0.76
02-Apr-14	9:28:00 PM	49.93	408.8	404	413.5	25.69	49.72	47.94	5.92	7.73	7.35	21.00	0.76
02-Apr-14	9:30:00 PM	49.88	408.7	404	413.3	25.87	49.54	47.98	5.96	7.68	7.35	20.99	0.76
02-Apr-14	9:32:00 PM	49.94	409.3	404.3	414.1	25.81	49.48	48.43	5.96	7.68	7.41	21.06	0.76
02-Apr-14	9:34:00 PM	50.06	410.3	405.7	414.9	25.95	49.35	48.55	6.01	7.68	7.42	21.11	0.76
02-Apr-14	9:36:00 PM	50.07	410.7	406.2	415.1	26.12	49.37	48.57	6.04	7.70	7.45	21.19	0.76
02-Apr-14	9:38:00 PM	50.1	410.9	406.8	415.3	26.16	49.42	48.42	6.05	7.72	7.45	21.21	0.76
02-Apr-14	9:40:00 PM	50.1	410.9	406.9	415.1	26.13	49.43	48.22	6.04	7.73	7.40	21.17	0.76
02-Apr-14	9:42:00 PM	50.05	410.7	406.2	414.7	25.92	49.45	48.18	6.00	7.73	7.37	21.10	0.76
02-Apr-14	9:44:00 PM	50.01	410.7	405.8	414.6	25.99	49.26	48.45	6.01	7.72	7.41	21.13	0.76
02-Apr-14	9:46:00 PM	49.97	410.6	405.4	414.4	26.22	49.75	48.41	6.07	7.79	7.42	21.28	0.76
02-Apr-14	9:48:00 PM	50.01	410.6	406	414.7	26.54	49.64	48.33	6.14	7.79	7.40	21.32	0.76
02-Apr-14	9:50:00 PM	49.97	410.5	406	414.6	26.37	50.11	48.29	6.09	7.85	7.45	21.39	0.76
02-Apr-14	9:52:00 PM	49.98	410.7	405.7	414.2	26.15	50.16	48.14	6.04	7.89	7.43	21.36	0.76
02-Apr-14	9:54:00 PM	50.01	410.5	405.2	414.2	26.24	50.12	48.44	6.06	7.89	7.45	21.40	0.76
02-Apr-14	9:56:00 PM	50.02	410.4	405.3	414	25.85	50.12	48.48	5.97	7.86	7.44	21.28	0.76
02-Apr-14	9:58:00 PM	49.98	409.6	404.8	412.6	26.38	50	49.01	6.08	7.80	7.52	21.39	0.76
02-Apr-14	10:00:00 PM	49.89	407.9	403.3	411	26.15	49.8	49.02	5.99	7.73	7.55	21.27	0.76
02-Apr-14	10:02:00 PM	49.85	406.9	402.2	410.3	26.09	49.7	48.83	5.98	7.70	7.49	21.17	0.76
02-Apr-14	10:04:00 PM	49.87	407.2	402.6	410.4	26.09	49.73	49.37	5.98	7.70	7.59	21.27	0.76

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW				
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
02-Apr-14	10:06:00 PM	49.88	406.9	402.8	410.9	26.05	49.71	48.88	5.97	7.71	7.55	21.24	0.76
02-Apr-14	10:08:00 PM	49.88	406.7	403.4	411	25.92	49.78	48.77	5.93	7.71	7.55	21.19	0.76
02-Apr-14	10:10:00 PM	49.86	406	402.6	410.3	25.8	49.53	48.67	5.89	7.68	7.52	21.09	0.76
02-Apr-14	10:12:00 PM	49.83	405.5	401.5	409.6	25.87	49.37	48.73	5.90	7.64	7.50	21.04	0.76
02-Apr-14	10:14:00 PM	49.84	405.4	401.4	409.7	25.7	49.39	48.93	5.86	7.63	7.56	21.06	0.76
02-Apr-14	10:16:00 PM	49.92	406.1	402.2	410	25.68	49.63	48.77	5.87	7.69	7.53	21.10	0.76
02-Apr-14	10:18:00 PM	50.01	406.8	403.5	410.6	25.91	49.84	48.84	5.92	7.73	7.58	21.23	0.76
02-Apr-14	10:20:00 PM	50.03	407.3	404	411.2	26.06	49.83	48.65	5.96	7.72	7.58	21.26	0.76
02-Apr-14	10:22:00 PM	50.05	407.4	403.3	411.2	25.87	49.91	48.66	5.92	7.76	7.59	21.27	0.76
02-Apr-14	10:24:00 PM	50.04	407.2	403.2	410.6	25.91	49.7	48.32	5.93	7.75	7.52	21.20	0.77
02-Apr-14	10:26:00 PM	49.99	407.1	402.7	410	25.87	49.62	48.4	5.91	7.77	7.52	21.20	0.77
02-Apr-14	10:28:00 PM	49.93	406.4	402.7	410	25.88	49.54	48.2	5.91	7.76	7.48	21.14	0.77
02-Apr-14	10:30:00 PM	49.88	406.6	403.3	410.2	26.11	49.8	48.67	5.96	7.79	7.54	21.29	0.77
02-Apr-14	10:32:00 PM	49.87	406.7	403	410.2	26.05	49.89	48.82	5.95	7.81	7.60	21.35	0.77
02-Apr-14	10:34:00 PM	49.86	406.6	403.1	409.8	26.16	50.02	48.68	5.97	7.84	7.57	21.37	0.77
02-Apr-14	10:36:00 PM	49.86	406.6	403.1	409.5	26.22	50.02	48.94	5.98	7.83	7.62	21.43	0.77
02-Apr-14	10:38:00 PM	49.89	407	403.6	409.8	26.03	49.93	48.36	5.93	7.82	7.56	21.31	0.77
02-Apr-14	10:40:00 PM	49.9	407	403.2	409.4	26.06	49.95	48.23	5.94	7.82	7.54	21.30	0.77
02-Apr-14	10:42:00 PM	49.87	407.3	403.1	409.6	26.36	50.12	48.2	6.01	7.85	7.53	21.38	0.77
02-Apr-14	10:44:00 PM	49.84	407.3	403.3	409.9	26.34	50.41	48.14	5.98	7.93	7.51	21.41	0.77
02-Apr-14	10:46:00 PM	49.89	407.8	403.9	410.5	26.58	50.42	48.51	5.94	8.13	7.53	21.60	0.77
02-Apr-14	10:48:00 PM	49.93	408.1	405.4	410.7	26.81	50.31	48.54	5.98	8.12	7.54	21.63	0.76
02-Apr-14	10:50:00 PM	49.92	408.2	405.5	411.2	26.7	50.41	48.7	5.96	8.14	7.61	21.71	0.77
02-Apr-14	10:52:00 PM	49.97	408.9	405.6	411.9	26.65	50.37	48.47	5.97	8.15	7.57	21.70	0.77
02-Apr-14	10:54:00 PM	49.99	409.6	405.9	412.1	26.66	50.37	48.82	5.98	8.17	7.64	21.78	0.77
02-Apr-14	10:56:00 PM	49.94	409.8	406.3	412.2	26.7	50.61	48.82	5.98	8.20	7.65	21.84	0.77
02-Apr-14	10:58:00 PM	49.85	409.4	406.2	411.8	26.8	50.74	48.89	5.99	8.21	7.66	21.87	0.77
02-Apr-14	11:00:00 PM	49.8	409.5	406.1	411.9	26.82	50.89	48.95	6.00	8.24	7.68	21.92	0.77
02-Apr-14	11:02:00 PM	49.81	409.7	405.9	412.3	26.7	50.99	48.84	5.99	8.27	7.66	21.92	0.77

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
02-Apr-14	11:04:00 PM	49.82	409.6	405.9	412.4	26.78	51.09	48.93	6.00	8.29	7.69	21.98	0.77
02-Apr-14	11:06:00 PM	49.88	410.1	407	413.2	27.11	50.92	48.82	6.09	8.29	7.67	22.05	0.77
02-Apr-14	11:08:00 PM	49.88	410.6	407.5	413.5	26.87	50.75	48.99	6.03	8.27	7.71	22.01	0.77
02-Apr-14	11:10:00 PM	49.89	410.9	407.5	413.9	26.84	50.65	48.85	6.04	8.27	7.73	22.03	0.77
02-Apr-14	11:12:00 PM	49.88	410.9	407.2	413.8	26.74	50.74	48.93	6.01	8.27	7.80	22.09	0.77
02-Apr-14	11:14:00 PM	49.89	411.1	407.4	414.1	26.65	50.76	49.1	5.99	8.27	7.82	22.08	0.77
02-Apr-14	11:16:00 PM	49.98	411.5	407.7	414.6	26.72	50.74	49.62	6.02	8.29	7.91	22.22	0.77
02-Apr-14	11:18:00 PM	50.05	411.9	408.5	415.4	26.76	50.76	49.65	6.03	8.29	7.93	22.26	0.77
02-Apr-14	11:20:00 PM	50.09	412.7	409.1	416.2	26.8	50.91	49.29	6.06	8.33	7.85	22.24	0.77
02-Apr-14	11:22:00 PM	50.1	413.2	409.6	416.8	26.8	51.02	49.35	6.06	8.39	7.85	22.30	0.77
02-Apr-14	11:24:00 PM	50.04	413.5	410	416.9	26.49	51.41	49.37	6.00	8.43	7.90	22.32	0.77
02-Apr-14	11:26:00 PM	49.98	413.4	410.1	416.6	27.15	51.63	49.37	6.15	8.47	7.91	22.53	0.77
02-Apr-14	11:28:00 PM	49.98	413.4	409.9	416.7	26.99	51.47	49.47	6.11	8.44	7.91	22.45	0.77
02-Apr-14	11:30:00 PM	49.97	413.5	409.3	416.9	26.76	51.53	49.43	6.06	8.44	7.92	22.42	0.77
02-Apr-14	11:32:00 PM	49.95	413.5	409.2	416.5	26.62	51.54	49.26	6.04	8.49	7.88	22.40	0.77
02-Apr-14	11:34:00 PM	49.95	413.1	409.4	416.5	27.08	51.36	49.35	6.13	8.47	7.88	22.48	0.77
02-Apr-14	11:36:00 PM	49.95	413.1	409.3	416.6	26.67	51.62	49.28	6.04	8.50	7.86	22.41	0.77
02-Apr-14	11:38:00 PM	49.96	413.2	409.9	416.6	27.11	51.51	49.48	6.13	8.48	7.87	22.48	0.77
02-Apr-14	11:40:00 PM	49.98	414.4	410.4	416.9	26.6	51.57	49.83	6.03	8.49	7.96	22.48	0.77
02-Apr-14	11:42:00 PM	50	414.4	410.6	416.8	27.18	51.67	49.67	6.16	8.50	7.96	22.63	0.77
02-Apr-14	11:44:00 PM	49.95	414.3	410.6	417.1	27.07	51.65	49.6	6.13	8.51	7.97	22.61	0.77
02-Apr-14	11:46:00 PM	49.93	414.1	410.1	416.8	26.97	51.7	49.68	6.11	8.49	7.98	22.58	0.77
02-Apr-14	11:48:00 PM	49.95	414.5	411	416.9	27.13	51.85	49.48	6.15	8.53	7.96	22.63	0.77
02-Apr-14	11:50:00 PM	50.01	414.7	411.2	417.1	27.07	51.73	49.79	6.13	8.53	8.00	22.67	0.77
02-Apr-14	11:52:00 PM	50.05	414.9	411.5	417.6	27.12	51.74	49.76	6.15	8.52	8.00	22.67	0.77
02-Apr-14	11:54:00 PM	50.05	415.3	411.4	417.8	27.02	51.79	49.57	6.13	8.54	7.98	22.66	0.77
02-Apr-14	11:56:00 PM	50.04	415.5	411.4	417.9	27	51.92	49.93	6.13	8.57	8.05	22.75	0.77
02-Apr-14	11:58:00 PM	49.97	415.5	412	417.7	26.83	52.01	49.87	6.09	8.59	8.01	22.70	0.77
03-Apr-14	12:00:00 AM	49.94	415.3	411.8	417.5	27	51.94	49.67	6.12	8.57	7.97	22.67	0.77

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
			Hz	V	V	V	A	A	A	kW	kW		
03-Apr-14	12:02:00 AM	49.93	416	412.2	417.9	27.35	52.01	49.81	6.22	8.59	8.02	22.83	0.77
03-Apr-14	12:04:00 AM	49.92	415.8	411.6	417.9	27.16	52	49.7	6.17	8.59	7.99	22.75	0.77
03-Apr-14	12:06:00 AM	49.93	415.7	411.5	417.9	27.21	52.09	49.73	6.18	8.59	8.00	22.77	0.77
03-Apr-14	12:08:00 AM	49.91	415.6	412.2	418.2	27.32	52.21	49.82	6.20	8.63	8.02	22.85	0.77
03-Apr-14	12:10:00 AM	49.85	415.4	411.8	418.3	27.31	52.07	49.81	6.22	8.57	8.00	22.79	0.77
03-Apr-14	12:12:00 AM	49.85	415.6	411.8	418.1	27.31	52.1	49.91	6.33	8.37	8.04	22.74	0.77
03-Apr-14	12:14:00 AM	49.91	416.3	412.2	418.5	27.24	52.2	49.62	6.32	8.41	8.01	22.74	0.77
03-Apr-14	12:16:00 AM	49.92	416.2	412.3	418.3	27.2	52.21	49.91	6.31	8.42	8.04	22.76	0.77
03-Apr-14	12:18:00 AM	49.99	416.8	413.3	419.1	27.22	52.24	49.68	6.32	8.43	8.03	22.78	0.77
03-Apr-14	12:20:00 AM	50.03	417.1	413.7	420.2	27.22	52.16	49.7	6.34	8.43	8.03	22.79	0.77
03-Apr-14	12:22:00 AM	50.02	416.9	413.2	420	27.2	52.24	49.83	6.33	8.44	8.05	22.81	0.77
03-Apr-14	12:24:00 AM	50.06	417.4	413.5	420.2	27.02	52.11	49.68	6.30	8.43	8.02	22.75	0.77
03-Apr-14	12:26:00 AM	50.03	417.4	413.8	420.1	27.3	52.21	49.92	6.36	8.43	8.07	22.85	0.77
03-Apr-14	12:28:00 AM	50.01	417.5	414	420.2	27.17	52.21	49.78	6.34	8.44	8.04	22.82	0.77
03-Apr-14	12:30:00 AM	50.02	417.4	413.5	420.6	27.25	52.07	49.71	6.35	8.41	8.03	22.78	0.77
03-Apr-14	12:32:00 AM	50.03	417.4	413.7	420.4	27.23	52.28	49.85	6.34	8.43	8.05	22.82	0.77
03-Apr-14	12:34:00 AM	50.04	417.5	413.7	420.3	27.24	52.06	49.86	6.35	8.41	8.05	22.81	0.77
03-Apr-14	12:36:00 AM	50.04	417.7	414.4	420.4	27.28	52.31	50.08	6.35	8.46	8.10	22.92	0.77
03-Apr-14	12:38:00 AM	50	417.5	414.7	420.4	27.29	52.42	49.93	6.35	8.49	8.08	22.91	0.77
03-Apr-14	12:40:00 AM	49.98	417.3	413.7	420.5	27.25	52.28	50.76	6.35	8.47	8.16	22.97	0.77
03-Apr-14	12:42:00 AM	49.97	417.5	413.7	420.3	27.4	52.24	50.84	6.39	8.48	8.21	23.07	0.77
03-Apr-14	12:44:00 AM	49.97	417.5	413.9	420.4	27.41	52.44	50.65	6.38	8.50	8.18	23.06	0.77
03-Apr-14	12:46:00 AM	49.98	417.6	414.4	420.7	27.53	52.39	50.87	6.41	8.51	8.19	23.12	0.77
03-Apr-14	12:48:00 AM	50.01	416.8	413.7	419.8	27.13	52.08	50.57	6.31	8.46	8.14	22.91	0.77
03-Apr-14	12:50:00 AM	50.04	416.8	413.1	419.6	27.16	52.22	50.47	6.32	8.46	8.12	22.90	0.77
03-Apr-14	12:52:00 AM	50.05	416.7	413	419.5	27.2	52.25	50.5	6.33	8.45	8.12	22.90	0.77
03-Apr-14	12:54:00 AM	50.04	416.9	413.1	419.5	27.2	52.16	50.3	6.33	8.44	8.09	22.86	0.77
03-Apr-14	12:56:00 AM	50.03	416.9	413.7	419.9	27.32	52.09	50.36	6.35	8.43	8.11	22.90	0.77
03-Apr-14	12:58:00 AM	49.99	416.9	413.6	419.4	27.34	52.33	50.53	6.35	8.46	8.13	22.94	0.77

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
03-Apr-14	1:00:00 AM	49.98	416.6	412.8	418.9	27.22	52.24	50.29	6.33	8.46	8.10	22.88	0.77
03-Apr-14	1:02:00 AM	50.01	416.5	412.8	419.3	27.33	52.2	50.4	6.36	8.46	8.10	22.92	0.77
03-Apr-14	1:04:00 AM	50.04	417.1	413.6	419.9	27.38	52.35	50.44	6.38	8.47	8.13	22.97	0.77
03-Apr-14	1:06:00 AM	50.06	417.1	413.7	419.3	27.35	52.37	50.23	6.36	8.48	8.10	22.94	0.77
03-Apr-14	1:08:00 AM	50.02	417.1	413.6	419.3	27.2	52.38	50.44	6.33	8.48	8.13	22.95	0.77
03-Apr-14	1:10:00 AM	50.04	417.4	413.4	419.4	27.33	52.54	50.32	6.37	8.53	8.09	22.98	0.77
03-Apr-14	1:12:00 AM	50.05	417.7	413.9	420.4	27.33	52.53	50.59	6.37	8.53	8.13	23.03	0.77
03-Apr-14	1:14:00 AM	50.05	418.1	414.4	420.6	27.2	52.53	50.57	6.29	8.63	8.14	23.06	0.77
03-Apr-14	1:16:00 AM	50.02	418	414.7	420.6	27.44	52.62	50.47	6.26	8.77	8.12	23.15	0.77
03-Apr-14	1:18:00 AM	49.97	418.1	414.5	420.5	27.45	52.74	50.63	6.27	8.80	8.13	23.20	0.77
03-Apr-14	1:20:00 AM	49.94	418	414	420.4	27.43	52.67	50.54	6.26	8.79	8.12	23.17	0.77
03-Apr-14	1:22:00 AM	49.91	417.9	414	420.3	27.46	52.75	50.66	6.27	8.79	8.13	23.20	0.77
03-Apr-14	1:24:00 AM	49.92	417.8	414.3	420.6	27.45	52.61	50.79	6.27	8.78	8.18	23.22	0.77
03-Apr-14	1:26:00 AM	49.95	418.3	415.2	421.2	27.52	52.78	50.6	6.29	8.80	8.16	23.24	0.77
03-Apr-14	1:28:00 AM	49.95	418.2	415	420.8	27.31	52.68	50.61	6.24	8.79	8.16	23.19	0.77
03-Apr-14	1:30:00 AM	49.96	418.3	414.6	420.8	27.4	52.8	50.45	6.26	8.83	8.14	23.23	0.77
03-Apr-14	1:32:00 AM	49.98	418.1	414.6	420.9	27.4	52.77	50.58	6.26	8.81	8.16	23.23	0.77
03-Apr-14	1:34:00 AM	49.97	418	414.5	420.9	27.41	52.63	50.68	6.27	8.79	8.17	23.22	0.77
03-Apr-14	1:36:00 AM	49.97	417.9	414.6	420.9	27.41	52.56	50.58	6.26	8.79	8.16	23.22	0.77
03-Apr-14	1:38:00 AM	49.98	418.1	414.8	420.9	27.15	52.59	50.82	6.21	8.80	8.19	23.20	0.77
03-Apr-14	1:40:00 AM	49.99	418.2	414.7	421.2	27.51	52.55	50.66	6.30	8.80	8.14	23.24	0.77
03-Apr-14	1:42:00 AM	50	418.6	415.1	421	27.49	52.67	50.79	6.28	8.82	8.17	23.27	0.77
03-Apr-14	1:44:00 AM	49.99	418.7	415	420.9	27.43	52.62	50.81	6.27	8.80	8.18	23.26	0.77
03-Apr-14	1:46:00 AM	50.01	418.9	416	421.6	27.53	52.85	50.85	6.30	8.83	8.19	23.31	0.77
03-Apr-14	1:48:00 AM	50.01	419.1	416	421.9	27.29	52.69	51	6.25	8.82	8.23	23.31	0.77
03-Apr-14	1:50:00 AM	49.99	419.1	415.4	421.5	27.55	52.79	50.87	6.31	8.85	8.20	23.36	0.77
03-Apr-14	1:52:00 AM	50.01	420	416.1	422.5	27.52	53.01	51.08	6.32	8.89	8.25	23.45	0.77
03-Apr-14	1:54:00 AM	50.02	420.4	416.4	423.2	27.51	52.77	51.03	6.33	8.87	8.26	23.46	0.77
03-Apr-14	1:56:00 AM	50.01	420.8	417.4	423.3	27.71	52.92	51.29	6.37	8.89	8.31	23.57	0.77

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
			Hz	V	V	V	A	A	A	kW	kW		
03-Apr-14	1:58:00 AM	50	421.2	417.9	423.3	27.74	52.98	51.29	6.38	8.92	8.32	23.61	0.77
03-Apr-14	2:00:00 AM	50.01	421.1	417.7	423.6	27.67	52.96	51.32	6.37	8.92	8.34	23.63	0.77
03-Apr-14	2:02:00 AM	50.02	421.1	417.7	423.7	27.67	53.05	51.22	6.37	8.95	8.30	23.62	0.77
03-Apr-14	2:04:00 AM	49.99	421.1	417.6	423.4	27.74	53	51.32	6.38	8.94	8.32	23.64	0.77
03-Apr-14	2:06:00 AM	50	421.4	418.1	423.9	27.75	53.09	51.4	6.38	8.93	8.36	23.68	0.77
03-Apr-14	2:08:00 AM	49.96	421.3	418.1	424.7	27.6	53.03	51.37	6.36	8.93	8.34	23.63	0.77
03-Apr-14	2:10:00 AM	49.95	421.3	417.7	424.3	27.7	53.21	51.59	6.39	8.95	8.39	23.73	0.77
03-Apr-14	2:12:00 AM	49.98	421.4	417.9	424	27.79	53.2	51.23	6.40	8.98	8.32	23.70	0.77
03-Apr-14	2:14:00 AM	50	421.4	417.8	424.2	27.77	53.17	51.26	6.39	8.98	8.31	23.68	0.77
03-Apr-14	2:16:00 AM	50.02	421.7	418.7	424.4	27.86	53.25	51.17	6.42	8.99	8.32	23.72	0.77
03-Apr-14	2:18:00 AM	50.02	421.9	418.7	424.3	27.83	53.1	51.35	6.41	8.97	8.36	23.73	0.77
03-Apr-14	2:20:00 AM	50	421.7	418.5	424.4	27.78	53.22	51.23	6.40	8.99	8.32	23.70	0.77
03-Apr-14	2:22:00 AM	50	422	418.4	424.9	27.76	53.22	51.34	6.41	9.00	8.33	23.74	0.77
03-Apr-14	2:24:00 AM	49.98	422.1	418.3	424.5	27.81	53.15	51.31	6.41	9.00	8.33	23.74	0.77
03-Apr-14	2:26:00 AM	49.95	421.9	418.7	424.5	27.87	53.29	51.34	6.47	8.92	8.35	23.74	0.77
03-Apr-14	2:28:00 AM	49.92	421.8	418.8	424.6	27.44	53.35	51.44	6.46	8.76	8.39	23.61	0.77
03-Apr-14	2:30:00 AM	49.92	421.6	418.3	424.1	27.87	53.26	51.2	6.55	8.75	8.34	23.64	0.77
03-Apr-14	2:32:00 AM	49.91	421.2	417.7	423.7	27.76	53.51	51.45	6.52	8.77	8.36	23.65	0.77
03-Apr-14	2:34:00 AM	49.93	421.2	418	424.1	27.84	53.29	51.41	6.54	8.74	8.35	23.63	0.77
03-Apr-14	2:36:00 AM	49.98	421.6	418.4	424.4	27.83	53.23	51.33	6.54	8.73	8.35	23.61	0.77
03-Apr-14	2:38:00 AM	50.03	421.9	418.2	424.3	27.66	53.41	51.33	6.51	8.75	8.38	23.63	0.77
03-Apr-14	2:40:00 AM	50.03	422.1	418.1	425	27.64	53.15	51.15	6.52	8.73	8.35	23.60	0.77
03-Apr-14	2:42:00 AM	50.04	422.2	418.6	425.2	27.71	53.25	51.39	6.53	8.76	8.39	23.68	0.77
03-Apr-14	2:44:00 AM	50.02	422.6	419.2	425.2	27.9	53.32	51.46	6.57	8.76	8.41	23.74	0.77
03-Apr-14	2:46:00 AM	50	422.8	419.8	425.6	27.89	53.38	51.52	6.57	8.77	8.43	23.77	0.77
03-Apr-14	2:48:00 AM	50	422.8	419.4	425.8	27.82	53.3	51.79	6.56	8.76	8.46	23.78	0.77
03-Apr-14	2:50:00 AM	50.02	423.1	419.3	425.7	27.66	53.29	51.63	6.52	8.77	8.43	23.73	0.77
03-Apr-14	2:52:00 AM	50.01	423.2	419.2	425.9	27.72	53.47	51.68	6.55	8.82	8.43	23.80	0.77
03-Apr-14	2:54:00 AM	49.99	423.1	419.5	426.3	27.91	53.4	51.72	6.59	8.82	8.45	23.86	0.77

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
03-Apr-14	2:56:00 AM	49.99	423.2	419.7	426	27.96	53.44	51.66	6.60	8.81	8.43	23.84	0.77
03-Apr-14	2:58:00 AM	49.95	423	419.5	425.8	27.93	53.34	51.72	6.58	8.80	8.42	23.81	0.77
03-Apr-14	3:00:00 AM	49.93	422.7	419.2	426	27.84	53.44	51.64	6.57	8.80	8.42	23.79	0.77
03-Apr-14	3:02:00 AM	49.96	422.9	419.3	425.9	27.84	53.57	51.82	6.57	8.83	8.47	23.87	0.77
03-Apr-14	3:04:00 AM	49.96	423.1	419.5	426.1	27.91	53.56	51.39	6.58	8.86	8.39	23.84	0.77
03-Apr-14	3:06:00 AM	49.97	423.4	419.8	426.4	27.86	53.45	51.69	6.58	8.85	8.45	23.87	0.77
03-Apr-14	3:08:00 AM	50	423.6	419.8	426.5	27.77	53.68	51.56	6.56	8.86	8.43	23.85	0.77
03-Apr-14	3:10:00 AM	50.05	424.2	420.1	426.7	27.78	53.63	51.69	6.57	8.88	8.42	23.87	0.77
03-Apr-14	3:12:00 AM	50.09	424.3	420.7	427.1	27.41	53.5	51.74	6.49	8.85	8.42	23.76	0.77
03-Apr-14	3:14:00 AM	50.08	424	420.6	426.5	28.16	53.41	51.72	6.66	8.84	8.45	23.94	0.77
03-Apr-14	3:16:00 AM	50.07	423.9	420.8	426.6	27.79	53.52	51.68	6.56	8.85	8.44	23.86	0.77
03-Apr-14	3:18:00 AM	50.01	423.6	420.3	426.7	27.86	53.56	51.71	6.59	8.84	8.44	23.87	0.77
03-Apr-14	3:20:00 AM	50.05	423.7	420.2	426.8	27.85	53.45	51.84	6.58	8.82	8.46	23.87	0.77
03-Apr-14	3:22:00 AM	50.06	423.9	420.4	427	27.84	53.65	51.57	6.59	8.85	8.44	23.87	0.77
03-Apr-14	3:24:00 AM	50.06	423.7	420.5	427.1	27.88	53.48	51.62	6.59	8.82	8.45	23.86	0.77
03-Apr-14	3:26:00 AM	50.04	423.5	420.7	427.2	27.9	53.31	51.81	6.59	8.80	8.50	23.88	0.77
03-Apr-14	3:28:00 AM	50.03	423.3	420.6	426.7	27.83	53.54	51.65	6.57	8.81	8.47	23.84	0.77
03-Apr-14	3:30:00 AM	50.03	423.7	420.4	427	27.89	53.64	51.75	6.59	8.82	8.47	23.88	0.77
03-Apr-14	3:32:00 AM	50.02	424	420.6	426.9	27.89	53.61	51.78	6.59	8.82	8.48	23.89	0.77
03-Apr-14	3:34:00 AM	50.01	424.2	420.9	427	27.74	53.76	51.88	6.57	8.86	8.49	23.92	0.77
03-Apr-14	3:36:00 AM	49.99	424.1	421.1	427.6	28.06	53.7	52.1	6.63	8.86	8.52	24.02	0.77
03-Apr-14	3:38:00 AM	50.01	424.1	420.5	427.3	27.97	53.55	51.8	6.61	8.84	8.47	23.92	0.77
03-Apr-14	3:40:00 AM	50.03	424.1	420.6	427.2	27.94	53.6	52.07	6.54	8.97	8.49	24.00	0.77
03-Apr-14	3:42:00 AM	50.01	424	420.7	427.4	27.68	53.65	51.94	6.42	9.09	8.46	23.98	0.77
03-Apr-14	3:44:00 AM	50.01	424.1	421.2	427.3	27.95	53.76	51.95	6.47	9.12	8.48	24.07	0.77
03-Apr-14	3:46:00 AM	49.99	424	421.5	427.3	28.11	53.66	52.07	6.52	9.12	8.50	24.14	0.77
03-Apr-14	3:48:00 AM	49.96	423.7	420.6	427.5	27.98	53.85	51.83	6.49	9.11	8.45	24.04	0.77
03-Apr-14	3:50:00 AM	49.98	424.2	420.6	427.4	27.98	53.88	51.9	6.49	9.13	8.45	24.08	0.77
03-Apr-14	3:52:00 AM	49.99	424.4	420.6	427.5	27.98	53.8	51.88	6.50	9.14	8.44	24.08	0.77

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW				
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
03-Apr-14	3:54:00 AM	49.97	424.4	420.9	427.8	27.83	53.85	51.79	6.47	9.16	8.44	24.06	0.77
03-Apr-14	3:56:00 AM	49.92	424.1	420.9	427.7	28.02	53.83	52.18	6.51	9.14	8.53	24.18	0.77
03-Apr-14	3:58:00 AM	49.92	424.2	421	427.5	28.05	53.81	51.91	6.51	9.14	8.47	24.11	0.77
03-Apr-14	4:00:00 AM	49.93	424.2	421	427.7	28.05	53.75	51.99	6.51	9.12	8.46	24.09	0.77
03-Apr-14	4:02:00 AM	49.93	424.2	420.8	427.1	28.01	53.93	52.05	6.50	9.14	8.49	24.13	0.77
03-Apr-14	4:04:00 AM	49.95	424	421.1	427.3	28.06	53.93	52	6.50	9.15	8.48	24.13	0.77
03-Apr-14	4:06:00 AM	49.91	423.9	421	427.7	27.5	53.87	52.34	6.37	9.13	8.54	24.05	0.77
03-Apr-14	4:08:00 AM	49.88	423.3	419.8	426.9	27.98	54.02	52.23	6.48	9.12	8.53	24.13	0.77
03-Apr-14	4:10:00 AM	49.83	423.3	419.7	426.9	27.95	53.98	52.1	6.48	9.13	8.48	24.08	0.77
03-Apr-14	4:12:00 AM	49.81	423.3	420	426.9	27.97	53.94	52	6.47	9.13	8.46	24.07	0.77
03-Apr-14	4:14:00 AM	49.85	423.6	420.6	427.2	28.12	53.98	51.75	6.51	9.15	8.39	24.05	0.77
03-Apr-14	4:16:00 AM	49.92	424	420.9	427.7	27.44	53.93	51.99	6.36	9.16	8.42	23.94	0.77
03-Apr-14	4:18:00 AM	49.93	424	420.4	427.4	28.16	53.93	51.62	6.54	9.14	8.35	24.04	0.77
03-Apr-14	4:20:00 AM	49.94	424	420.5	426.9	28.04	53.88	51.53	6.50	9.14	8.34	23.98	0.77
03-Apr-14	4:22:00 AM	49.95	424.2	420	427.2	27.9	54.03	51.7	6.48	9.15	8.38	24.01	0.77
03-Apr-14	4:24:00 AM	50.05	424.9	421.2	427.6	27.93	54.05	51.6	6.49	9.19	8.37	24.04	0.77
03-Apr-14	4:26:00 AM	50.04	424.9	421.2	427.8	27.92	53.73	51.91	6.49	9.15	8.41	24.04	0.77
03-Apr-14	4:28:00 AM	50.01	424.6	421	427.9	27.59	53.88	51.63	6.41	9.14	8.35	23.90	0.77
03-Apr-14	4:30:00 AM	49.97	424.5	420.8	427.5	27.4	53.86	51.95	6.37	9.14	8.42	23.93	0.77
03-Apr-14	4:32:00 AM	49.94	424.3	420.9	427.6	28.15	53.92	52.06	6.55	9.14	8.44	24.13	0.77
03-Apr-14	4:34:00 AM	49.93	424.4	421.1	427.9	28.05	54	52.1	6.51	9.16	8.43	24.10	0.77
03-Apr-14	4:36:00 AM	49.88	424.2	420.6	427.4	27.96	54.06	51.96	6.48	9.16	8.39	24.03	0.77
03-Apr-14	4:38:00 AM	49.91	424.4	420.7	427.7	27.64	54.17	52.12	6.43	9.18	8.41	24.01	0.77
03-Apr-14	4:40:00 AM	49.96	424.5	420.9	427.9	27.88	53.95	52.06	6.48	9.16	8.39	24.03	0.77
03-Apr-14	4:42:00 AM	49.97	424.3	420.4	427.4	27.84	53.86	51.92	6.46	9.12	8.36	23.94	0.77
03-Apr-14	4:44:00 AM	49.95	424.1	420.6	427	28.02	53.85	52.15	6.50	9.10	8.40	24.00	0.77
03-Apr-14	4:46:00 AM	49.97	424.1	420.8	427.2	27.92	53.7	52.04	6.47	9.10	8.38	23.94	0.77
03-Apr-14	4:48:00 AM	49.99	423.9	420.4	426.8	27.84	53.65	52.07	6.45	9.08	8.37	23.90	0.77
03-Apr-14	4:50:00 AM	49.96	423.6	420.2	426.7	27.38	53.81	51.9	6.34	9.10	8.32	23.75	0.77

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
			Hz	V	V	V	A	A	A	kW	kW		
03-Apr-14	4:52:00 AM	50.01	424.2	420.3	426.9	28.02	53.84	51.64	6.51	9.13	8.27	23.91	0.77
03-Apr-14	4:54:00 AM	50.07	424.6	421	427.3	27.83	53.72	51.92	6.45	9.12	8.34	23.91	0.77
03-Apr-14	4:56:00 AM	50.16	425.2	421.7	428.4	27.76	53.64	51.89	6.45	9.11	8.35	23.91	0.77
03-Apr-14	4:58:00 AM	50.17	425.8	422	429.1	27.71	53.94	51.78	6.45	9.17	8.34	23.95	0.77
03-Apr-14	5:00:00 AM	50.16	425.7	422.1	429.1	27.48	53.78	52.02	6.41	9.16	8.39	23.95	0.77
03-Apr-14	5:02:00 AM	50.12	425.1	421.4	428.8	27.84	53.58	51.81	6.47	9.10	8.35	23.91	0.77
03-Apr-14	5:04:00 AM	50.05	424.8	421.3	427.7	27.85	53.66	51.87	6.46	9.11	8.33	23.90	0.77
03-Apr-14	5:06:00 AM	50.04	424.7	421.1	428.2	27.75	53.61	52.08	6.44	9.09	8.38	23.91	0.77
03-Apr-14	5:08:00 AM	50.05	424.9	420.9	428.3	27.73	53.65	51.98	6.44	9.07	8.37	23.88	0.77
03-Apr-14	5:10:00 AM	50.12	425	421	428.2	27.77	53.47	52.13	6.45	9.06	8.40	23.90	0.77
03-Apr-14	5:12:00 AM	50.11	425	420.7	428.2	27.79	53.68	51.79	6.46	9.08	8.33	23.87	0.77
03-Apr-14	5:14:00 AM	50.07	424.6	421.2	427.6	27.87	53.9	52.06	6.46	9.12	8.38	23.96	0.77
03-Apr-14	5:16:00 AM	50.02	424	420.9	427	27.78	53.82	51.83	6.43	9.12	8.36	23.90	0.77
03-Apr-14	5:18:00 AM	50	423.7	420.3	427.1	27.48	53.82	51.67	6.37	9.08	8.34	23.79	0.77
03-Apr-14	5:20:00 AM	50	423.4	420.2	426.9	27.65	53.78	51.82	6.40	9.07	8.36	23.83	0.77
03-Apr-14	5:22:00 AM	50.04	423.2	420	427	27.56	53.66	51.63	6.38	9.04	8.34	23.76	0.77
03-Apr-14	5:24:00 AM	50.08	423.8	420.4	427.4	27.7	53.57	51.72	6.42	9.06	8.35	23.83	0.77
03-Apr-14	5:26:00 AM	50.09	423.8	420.1	426.8	27.57	53.55	51.7	6.38	9.06	8.37	23.80	0.77
03-Apr-14	5:28:00 AM	50.08	423.5	419.6	427.3	27.27	53.52	51.48	6.33	9.04	8.32	23.69	0.77
03-Apr-14	5:30:00 AM	50.02	422.8	419.3	426.6	27.64	53.31	51.53	6.39	8.99	8.31	23.70	0.77
03-Apr-14	5:32:00 AM	49.93	421.9	418.7	425.5	27.66	52.95	51.75	6.38	8.88	8.31	23.57	0.77
03-Apr-14	5:34:00 AM	49.88	421.5	418.9	425.2	27.83	53	51.49	6.47	8.76	8.28	23.51	0.76
03-Apr-14	5:36:00 AM	49.84	421.4	418.3	424.6	27.72	53	51.84	6.51	8.61	8.35	23.47	0.76
03-Apr-14	5:38:00 AM	49.87	421.5	418.1	425.2	27.76	52.91	51.74	6.53	8.58	8.34	23.46	0.76
03-Apr-14	5:40:00 AM	49.88	421.5	418.1	425.1	28.06	52.93	51.58	6.60	8.59	8.33	23.52	0.76
03-Apr-14	5:42:00 AM	49.92	422	418.1	425.1	28.02	52.84	51.53	6.60	8.58	8.33	23.51	0.77
03-Apr-14	5:44:00 AM	49.98	422.2	418.6	425.4	27.75	52.81	51.34	6.54	8.58	8.33	23.45	0.77
03-Apr-14	5:46:00 AM	50	422.1	418.4	425.7	28.04	52.73	51.54	6.60	8.56	8.37	23.53	0.77
03-Apr-14	5:48:00 AM	49.99	421.8	418.5	425.5	28	52.81	51.8	6.59	8.55	8.41	23.55	0.76

Measurement of Power Parameters at Aadhartal Tiraha Switching Point													
Date	Time	Frequency	Line Voltage Measurement			Current Measurement			kW/ Phase			Total kW	PF
			U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
		Hz	V	V	V	A	A	A	kW	kW	kW	kW	
03-Apr-14	5:50:00 AM	49.99	422.1	418.3	425.6	28.16	52.78	51.62	6.63	8.55	8.36	23.55	0.76
03-Apr-14	5:52:00 AM	50.02	421.9	418.3	424.8	28.2	52.86	51.83	6.62	8.56	8.42	23.60	0.76
03-Apr-14	5:54:00 AM	50.1	422.7	419.4	425.5	28.15	52.91	51.77	6.62	8.57	8.44	23.63	0.76
03-Apr-14	5:56:00 AM	50.18	423.1	419.9	426.7	28.07	52.87	51.62	6.62	8.58	8.43	23.63	0.76
03-Apr-14	5:58:00 AM	50.16	423	420	426.3	28.2	52.96	51.37	6.65	8.59	8.36	23.59	0.76
Average load in kW												22.93	0.77

Table: Harmonics and Voltage & Current Unbalance Measurement

Harmonics & Voltage & Current Unbalance Measurement at Aadhartal Tiraha Switching Point										
Date	Time	Frequency	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			Hz	%	%	%	%	%	%	%
02-Apr-14	8:22:00 PM	50.08	13.9	10.1	10.1	1.5	1.7	1.8	42.7	1.3
02-Apr-14	8:24:00 PM	50.07	13.9	10	10.2	1.6	1.8	1.8	42.7	1.3
02-Apr-14	8:26:00 PM	50.02	14	10	10.1	1.5	1.8	1.8	42.7	1.4
02-Apr-14	8:28:00 PM	50.02	14	10.1	10.2	1.6	1.9	1.9	42.7	1.4
02-Apr-14	8:30:00 PM	50.04	13.9	10.1	10.2	1.6	1.9	1.9	42.4	1.3
02-Apr-14	8:32:00 PM	50.04	14.1	10.1	10.2	1.6	1.9	1.9	42.3	1.2
02-Apr-14	8:34:00 PM	50.04	14	10.1	10.2	1.6	1.9	1.9	42.4	1.4
02-Apr-14	8:36:00 PM	49.98	13.9	10.1	10.2	1.6	1.9	1.8	42.5	1.4
02-Apr-14	8:38:00 PM	49.97	13.9	10.2	10.2	1.5	1.8	1.8	42.6	1.3
02-Apr-14	8:40:00 PM	49.93	13.9	10.2	10.2	1.6	1.8	1.9	42.6	1.2
02-Apr-14	8:42:00 PM	49.93	13.9	10.2	10.4	1.6	1.8	1.8	42.4	1.2
02-Apr-14	8:44:00 PM	49.88	13.8	10.2	10.3	1.6	1.9	1.9	42.7	1.3
02-Apr-14	8:46:00 PM	49.92	14	10.2	10.4	1.6	1.9	1.9	42.5	1.3
02-Apr-14	8:48:00 PM	49.93	14.1	10.2	10.3	1.6	1.9	2	42.5	1.3
02-Apr-14	8:50:00 PM	49.95	13.9	10.2	10.4	1.7	1.9	1.9	42.4	1.2
02-Apr-14	8:52:00 PM	49.93	14	10.2	10.4	1.6	1.9	1.9	42.7	1.3
02-Apr-14	8:54:00 PM	49.92	14	10.1	10.2	1.5	1.8	1.9	42.6	1.3
02-Apr-14	8:56:00 PM	49.94	13.9	10.3	10.1	1.5	1.9	1.8	42.5	1.4
02-Apr-14	8:58:00 PM	49.92	14.1	10.2	10.1	1.6	2	1.9	42.5	1.3
02-Apr-14	9:00:00 PM	49.92	14.2	10.2	10.2	1.6	1.9	1.9	42.6	1.2
02-Apr-14	9:02:00 PM	49.93	14	10.2	10.2	1.5	1.8	1.8	42.7	1.2
02-Apr-14	9:04:00 PM	49.87	14	11.8	10.3	1.5	1.8	1.7	38.5	1.3
02-Apr-14	9:06:00 PM	49.84	14	12.4	10.3	1.5	1.8	1.7	37.6	1.3
02-Apr-14	9:08:00 PM	49.83	14.1	12.4	10.4	1.5	1.8	1.7	37.3	1.3
02-Apr-14	9:10:00 PM	49.87	14.1	12.4	10.4	1.5	1.8	1.7	37.7	1.2

Harmonics & Voltage & Current Unbalance Measurement at Aadhartal Tiraha Switching Point										
02-Apr-14	9:12:00 PM	49.92	14.1	12.4	10.5	1.5	1.8	1.7	37.7	1.3
02-Apr-14	9:14:00 PM	49.96	14	12.5	10.5	1.5	1.8	1.7	37.5	1.3
02-Apr-14	9:16:00 PM	50.04	13.9	12.5	10.5	1.5	1.8	1.7	37.6	1.3
02-Apr-14	9:18:00 PM	50.06	14.1	12.6	10.6	1.5	1.8	1.7	37.3	1.3
02-Apr-14	9:20:00 PM	50.04	14.2	12.6	10.6	1.6	1.7	1.7	37.6	1.3
02-Apr-14	9:22:00 PM	50.04	13.8	12.7	10.7	1.5	1.7	1.7	37.9	1.3
02-Apr-14	9:24:00 PM	50.08	13.9	12.7	11	1.5	1.7	1.7	38.4	1.3
02-Apr-14	9:26:00 PM	49.99	14	12.7	11	1.5	1.7	1.7	38.8	1.3
02-Apr-14	9:28:00 PM	49.93	14	12.8	11	1.4	1.7	1.7	38.6	1.3
02-Apr-14	9:30:00 PM	49.88	14.1	12.8	11	1.5	1.7	1.7	38.4	1.3
02-Apr-14	9:32:00 PM	49.94	14.1	12.8	11	1.4	1.7	1.7	38.3	1.3
02-Apr-14	9:34:00 PM	50.06	14	12.8	11	1.4	1.7	1.7	38.3	1.2
02-Apr-14	9:36:00 PM	50.07	14.1	12.8	11.2	1.4	1.7	1.7	38.3	1.2
02-Apr-14	9:38:00 PM	50.1	14.1	12.8	11.2	1.4	1.7	1.7	38.5	1.1
02-Apr-14	9:40:00 PM	50.1	14.3	12.9	11.2	1.4	1.7	1.7	38.8	1.1
02-Apr-14	9:42:00 PM	50.05	14.1	13.1	11.3	1.4	1.7	1.7	38.7	1.1
02-Apr-14	9:44:00 PM	50.01	14.2	13.2	11.3	1.3	1.7	1.7	38.5	1.2
02-Apr-14	9:46:00 PM	49.97	14.1	13.2	11.4	1.3	1.6	1.5	38.3	1.2
02-Apr-14	9:48:00 PM	50.01	14.3	13.3	11.4	1.3	1.5	1.6	38.6	1.2
02-Apr-14	9:50:00 PM	49.97	14.4	13.4	11.4	1.3	1.5	1.5	38.6	1.2
02-Apr-14	9:52:00 PM	49.98	14.3	13.5	11.5	1.3	1.5	1.5	38.7	1.2
02-Apr-14	9:54:00 PM	50.01	14.4	13.5	11.6	1.3	1.5	1.5	38.6	1.2
02-Apr-14	9:56:00 PM	50.02	14.1	13.4	11.6	1.3	1.6	1.5	38.6	1.2
02-Apr-14	9:58:00 PM	49.98	14.2	13.5	11.6	1.3	1.5	1.5	38.3	1.1
02-Apr-14	10:00:00 PM	49.89	14.5	13.6	11.5	1.3	1.5	1.4	38.1	1.1
02-Apr-14	10:02:00 PM	49.85	14.2	13.5	11.6	1.3	1.4	1.5	38	1.1
02-Apr-14	10:04:00 PM	49.87	14.3	13.5	11.8	1.3	1.6	1.5	37.7	1.1
02-Apr-14	10:06:00 PM	49.88	14.2	13.6	11.9	1.3	1.6	1.5	37.7	1.1
02-Apr-14	10:08:00 PM	49.88	14.6	13.6	11.9	1.3	1.6	1.5	37.9	1
02-Apr-14	10:10:00 PM	49.86	14.5	13.5	12	1.3	1.5	1.5	37.9	1
02-Apr-14	10:12:00 PM	49.83	14.5	13.5	12.1	1.2	1.5	1.5	37.8	1.1
02-Apr-14	10:14:00 PM	49.84	14.5	13.5	12.2	1.3	1.5	1.5	37.6	1.1

Harmonics & Voltage & Current Unbalance Measurement at Aadhartal Tiraha Switching Point										
02-Apr-14	10:16:00 PM	49.92	14.5	13.7	12.2	1.3	1.5	1.5	37.7	1.1
02-Apr-14	10:18:00 PM	50.01	14.8	14	12.1	1.3	1.5	1.5	37.8	1
02-Apr-14	10:20:00 PM	50.03	15.1	14	12.1	1.4	1.6	1.6	37.8	1
02-Apr-14	10:22:00 PM	50.05	15	14.1	12.1	1.3	1.6	1.6	37.7	1.1
02-Apr-14	10:24:00 PM	50.04	15.1	14	12	1.3	1.6	1.6	37.8	1
02-Apr-14	10:26:00 PM	49.99	15.1	14.1	12.1	1.2	1.5	1.5	37.9	1
02-Apr-14	10:28:00 PM	49.93	14.8	14.2	12	1.2	1.5	1.5	37.9	1
02-Apr-14	10:30:00 PM	49.88	15	14.4	12	1.3	1.5	1.5	38.1	0.9
02-Apr-14	10:32:00 PM	49.87	15.1	14.4	12.1	1.3	1.5	1.5	37.9	1
02-Apr-14	10:34:00 PM	49.86	15.1	14.4	12.3	1.3	1.5	1.5	38	0.9
02-Apr-14	10:36:00 PM	49.86	15.2	14.5	12.4	1.3	1.5	1.4	37.9	0.9
02-Apr-14	10:38:00 PM	49.89	15.2	14.6	12.3	1.3	1.5	1.5	38.1	0.8
02-Apr-14	10:40:00 PM	49.9	15.1	14.5	12.3	1.2	1.4	1.5	37.9	0.8
02-Apr-14	10:42:00 PM	49.87	15.6	14.6	12.4	1.2	1.5	1.5	38.1	0.9
02-Apr-14	10:44:00 PM	49.84	15.7	14.7	12.3	1.2	1.5	1.5	38.3	0.9
02-Apr-14	10:46:00 PM	49.89	16.2	14.9	12.3	1.2	1.6	1.5	38.2	0.9
02-Apr-14	10:48:00 PM	49.93	16.5	14.9	12.3	1.3	1.6	1.4	38.4	0.7
02-Apr-14	10:50:00 PM	49.92	16.3	14.8	12.3	1.2	1.5	1.4	38.2	0.7
02-Apr-14	10:52:00 PM	49.97	16.2	14.8	12.4	1.1	1.5	1.4	38.2	0.8
02-Apr-14	10:54:00 PM	49.99	16.3	14.9	12.4	1.2	1.5	1.4	38.1	0.8
02-Apr-14	10:56:00 PM	49.94	16.4	15.1	12.5	1.2	1.5	1.4	38.2	0.8
02-Apr-14	10:58:00 PM	49.85	16.6	15.4	12.5	1.3	1.6	1.4	38.3	0.7
02-Apr-14	11:00:00 PM	49.8	16.6	15.5	12.6	1.2	1.5	1.4	38.2	0.8
02-Apr-14	11:02:00 PM	49.81	16.5	15.5	12.5	1.2	1.5	1.4	38.3	0.9
02-Apr-14	11:04:00 PM	49.82	16.6	15.5	12.6	1.2	1.5	1.5	38.2	0.9
02-Apr-14	11:06:00 PM	49.88	16.6	15.5	12.5	1.3	1.6	1.5	38.2	0.8
02-Apr-14	11:08:00 PM	49.88	16.7	15.5	12.5	1.4	1.6	1.6	38.2	0.8
02-Apr-14	11:10:00 PM	49.89	16.6	15.5	12.4	1.3	1.5	1.5	37.9	0.9
02-Apr-14	11:12:00 PM	49.88	16.6	15.4	12.4	1.3	1.5	1.5	37.7	0.9
02-Apr-14	11:14:00 PM	49.89	16.6	15.4	12.3	1.2	1.4	1.4	37.7	0.9
02-Apr-14	11:16:00 PM	49.98	16.6	15.5	12.4	1.3	1.4	1.4	37.5	0.9
02-Apr-14	11:18:00 PM	50.05	16.6	15.5	12.4	1.2	1.4	1.4	37.5	0.9

Harmonics & Voltage & Current Unbalance Measurement at Aadhartal Tiraha Switching Point										
02-Apr-14	11:20:00 PM	50.09	16.6	15.6	12.6	1.2	1.4	1.4	37.8	0.9
02-Apr-14	11:22:00 PM	50.1	16.5	15.7	12.7	1.2	1.4	1.4	37.9	1
02-Apr-14	11:24:00 PM	50.04	16.4	15.4	12.7	1.1	1.4	1.4	38	0.9
02-Apr-14	11:26:00 PM	49.98	16.1	15.4	12.6	1.1	1.3	1.2	37.8	0.9
02-Apr-14	11:28:00 PM	49.98	16.5	15.4	12.6	1	1.2	1.2	38	0.9
02-Apr-14	11:30:00 PM	49.97	16.5	15.4	12.6	1	1.2	1.2	37.8	1
02-Apr-14	11:32:00 PM	49.95	16.3	15.5	12.6	1	1.2	1.2	37.9	1
02-Apr-14	11:34:00 PM	49.95	16.3	15.4	12.5	1	1.1	1.1	37.9	0.9
02-Apr-14	11:36:00 PM	49.95	16.3	15.4	12.6	0.9	1.1	1.1	38	1
02-Apr-14	11:38:00 PM	49.96	16.5	15.5	12.6	1	1.2	1.1	38.2	0.9
02-Apr-14	11:40:00 PM	49.98	16.5	15.5	12.6	1.1	1.3	1.2	38	0.8
02-Apr-14	11:42:00 PM	50	16.3	15.6	12.6	1.1	1.2	1.2	37.8	0.8
02-Apr-14	11:44:00 PM	49.95	16.4	15.5	12.6	1.1	1.3	1.2	37.9	0.9
02-Apr-14	11:46:00 PM	49.93	16.4	15.5	12.6	1	1.1	1.1	37.8	0.9
02-Apr-14	11:48:00 PM	49.95	16.5	15.6	12.7	0.9	1.1	1.1	37.9	0.8
02-Apr-14	11:50:00 PM	50.01	16.6	15.6	12.7	0.9	1.1	1.1	37.9	0.8
02-Apr-14	11:52:00 PM	50.05	16.7	15.7	12.6	1	1.1	1	37.9	0.8
02-Apr-14	11:54:00 PM	50.05	16.7	15.7	12.6	1	1.1	1	38	0.8
02-Apr-14	11:56:00 PM	50.04	16.7	15.7	12.6	1	1.1	1.1	37.8	0.8
02-Apr-14	11:58:00 PM	49.97	16.5	15.7	12.7	0.9	1.1	1.1	38.1	0.8
03-Apr-14	12:00:00 AM	49.94	16.5	15.7	12.6	1	1.2	1.1	38.2	0.8
03-Apr-14	12:02:00 AM	49.93	16.3	15.6	12.5	1	1.2	1.1	37.9	0.8
03-Apr-14	12:04:00 AM	49.92	16.6	15.5	12.6	0.9	1.2	1.1	38.1	0.8
03-Apr-14	12:06:00 AM	49.93	16.6	15.6	12.5	0.9	1.1	1	38.1	0.8
03-Apr-14	12:08:00 AM	49.91	16.7	15.6	12.6	0.9	1.1	1	38.1	0.8
03-Apr-14	12:10:00 AM	49.85	16.7	15.6	12.5	1	1.1	1	38.1	0.9
03-Apr-14	12:12:00 AM	49.85	16.7	15.6	12.6	1	1.1	1	38.1	0.8
03-Apr-14	12:14:00 AM	49.91	16.7	15.6	12.5	0.9	1.1	1	38.2	0.9
03-Apr-14	12:16:00 AM	49.92	16.5	15.6	12.6	0.8	1.1	1	38.3	0.8
03-Apr-14	12:18:00 AM	49.99	16.6	15.5	12.4	0.8	1.1	0.9	38.3	0.8
03-Apr-14	12:20:00 AM	50.03	16.6	15.5	12.4	0.9	1.1	0.9	38.3	0.9
03-Apr-14	12:22:00 AM	50.02	16.6	15.6	12.3	0.8	1	0.9	38.2	0.9

Harmonics & Voltage & Current Unbalance Measurement at Aadhartal Tiraha Switching Point										
03-Apr-14	12:24:00 AM	50.06	16.3	15.5	12.4	0.8	1	0.9	38.1	0.9
03-Apr-14	12:26:00 AM	50.03	16.5	15.4	12.3	0.8	1	0.9	38.2	0.8
03-Apr-14	12:28:00 AM	50.01	16.3	15.4	12.4	0.8	1	0.9	38.2	0.8
03-Apr-14	12:30:00 AM	50.02	16.5	15.4	12.5	0.8	1	0.9	38.2	0.9
03-Apr-14	12:32:00 AM	50.03	16.5	15.4	12.5	0.8	1	0.9	38.2	0.9
03-Apr-14	12:34:00 AM	50.04	16.5	15.4	12.5	0.8	1	0.9	38.2	0.9
03-Apr-14	12:36:00 AM	50.04	16.5	15.3	12.5	0.8	1	0.9	38.2	0.8
03-Apr-14	12:38:00 AM	50	16.6	15.3	12.5	0.8	1	0.8	38.5	0.7
03-Apr-14	12:40:00 AM	49.98	16.5	15.3	12.3	0.8	1	0.8	38.2	0.9
03-Apr-14	12:42:00 AM	49.97	16.6	15.4	12.3	0.7	1	0.8	37.9	0.9
03-Apr-14	12:44:00 AM	49.97	16.7	15.4	12.4	0.8	1	0.8	38.1	0.9
03-Apr-14	12:46:00 AM	49.98	16.7	15.4	12.5	0.9	1	0.8	38.2	0.8
03-Apr-14	12:48:00 AM	50.01	16.5	15.3	12.5	0.8	0.9	0.7	38.1	0.8
03-Apr-14	12:50:00 AM	50.04	16.6	15.4	12.5	0.8	1	0.8	38.2	0.9
03-Apr-14	12:52:00 AM	50.05	16.5	15.3	12.4	0.8	1	0.8	38.1	0.9
03-Apr-14	12:54:00 AM	50.04	16.5	15.3	12.5	0.8	0.9	0.8	38.2	0.8
03-Apr-14	12:56:00 AM	50.03	16.7	15.1	12.4	0.8	0.9	0.8	38.1	0.8
03-Apr-14	12:58:00 AM	49.99	16.6	15.1	12.4	0.8	0.9	0.8	38.2	0.8
03-Apr-14	1:00:00 AM	49.98	16.6	15.3	12.6	0.7	0.9	0.8	38.1	0.8
03-Apr-14	1:02:00 AM	50.01	16.5	15.4	12.5	0.7	1	0.8	38.1	0.8
03-Apr-14	1:04:00 AM	50.04	16.6	15.4	12.5	0.8	1	0.8	38.1	0.8
03-Apr-14	1:06:00 AM	50.06	16.7	15.4	12.5	0.8	1	0.8	38.2	0.7
03-Apr-14	1:08:00 AM	50.02	16.4	15.5	12.5	0.8	1	0.8	38.1	0.8
03-Apr-14	1:10:00 AM	50.04	16.6	15.6	12.6	0.8	1	0.8	38.3	0.8
03-Apr-14	1:12:00 AM	50.05	16.6	15.6	12.6	0.8	1	0.8	38.3	0.8
03-Apr-14	1:14:00 AM	50.05	16.4	15.4	12.5	0.8	1	0.8	38.1	0.8
03-Apr-14	1:16:00 AM	50.02	16.6	15.2	12.5	0.8	1	0.8	38.3	0.8
03-Apr-14	1:18:00 AM	49.97	16.7	15.3	12.4	0.8	1	0.7	38.3	0.8
03-Apr-14	1:20:00 AM	49.94	16.6	15.4	12.6	0.8	1	0.8	38.2	0.8
03-Apr-14	1:22:00 AM	49.91	16.6	15.5	12.6	0.8	1	0.8	38.3	0.8
03-Apr-14	1:24:00 AM	49.92	16.7	15.4	12.6	0.8	1	0.9	38.2	0.8
03-Apr-14	1:26:00 AM	49.95	16.7	15.4	12.6	0.8	1	0.8	38.3	0.8

Harmonics & Voltage & Current Unbalance Measurement at Aadhartal Tiraha Switching Point										
03-Apr-14	1:28:00 AM	49.95	16.4	15.5	12.6	0.8	1.1	0.8	38.2	0.8
03-Apr-14	1:30:00 AM	49.96	16.7	15.5	12.6	0.8	1.1	0.8	38.3	0.8
03-Apr-14	1:32:00 AM	49.98	16.7	15.5	12.5	0.9	1.1	0.8	38.2	0.8
03-Apr-14	1:34:00 AM	49.97	16.6	15.5	12.6	0.8	1.1	0.8	38.1	0.8
03-Apr-14	1:36:00 AM	49.97	16.6	15.5	12.6	0.8	1.1	0.8	38.2	0.8
03-Apr-14	1:38:00 AM	49.98	16.5	15.4	12.6	0.8	1.1	0.8	38.1	0.8
03-Apr-14	1:40:00 AM	49.99	16.5	15.5	12.7	0.8	1.1	0.9	38.2	0.8
03-Apr-14	1:42:00 AM	50	16.7	15.5	12.6	0.8	1.1	0.9	38.3	0.8
03-Apr-14	1:44:00 AM	49.99	16.6	15.4	12.6	0.8	1.1	0.8	38.2	0.8
03-Apr-14	1:46:00 AM	50.01	16.7	15.4	12.7	0.8	1.1	0.8	38.4	0.7
03-Apr-14	1:48:00 AM	50.01	16.6	15.4	12.6	0.9	1.1	0.8	38.2	0.8
03-Apr-14	1:50:00 AM	49.99	16.6	15.5	12.6	0.8	1.1	0.8	38.3	0.8
03-Apr-14	1:52:00 AM	50.01	16.6	15.4	12.6	0.8	1	0.8	38.2	0.9
03-Apr-14	1:54:00 AM	50.02	16.6	15.3	12.5	0.8	1	0.8	38.1	0.9
03-Apr-14	1:56:00 AM	50.01	16.7	15.2	12.5	0.8	1	0.8	38.2	0.8
03-Apr-14	1:58:00 AM	50	16.8	15.3	12.5	0.9	1	0.8	38.2	0.7
03-Apr-14	2:00:00 AM	50.01	16.8	15.3	12.4	0.8	1	0.8	38.1	0.8
03-Apr-14	2:02:00 AM	50.02	16.7	15.4	12.5	0.8	1	0.8	38.3	0.8
03-Apr-14	2:04:00 AM	49.99	16.8	15.6	12.5	0.9	1.1	0.8	38.2	0.8
03-Apr-14	2:06:00 AM	50	16.8	15.6	12.6	0.9	1.1	0.9	38.1	0.7
03-Apr-14	2:08:00 AM	49.96	16.7	15.5	12.7	0.8	1.1	0.9	38.2	0.8
03-Apr-14	2:10:00 AM	49.95	16.4	15.5	12.6	0.8	1	0.9	37.9	0.8
03-Apr-14	2:12:00 AM	49.98	16.7	15.6	12.6	0.9	1.1	0.9	38.3	0.8
03-Apr-14	2:14:00 AM	50	16.7	15.6	12.6	0.8	1	0.8	38.3	0.8
03-Apr-14	2:16:00 AM	50.02	16.8	15.6	12.6	0.9	1.1	0.8	38.3	0.7
03-Apr-14	2:18:00 AM	50.02	16.8	15.6	12.6	0.9	1.1	0.8	38.2	0.7
03-Apr-14	2:20:00 AM	50	16.8	15.6	12.6	0.9	1.1	0.8	38.3	0.8
03-Apr-14	2:22:00 AM	50	16.7	15.6	12.5	0.9	1	0.8	38.2	0.8
03-Apr-14	2:24:00 AM	49.98	16.7	15.4	12.5	0.9	1	0.8	38.3	0.8
03-Apr-14	2:26:00 AM	49.95	16.8	15.4	12.5	0.9	1	0.8	38.4	0.8
03-Apr-14	2:28:00 AM	49.92	16.6	15.5	12.5	0.9	1.1	0.8	38.2	0.8
03-Apr-14	2:30:00 AM	49.92	16.7	15.6	12.6	0.9	1.1	0.8	38.3	0.8

Harmonics & Voltage & Current Unbalance Measurement at Aadhartal Tiraha Switching Point										
03-Apr-14	2:32:00 AM	49.91	16.8	15.6	12.5	0.9	1.1	0.8	38.4	0.8
03-Apr-14	2:34:00 AM	49.93	16.8	15.6	12.5	0.9	1.1	0.8	38.4	0.8
03-Apr-14	2:36:00 AM	49.98	16.8	15.5	12.5	0.9	1.1	0.7	38.4	0.8
03-Apr-14	2:38:00 AM	50.03	16.8	15.6	12.5	0.9	1	0.8	38.2	0.8
03-Apr-14	2:40:00 AM	50.03	16.7	15.6	12.5	0.9	1.1	0.8	38.1	0.9
03-Apr-14	2:42:00 AM	50.04	16.8	15.6	12.5	0.9	1.1	0.8	38.2	0.9
03-Apr-14	2:44:00 AM	50.02	16.9	15.6	12.5	0.9	1.1	0.8	38.2	0.8
03-Apr-14	2:46:00 AM	50	16.9	15.5	12.5	0.9	1.1	0.8	38.2	0.8
03-Apr-14	2:48:00 AM	50	16.9	15.5	12.5	0.9	1.1	0.8	38.2	0.8
03-Apr-14	2:50:00 AM	50.02	16.9	15.6	12.6	0.9	1.1	0.8	38.2	0.8
03-Apr-14	2:52:00 AM	50.01	16.6	15.7	12.6	0.9	1.1	0.8	38.1	0.9
03-Apr-14	2:54:00 AM	49.99	16.8	15.7	12.6	0.9	1.1	0.8	38.2	0.9
03-Apr-14	2:56:00 AM	49.99	16.9	15.7	12.6	0.9	1.1	0.8	38.3	0.8
03-Apr-14	2:58:00 AM	49.95	16.9	15.8	12.6	0.9	1.2	0.9	38.4	0.8
03-Apr-14	3:00:00 AM	49.93	16.9	15.7	12.6	0.9	1.2	0.9	38.3	0.9
03-Apr-14	3:02:00 AM	49.96	16.8	15.7	12.6	0.9	1.1	0.8	38.2	0.9
03-Apr-14	3:04:00 AM	49.96	16.9	15.7	12.6	0.9	1.1	0.8	38.5	0.8
03-Apr-14	3:06:00 AM	49.97	16.9	15.7	12.5	0.9	1.1	0.9	38.3	0.9
03-Apr-14	3:08:00 AM	50	16.8	15.7	12.6	0.9	1.1	0.8	38.4	0.9
03-Apr-14	3:10:00 AM	50.05	16.8	15.8	12.6	0.9	1.1	0.8	38.5	0.9
03-Apr-14	3:12:00 AM	50.09	16.7	15.7	12.6	0.9	1.1	0.8	38.5	0.8
03-Apr-14	3:14:00 AM	50.08	16.6	15.6	12.7	0.9	1.1	0.8	38.2	0.8
03-Apr-14	3:16:00 AM	50.07	16.9	15.6	12.6	0.9	1.1	0.8	38.5	0.8
03-Apr-14	3:18:00 AM	50.01	16.6	15.6	12.6	0.9	1.1	0.8	38.3	0.8
03-Apr-14	3:20:00 AM	50.05	16.7	15.6	12.6	0.8	1.1	0.8	38.3	0.9
03-Apr-14	3:22:00 AM	50.06	16.7	15.5	12.6	0.8	1.1	0.8	38.3	0.9
03-Apr-14	3:24:00 AM	50.06	16.7	15.5	12.5	0.8	1	0.8	38.3	0.9
03-Apr-14	3:26:00 AM	50.04	16.8	15.4	12.5	0.9	1.1	0.8	38.2	0.8
03-Apr-14	3:28:00 AM	50.03	16.8	15.4	12.5	0.9	1.1	0.9	38.3	0.8
03-Apr-14	3:30:00 AM	50.03	16.8	15.5	12.5	0.8	1.1	0.8	38.3	0.9
03-Apr-14	3:32:00 AM	50.02	16.8	15.6	12.5	0.8	1.2	0.8	38.3	0.8
03-Apr-14	3:34:00 AM	50.01	16.6	15.5	12.5	0.9	1.1	0.8	38.3	0.8

Harmonics & Voltage & Current Unbalance Measurement at Aadhartal Tiraha Switching Point										
03-Apr-14	3:36:00 AM	49.99	16.8	15.5	12.5	0.9	1.1	0.8	38.3	0.8
03-Apr-14	3:38:00 AM	50.01	16.9	15.6	12.5	0.9	1.1	0.8	38.3	0.9
03-Apr-14	3:40:00 AM	50.03	16.9	15.6	12.5	0.8	1.1	0.8	38.2	0.8
03-Apr-14	3:42:00 AM	50.01	16.6	15.6	12.6	0.9	1.1	0.9	38.2	0.9
03-Apr-14	3:44:00 AM	50.01	16.9	15.7	12.6	0.9	1.2	0.9	38.4	0.8
03-Apr-14	3:46:00 AM	49.99	16.7	15.7	12.5	1	1.2	0.9	38.1	0.8
03-Apr-14	3:48:00 AM	49.96	16.9	15.7	12.5	0.9	1.1	0.9	38.2	0.9
03-Apr-14	3:50:00 AM	49.98	16.9	15.7	12.6	0.9	1.1	0.9	38.2	0.9
03-Apr-14	3:52:00 AM	49.99	16.9	15.7	12.6	0.9	1.2	0.9	38.2	0.9
03-Apr-14	3:54:00 AM	49.97	16.9	15.7	12.6	0.9	1.1	1	38.3	0.9
03-Apr-14	3:56:00 AM	49.92	16.6	15.6	12.6	0.9	1.1	0.9	37.9	0.9
03-Apr-14	3:58:00 AM	49.92	16.9	15.6	12.5	0.9	1.2	0.9	38.2	0.8
03-Apr-14	4:00:00 AM	49.93	16.9	15.6	12.5	0.9	1.1	0.9	38.2	0.9
03-Apr-14	4:02:00 AM	49.93	17	15.7	12.6	0.9	1.1	0.9	38.2	0.8
03-Apr-14	4:04:00 AM	49.95	17	15.7	12.6	0.9	1.2	0.9	38.3	0.8
03-Apr-14	4:06:00 AM	49.91	16.9	15.7	12.6	0.9	1.2	1	38.2	0.9
03-Apr-14	4:08:00 AM	49.88	16.7	15.8	12.6	0.9	1.2	0.9	38	0.9
03-Apr-14	4:10:00 AM	49.83	16.8	15.8	12.6	0.9	1.2	0.9	38.2	0.9
03-Apr-14	4:12:00 AM	49.81	16.9	15.7	12.6	1	1.1	0.9	38.3	0.9
03-Apr-14	4:14:00 AM	49.85	16.9	15.6	12.5	1	1.1	1	38.7	0.9
03-Apr-14	4:16:00 AM	49.92	16.9	15.5	12.5	0.9	1.1	0.9	38.8	0.9
03-Apr-14	4:18:00 AM	49.93	16.5	15.5	12.5	0.9	1.1	0.9	38.5	0.9
03-Apr-14	4:20:00 AM	49.94	16.9	15.7	12.5	0.9	1.1	0.9	38.7	0.8
03-Apr-14	4:22:00 AM	49.95	16.8	15.7	12.6	0.9	1.1	0.9	38.6	0.9
03-Apr-14	4:24:00 AM	50.05	16.9	15.8	12.6	0.9	1.2	0.9	38.7	0.8
03-Apr-14	4:26:00 AM	50.04	16.9	15.7	12.5	0.9	1.1	0.9	38.6	0.8
03-Apr-14	4:28:00 AM	50.01	16.9	15.7	12.5	0.9	1.1	0.9	38.7	0.9
03-Apr-14	4:30:00 AM	49.97	16.7	15.7	12.6	0.9	1.2	0.9	38.5	0.9
03-Apr-14	4:32:00 AM	49.94	16.6	15.7	12.6	0.9	1.2	0.9	38.3	0.9
03-Apr-14	4:34:00 AM	49.93	16.9	15.7	12.7	1	1.2	0.9	38.6	0.9
03-Apr-14	4:36:00 AM	49.88	16.9	15.7	12.7	0.9	1.2	0.8	38.8	0.9
03-Apr-14	4:38:00 AM	49.91	16.6	15.6	12.6	0.9	1.1	0.9	38.6	0.9

Harmonics & Voltage & Current Unbalance Measurement at Aadhartal Tiraha Switching Point										
03-Apr-14	4:40:00 AM	49.96	16.7	15.6	12.6	0.9	1.1	1	38.7	0.9
03-Apr-14	4:42:00 AM	49.97	16.7	15.6	12.6	0.9	1.1	0.9	38.7	0.9
03-Apr-14	4:44:00 AM	49.95	16.9	15.7	12.6	0.9	1.2	0.9	38.6	0.8
03-Apr-14	4:46:00 AM	49.97	16.9	15.6	12.6	0.9	1.2	0.9	38.8	0.8
03-Apr-14	4:48:00 AM	49.99	16.9	15.6	12.6	0.9	1.1	0.9	38.7	0.8
03-Apr-14	4:50:00 AM	49.96	16.9	15.6	12.6	0.9	1.1	0.8	39.1	0.8
03-Apr-14	4:52:00 AM	50.01	16.6	15.7	12.6	0.9	1.2	0.8	38.9	0.9
03-Apr-14	4:54:00 AM	50.07	16.9	15.8	12.6	1	1.2	0.8	39	0.8
03-Apr-14	4:56:00 AM	50.16	16.9	15.7	12.6	0.9	1.1	0.8	38.9	0.9
03-Apr-14	4:58:00 AM	50.17	16.9	15.5	12.5	0.9	1.1	0.8	39	0.9
03-Apr-14	5:00:00 AM	50.16	16.5	15.5	12.5	0.9	1	0.8	38.7	0.9
03-Apr-14	5:02:00 AM	50.12	16.8	15.6	12.5	0.9	1.1	0.8	38.9	1
03-Apr-14	5:04:00 AM	50.05	17	15.7	12.6	1	1.1	0.8	39	0.9
03-Apr-14	5:06:00 AM	50.04	16.9	15.6	12.6	0.9	1.1	0.9	38.9	0.9
03-Apr-14	5:08:00 AM	50.05	16.7	15.4	12.5	0.8	1.1	0.9	38.8	1
03-Apr-14	5:10:00 AM	50.12	16.8	15.3	12.5	0.8	1.1	0.8	38.6	0.9
03-Apr-14	5:12:00 AM	50.11	16.8	15.5	12.6	0.9	1.1	0.9	38.9	1
03-Apr-14	5:14:00 AM	50.07	16.9	15.5	12.6	0.9	1.1	0.8	39	0.8
03-Apr-14	5:16:00 AM	50.02	16.8	15.4	12.5	0.9	1	0.8	39	0.8
03-Apr-14	5:18:00 AM	50	16.5	15.3	12.5	0.9	1	0.7	38.8	0.9
03-Apr-14	5:20:00 AM	50	16.6	15.3	12.4	0.8	1	0.7	38.8	0.9
03-Apr-14	5:22:00 AM	50.04	16.6	15.2	12.4	0.8	1	0.7	38.7	0.9
03-Apr-14	5:24:00 AM	50.08	16.6	15.3	12.4	0.8	1	0.7	38.7	0.9
03-Apr-14	5:26:00 AM	50.09	16.6	15.3	12.4	0.8	1	0.7	38.7	0.9
03-Apr-14	5:28:00 AM	50.08	16.3	15.2	12.4	0.8	0.9	0.7	38.6	1
03-Apr-14	5:30:00 AM	50.02	16.6	15.3	12.4	0.7	0.9	0.8	38.6	1
03-Apr-14	5:32:00 AM	49.93	16.7	15.2	12.4	0.8	0.9	0.7	38.5	0.9
03-Apr-14	5:34:00 AM	49.88	16.8	15.2	12.5	0.9	1	0.7	38.6	0.8
03-Apr-14	5:36:00 AM	49.84	16.8	15.2	12.5	0.9	1	0.8	38.4	0.8
03-Apr-14	5:38:00 AM	49.87	16.7	15.1	12.5	0.8	1	0.8	38.3	0.9
03-Apr-14	5:40:00 AM	49.88	16.7	15	12.5	0.8	0.9	0.8	38.2	0.9
03-Apr-14	5:42:00 AM	49.92	16.7	15.1	12.4	0.8	0.9	0.8	38.1	0.9

Harmonics & Voltage & Current Unbalance Measurement at Aadhartal Tiraha Switching Point										
03-Apr-14	5:44:00 AM	49.98	16.5	15	12.3	0.8	0.9	0.8	38	0.9
03-Apr-14	5:46:00 AM	50	16.6	15.1	12.2	0.8	0.9	0.7	38.1	1
03-Apr-14	5:48:00 AM	49.99	16.5	15	12.2	0.8	0.9	0.8	37.9	0.9
03-Apr-14	5:50:00 AM	49.99	16.6	15	12.2	0.7	0.9	0.8	38	1
03-Apr-14	5:52:00 AM	50.02	16.6	15	12.3	0.7	0.9	0.8	38	0.8
03-Apr-14	5:54:00 AM	50.1	16.7	15	12.3	0.8	1	0.8	38.1	0.8
03-Apr-14	5:56:00 AM	50.18	16.6	15	12.4	0.9	1	0.9	38	0.9
03-Apr-14	5:58:00 AM	50.16	16.7	15	12.3	0.8	0.9	0.9	38.3	0.8

❖ **Observation:**

- Voltage unbalance is within limit.
- Current unbalance is considerable.
- Average power factor is 0.77.
- Line Voltage total harmonics distortion is there.
- Total Current Harmonics distortion is there.

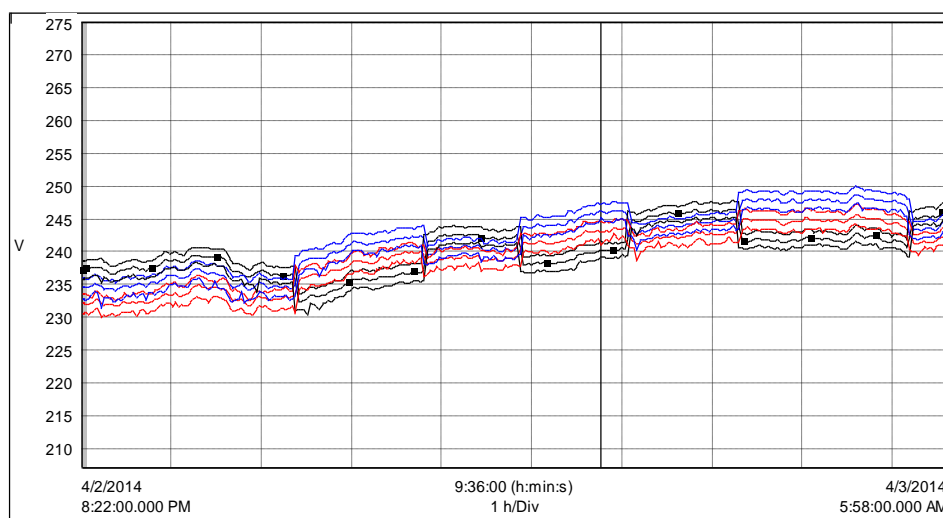
Study of electrical parameters at Aadhartal Tiraha Switching Point

1. Phase Voltage

Table.: Phase Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
V1 RMS	02-04-2014	22:00.0	240.678	232.4	246.6	V	09:38:00	(h:min:s)
V2 RMS	02-04-2014	22:00.0	239.949	231.8	245.8	V	09:38:00	(h:min:s)
V3 RMS	02-04-2014	22:00.0	242.332	234.1	248.7	V	09:38:00	(h:min:s)

Graph: Phase Voltage Variation for the Recorded Time



**RMS, Max RMS & Min. RMS
Phase voltage variation**

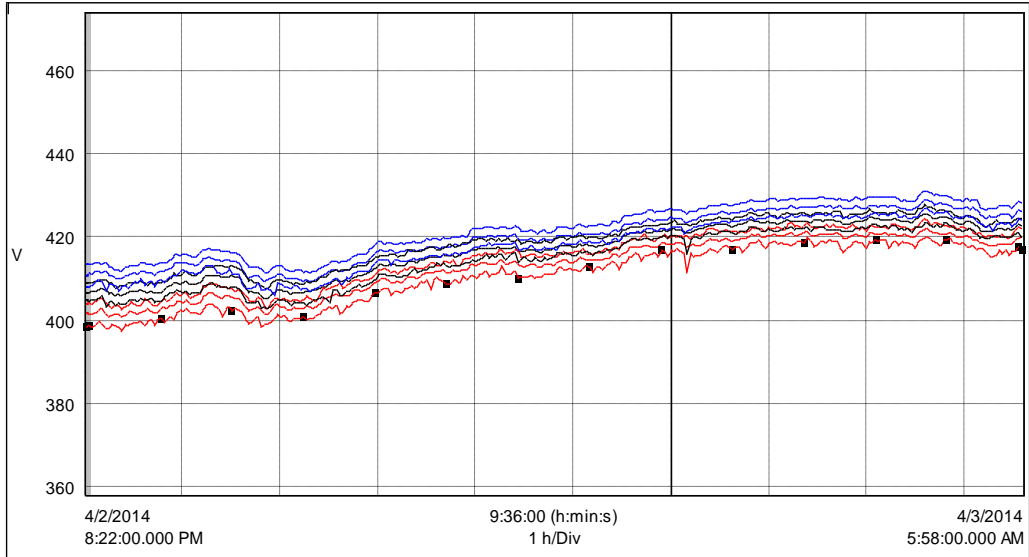
- Voltage unbalance is within limit

2. Line Voltage

Table.: Line Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
U1 RMS	02-04-2014	22:00.0	417.556	405.4	425.8	V	09:38:00	(h:min:s)
U2 RMS	02-04-2014	22:00.0	413.793	401	422.1	V	09:38:00	(h:min:s)
U3 RMS	02-04-2014	22:00.0	420.781	409.4	429.1	V	09:38:00	(h:min:s)

Graph : Line Voltage Variation for the Recorded Time



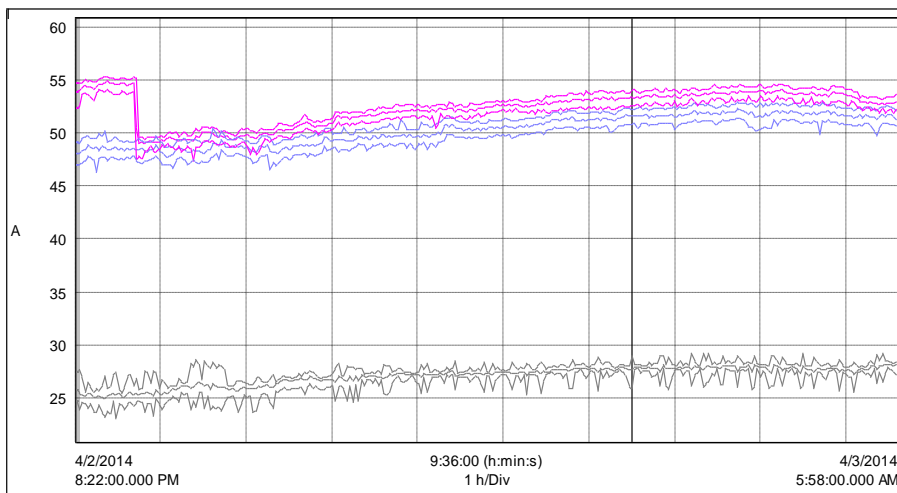
**RMS, Max RMS & Min. RMS
Line voltage variation**

3. Current

Table.: Current

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 RMS	02-04-2014	22:00.0	27.136	25.01	28.2	A	09:38:00	(h:min:s)
A2 RMS	02-04-2014	22:00.0	52.499	49.04	54.96	A	09:38:00	(h:min:s)
A3 RMS	02-04-2014	22:00.0	50.421	47.8	52.34	A	09:38:00	(h:min:s)

Graph : Line Current Variation for recorded time



**RMS, Max RMS & Min. RMS
Current variation**

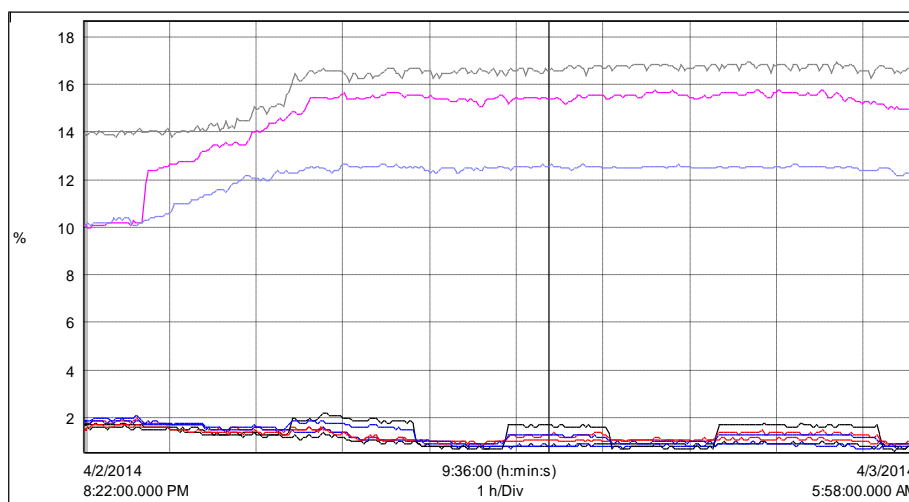
➤ Current is slightly unbalanced.

4. Total harmonic Distortion (THD).

Table.: THD

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 THD	02-04-2014	22:00.0	16.078	13.8	17	%	09:38:00	(h:min:s)
A2 THD	02-04-2014	22:00.0	14.72	10	15.8	%	09:38:00	(h:min:s)
A3 THD	02-04-2014	22:00.0	12.173	10.1	12.7	%	09:38:00	(h:min:s)
U1 THD	02-04-2014	22:00.0	1.033	0.7	1.7	%	09:38:00	(h:min:s)
U2 THD	02-04-2014	22:00.0	1.255	0.9	2	%	09:38:00	(h:min:s)
U3 THD	02-04-2014	22:00.0	1.104	0.7	2	%	09:38:00	(h:min:s)
V1 THD	02-04-2014	22:00.0	1.415	0.6	2.2	%	09:38:00	(h:min:s)
V2 THD	02-04-2014	22:00.0	1.27	0.9	1.7	%	09:38:00	(h:min:s)
V3 THD	02-04-2014	22:00.0	1.369	0.8	2.1	%	09:38:00	(h:min:s)

Graph : THD



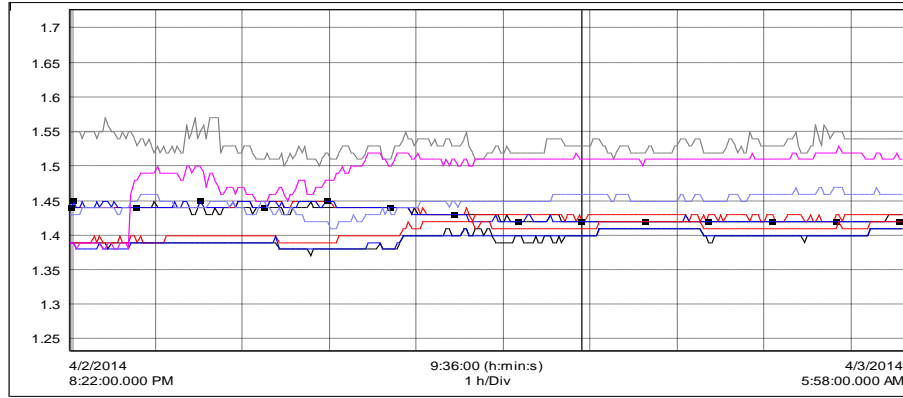
Variation of current, Phase Voltage, Line Voltage Total Harmonic Distortion

5. Crest Factor

Table.: Crest Factor

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 CF	02-04-2014	22:00.0	1.531	1.5	1.57		09:38:00	(h:min:s)
A2 CF	02-04-2014	22:00.0	1.493	1.38	1.53		09:38:00	(h:min:s)
A3 CF	02-04-2014	22:00.0	1.448	1.41	1.47		09:38:00	(h:min:s)
U1 CF	02-04-2014	22:00.0	1.429	1.42	1.45		09:38:00	(h:min:s)
U2 CF	02-04-2014	22:00.0	1.434	1.42	1.45		09:38:00	(h:min:s)
U3 CF	02-04-2014	22:00.0	1.43	1.42	1.45		09:38:00	(h:min:s)
V1 CF	02-04-2014	22:00.0	1.396	1.37	1.41		09:38:00	(h:min:s)
V2 CF	02-04-2014	22:00.0	1.407	1.39	1.42		09:38:00	(h:min:s)
V3 CF	02-04-2014	22:00.0	1.396	1.38	1.41		09:38:00	(h:min:s)

Graph : Crest Factor



Variation of Crest Factor

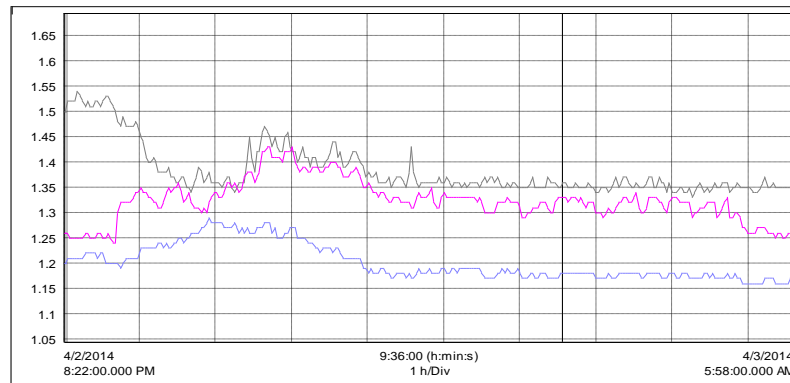
- Crest factor is above 1.41 hence there is some degree of impacting

6. K Factor

Table.: K- Factor

Name	Date	Time	RMS	Min	Max	Duration	Unit
KF1	02-04-2014	22:00.0	1.384	1.33	1.54	09:38:00	(h:min:s)
KF2	02-04-2014	22:00.0	1.324	1.24	1.43	09:38:00	(h:min:s)
KF3	02-04-2014	22:00.0	1.202	1.16	1.29	09:38:00	(h:min:s)

Graph: K- Factor

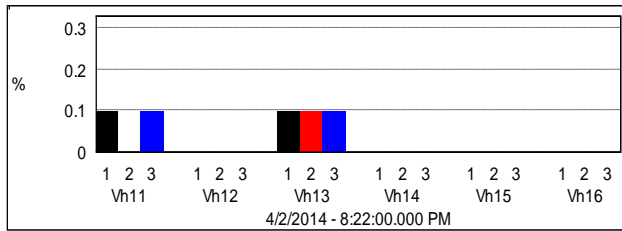
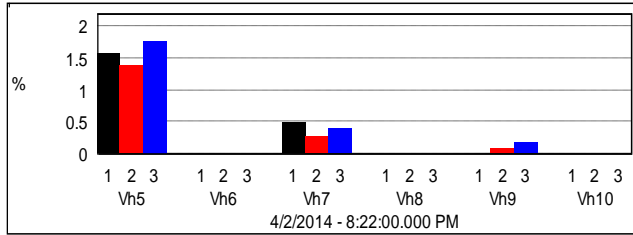
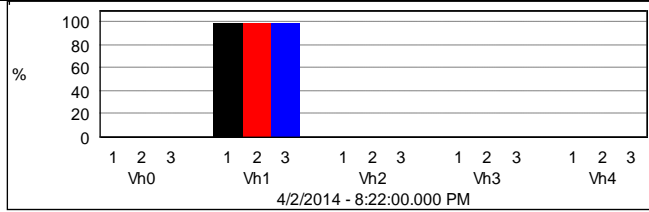


Variation of K Factor

K-factor is from 1.1 to 1.26. K-factor above 1 indicates a non-linear load & presence of harmonics.

❖ **Voltage Harmonics of different order & their Max, Min and average values**

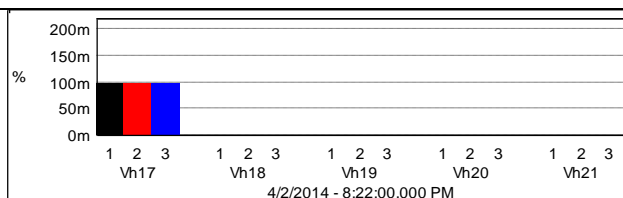
Name	Avg	Min	Max	Unit
V1h0	0	0	0	%
V1h1	100	100	100	%
V1h10	0	0	0	%
V1h11	0.136	0	0.3	%
V1h12	0	0	0	%
V1h13	0.152	0	0.3	%
V1h14	0	0	0	%
V1h15	0.004	0	0.1	%
V1h16	0	0	0	%
V1h2	0	0	0	%
V1h3	0.769	0.1	1.4	%
V1h4	0	0	0	%
V1h5	0.892	0.5	1.7	%
V1h6	0	0	0	%
V1h7	0.399	0	0.7	%
V1h8	0	0	0	%
V1h9	0.068	0	0.2	%
V2h0	0.099	0	0.1	%
V2h1	100	100	100	%
V2h10	0	0	0	%
V2h11	0.107	0	0.3	%
V2h12	0	0	0	%
V2h13	0.076	0	0.2	%
V2h14	0	0	0	%
V2h15	0.028	0	0.1	%
V2h16	0	0	0	%
V2h2	0	0	0	%
V2h3	0.511	0.3	0.7	%
V2h4	0	0	0	%
V2h5	1.063	0.6	1.6	%
V2h6	0	0	0	%
V2h7	0.219	0	0.6	%
V2h8	0	0	0	%
V2h9	0.046	0	0.2	%
V3h0	0	0	0	%
V3h1	100	100	100	%
V3h10	0	0	0	%
V3h11	0.12	0	0.3	%
V3h12	0	0	0	%
V3h13	0.035	0	0.3	%
V3h14	0	0	0	%
V3h15	0	0	0	%
V3h16	0	0	0	%
V3h2	0	0	0	%
V3h3	0.48	0	1.1	%
V3h4	0	0	0	%



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V3h5	1.049	0.6	2	%
V3h6	0	0	0	%
V3h7	0.32	0	0.8	%
V3h8	0	0	0	%
V3h9	0.149	0	0.4	%

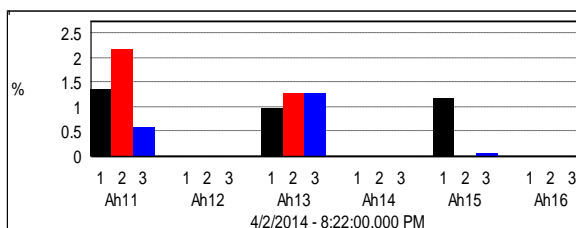
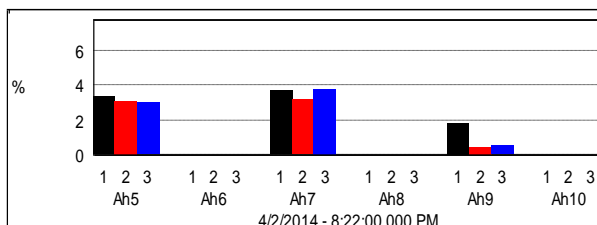
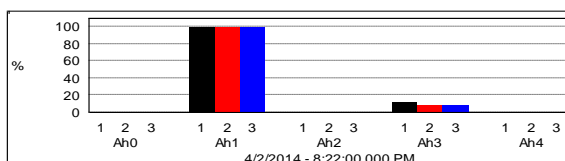
Name	Avg	Min	Max	Unit
V1h17	0.012	0	0.1	%
V1h18	0	0	0	%
V1h19	0.004	0	0.1	%
V1h20	0	0	0	%
V1h21	0	0	0.1	%
V1h22	0	0	0	%
V1h23	0	0	0	%
V1h24	0	0	0	%
V1h25	0	0	0	%
V1h26	0	0	0	%
V1h27	0	0	0	%
V1h28	0	0	0	%
V1h29	0	0	0	%
V1h30	0	0	0	%
V1h31	0	0	0	%
V1h32	0	0	0	%
V1h33	0	0	0	%
V2h17	0.024	0	0.1	%
V2h18	0	0	0	%
V2h19	0	0	0	%
V2h20	0	0	0	%
V2h21	0	0	0	%
V2h22	0	0	0	%
V2h23	0	0	0	%
V2h24	0	0	0	%
V2h25	0	0	0	%
V2h26	0	0	0	%
V2h27	0	0	0	%
V2h28	0	0	0	%
V2h29	0	0	0	%
V2h30	0	0	0	%
V2h31	0	0	0	%
V2h32	0	0	0	%
V2h33	0	0	0	%
V3h17	0.057	0	0.2	%
V3h18	0	0	0	%
V3h19	0.004	0	0.1	%
V3h20	0	0	0	%
V3h21	0	0	0	%
V3h22	0	0	0	%
V3h23	0.001	0	0.1	%
V3h24	0	0	0	%
V3h25	0	0	0	%



V3h26	0	0	0	%
V3h27	0	0	0	%
V3h28	0	0	0	%
V3h29	0	0	0	%
V3h30	0	0	0	%
V3h31	0	0	0	%
V3h32	0	0	0	%
V3h33	0	0	0	%

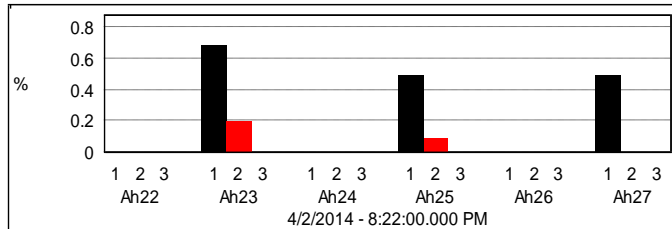
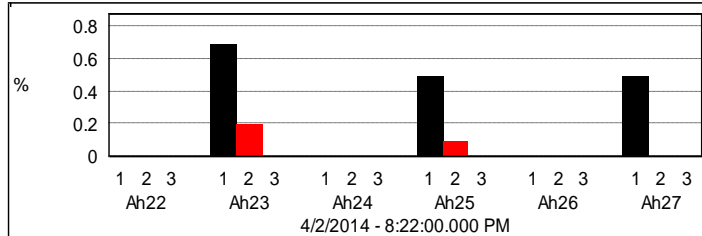
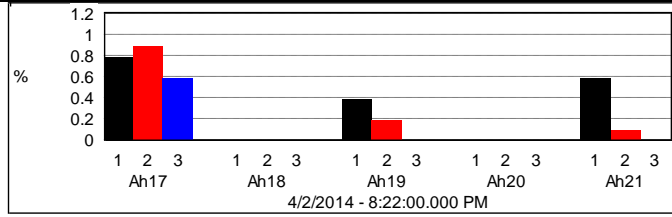
❖ **Current Harmonics of different order & their Max, Min and average values**

Name	Avg	Min	Max	Unit
A1h0	0	0	0	%
A1h1	100	100	100	%
A1h10	0.039	0	0.4	%
A1h11	1.031	0.2	2.2	%
A1h12	0.043	0	0.4	%
A1h13	1.012	0	1.6	%
A1h14	0.011	0	0.2	%
A1h15	0.493	0.2	1.3	%
A1h16	0	0	0.1	%
A1h2	0.089	0	0.2	%
A1h3	14.944	12.3	16	%
A1h4	0	0	0	%
A1h5	3.982	2.4	4.8	%
A1h6	0.022	0	0.2	%
A1h7	3.524	2.7	4.7	%
A1h8	0.017	0	0.2	%
A1h9	1.049	0.5	1.9	%
A2h0	0	0	0	%
A2h1	100	100	100	%
A2h10	0.022	0	0.2	%
A2h11	0.789	0	2.5	%
A2h12	0.023	0	0.2	%
A2h13	0.703	0.1	1.8	%
A2h14	0	0	0	%
A2h15	0.067	0	0.4	%
A2h16	0	0	0	%
A2h2	0	0	0	%
A2h3	13.164	8.4	14.3	%
A2h4	0	0	0	%
A2h5	3.958	2.4	4.9	%
A2h6	0.045	0	0.4	%
A2h7	4.774	2.9	7.1	%
A2h8	0.006	0	0.1	%
A2h9	0.513	0	0.9	%
A3h0	0	0	0	%
A3h1	100	100	100	%



A3h10	0.001	0	0.1	%
A3h11	0.308	0	0.8	%
A3h12	0	0	0	%
A3h13	0.486	0.1	1.4	%
A3h14	0	0	0	%
A3h15	0.045	0	0.1	%
A3h16	0	0	0	%
A3h2	0	0	0	%
A3h3	10.938	8.5	11.8	%
A3h4	0	0	0	%
A3h5	3.689	2.9	4.7	%
A3h6	0.006	0	0.1	%
A3h7	3.374	2.1	5.5	%
A3h8	0.008	0	0.1	%
A3h9	0.489	0	1	%

Name	Avg	Min	Max	Unit
A1h17	0.521	0.2	1.1	%
A1h18	0	0	0.1	%
A1h19	0.107	0	0.4	%
A1h20	0	0	0	%
A1h21	0.113	0	0.6	%
A1h22	0	0	0	%
A1h23	0.173	0	0.8	%
A1h24	0	0	0	%
A1h25	0.122	0	0.7	%
A1h26	0	0	0	%
A1h27	0.189	0	0.7	%
A1h28	0	0	0	%
A1h29	0.17	0.1	0.4	%
A1h30	0	0	0	%
A1h31	0.093	0	0.5	%
A1h32	0	0	0	%
A1h33	0.163	0	0.3	%
A2h17	0.294	0.1	0.9	%
A2h18	0	0	0	%
A2h19	0.069	0	0.2	%
A2h20	0	0	0	%
A2h21	0.017	0	0.2	%
A2h22	0	0	0	%
A2h23	0.02	0	0.2	%
A2h24	0	0	0	%
A2h25	0.032	0	0.2	%
A2h26	0	0	0	%
A2h27	0	0	0	%
A2h28	0	0	0	%
A2h29	0.016	0	0.1	%
A2h30	0	0	0	%
A2h31	0.002	0	0.1	%
A2h32	0	0	0	%
A2h33	0	0	0	%
A3h17	0.205	0	0.7	%
A3h18	0	0	0	%
A3h19	0.004	0	0.1	%
A3h20	0	0	0	%
A3h21	0.01	0	0.1	%
A3h22	0	0	0	%
A3h23	0.011	0	0.1	%
A3h24	0	0	0	%
A3h25	0	0	0	%
A3h26	0	0	0	%
A3h27	0	0	0	%
A3h28	0	0	0	%
A3h29	0.011	0	0.1	%



A3h30	0	0	0	%	
A3h31	0	0	0	%	
A3h32	0	0	0	%	
A3h33	0	0	0	%	

• **Study of Power Parameter and Harmonics Measurements at Kripal chowk Switching Point**

Data logging is carried out for different power parameters like voltage, current, PF, kW, Current unbalance, Voltage unbalance, THD, etc. and tabulated as under

Measurement of Power Parameters at Kripal chowk Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
09-03-2014	22:32:00	49.82	424.9	420.4	427.9	65.56	20.03	22.23	15.95	4.80	5.38	26.13	0.99
09-03-2014	22:34:00	49.85	425.4	420.7	428.2	66.31	20.07	22.25	16.14	4.82	5.39	26.35	0.99
09-03-2014	22:36:00	49.91	425.7	421.2	428.8	65.61	19.72	22.21	16.00	4.74	5.39	26.13	0.99
09-03-2014	22:38:00	50	426.5	422.1	429.9	65.18	19.81	22.17	15.93	4.77	5.39	26.09	0.99
09-03-2014	22:40:00	50.03	426.5	422.2	430.1	66.49	19.71	21.76	16.29	4.75	5.29	26.34	0.99
09-03-2014	22:42:00	49.99	426.5	422.2	430.2	68.19	19.87	21.65	16.69	4.81	5.26	26.77	0.99
09-03-2014	22:44:00	49.91	426.5	422.4	430.1	67.93	19.7	21.68	16.45	4.86	5.25	26.55	0.99
09-03-2014	22:46:00	49.88	426.8	422.7	430.7	67.68	19.91	21.75	16.42	4.91	5.27	26.60	0.99
09-03-2014	22:48:00	49.91	427.5	423.1	431.3	67.81	19.98	21.78	16.47	4.93	5.28	26.69	0.99
09-03-2014	22:50:00	49.99	428.4	424.2	431.8	66.22	19.91	21.8	16.07	4.95	5.28	26.30	0.99
09-03-2014	22:52:00	50.04	428.8	424.6	432.2	66.44	20.02	21.79	16.16	4.98	5.28	26.42	0.99
09-03-2014	22:54:00	50.05	429.9	425.7	433.2	66.15	20.07	21.86	16.14	5.00	5.31	26.45	0.99
09-03-2014	22:56:00	50.02	430.5	426.2	433.5	66.83	20.06	22.03	16.33	5.01	5.35	26.70	0.99
09-03-2014	22:58:00	49.96	430.3	425.9	433.3	67.15	20.27	22.03	16.40	5.06	5.35	26.81	0.99
09-03-2014	23:00:00	49.94	430.3	426.1	433.2	67.49	20.2	21.99	16.48	5.04	5.34	26.86	0.99
09-03-2014	23:02:00	49.89	429.8	425.6	433.2	67.14	20.18	21.97	16.38	5.03	5.34	26.75	0.99
09-03-2014	23:04:00	49.9	429.8	425.6	433.5	66.68	20.36	22.06	16.29	5.07	5.36	26.72	0.99
09-03-2014	23:06:00	49.95	430.4	426.1	434.2	66.38	20.2	22.12	16.24	5.04	5.38	26.66	0.99
09-03-2014	23:08:00	49.99	431.2	426.6	434.7	66.47	20.36	22.07	16.29	5.09	5.37	26.75	0.99
09-03-2014	23:10:00	50.01	431.4	427	435.1	66.97	20.33	22.1	16.41	5.08	5.39	26.88	0.99
09-03-2014	23:12:00	49.98	431.4	427.3	434.9	66.8	20.24	22.1	16.37	5.06	5.39	26.82	0.99
09-03-2014	23:14:00	49.97	431.5	427.5	434.9	67.13	20.38	22.13	16.46	5.10	5.40	26.95	0.99
09-03-2014	23:16:00	49.98	431.9	428	435.5	66.73	20.35	22.37	16.34	5.10	5.46	26.90	0.99

Measurement of Power Parameters at Kripal chowk Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
09-03-2014	23:18:00	50.01	432.3	427.8	435.8	64.61	20.42	22.67	15.78	5.12	5.53	26.43	0.99
09-03-2014	23:20:00	50.01	432.4	428.2	435.7	65.04	20.19	22.73	15.89	5.07	5.55	26.50	0.99
09-03-2014	23:22:00	50.04	432.7	428.7	436	65.84	20.32	22.74	16.08	5.10	5.56	26.75	0.99
09-03-2014	23:24:00	50.05	433.3	429	436.3	65.63	20.19	22.8	16.06	5.08	5.57	26.71	0.99
09-03-2014	23:26:00	50.06	433.8	429.2	436.7	65.42	20.24	22.87	16.04	5.09	5.59	26.73	0.99
09-03-2014	23:28:00	50.05	434.1	429.5	437.5	65.59	20.36	22.94	16.11	5.13	5.62	26.86	0.99
09-03-2014	23:30:00	50.06	433.9	429.8	437.8	67.52	20.13	22.42	16.63	5.06	5.50	27.19	0.99
09-03-2014	23:32:00	50.05	433.7	430.1	437.9	68.14	15.74	22.3	16.78	3.74	5.47	26.00	0.93
09-03-2014	23:34:00	50.09	434	430	438.1	70.09	19.71	22.31	17.17	4.95	5.48	27.61	0.99
09-03-2014	23:36:00	50.07	434.2	430.1	438.3	70.64	20.34	22.3	17.32	5.12	5.48	27.91	0.99
09-03-2014	23:38:00	50.05	434.4	430.1	438.2	69.92	20.97	22.33	17.15	5.28	5.49	27.91	0.99
09-03-2014	23:40:00	50.04	434.7	430.8	438.7	70.43	20.92	22.37	17.27	5.27	5.50	28.05	0.99
09-03-2014	23:42:00	50.05	434.8	431	439	70.3	20.78	22.4	17.25	5.24	5.52	28.00	0.99
09-03-2014	23:44:00	50.07	435.4	431.1	439.4	70.82	20.92	22.45	17.39	5.28	5.53	28.19	0.99
09-03-2014	23:46:00	50.11	435.9	432	440	70.92	20.8	22.45	17.43	5.25	5.54	28.22	0.99
09-03-2014	23:48:00	50.16	436.6	432.8	440.9	69.98	20.95	22.47	17.24	5.30	5.56	28.10	0.99
09-03-2014	23:50:00	50.2	437	433.1	441.2	69.71	20.55	22.48	17.20	5.20	5.56	27.97	0.99
09-03-2014	23:52:00	50.21	436.9	432.9	441.2	69.54	20.61	22.53	17.16	5.22	5.57	27.95	0.99
09-03-2014	23:54:00	50.19	437	432.8	440.9	70.35	20.54	22.52	17.36	5.20	5.57	28.13	0.99
09-03-2014	23:56:00	50.15	436.6	432.7	440.6	70.44	20.39	22.53	17.38	5.16	5.57	28.11	0.99
09-03-2014	23:58:00	50.09	436.4	432.3	440.4	70.43	20.63	22.58	17.37	5.22	5.58	28.16	0.99
10-03-2014	00:00:00	50.02	436.5	432	440	69.57	20.51	22.59	17.15	5.19	5.57	27.90	0.99
10-03-2014	00:02:00	49.94	435.9	431.4	440.1	69.89	20.63	22.61	17.22	5.21	5.58	28.00	0.99
10-03-2014	00:04:00	49.91	435.2	431.1	439.7	70.01	20.6	22.52	17.22	5.19	5.55	27.96	0.99
10-03-2014	00:06:00	49.95	435.1	431.3	439.5	69.83	20.56	22.4	17.15	5.18	5.52	27.86	0.99
10-03-2014	00:08:00	50.02	435.7	431.8	439.7	69.91	20.65	22.38	17.19	5.21	5.52	27.92	0.99
10-03-2014	00:10:00	50.08	436.2	432.5	440.1	70.24	20.56	22.34	17.31	5.20	5.52	28.03	0.99
10-03-2014	00:12:00	50.11	437.2	432.8	440.9	70.66	20.57	22.39	17.47	5.21	5.54	28.21	0.99
10-03-2014	00:14:00	50.09	437.6	433	440.9	70.21	20.78	22.5	17.36	5.27	5.56	28.19	0.99

Measurement of Power Parameters at Kripal chowk Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
10-03-2014	00:16:00	50.06	437.5	433.1	441.1	70.27	20.7	22.48	17.38	5.24	5.56	28.18	0.99
10-03-2014	00:18:00	50.02	437.4	433.3	440.8	70.06	20.78	22.5	17.31	5.27	5.56	28.14	0.99
10-03-2014	00:20:00	49.98	437.2	433.3	440.9	70.18	20.72	22.61	17.33	5.25	5.59	28.17	0.99
10-03-2014	00:22:00	49.94	436.8	432.6	440.7	70.29	20.6	22.67	17.35	5.21	5.60	28.16	0.99
10-03-2014	00:24:00	49.96	436.9	432.6	440.5	70.04	20.83	22.7	17.27	5.27	5.61	28.15	0.99
10-03-2014	00:26:00	49.94	436.7	432.4	440.1	69.4	20.68	22.69	17.10	5.23	5.60	27.92	0.99
10-03-2014	00:28:00	49.97	436.3	432.5	440.3	69.41	20.69	22.72	17.10	5.23	5.61	27.93	0.99
10-03-2014	00:30:00	49.96	436	432.1	440	69.78	20.7	22.62	17.18	5.23	5.58	27.99	0.99
10-03-2014	00:32:00	50.01	436.8	432.4	440.3	69.88	20.55	22.61	17.23	5.20	5.58	28.01	0.99
10-03-2014	00:34:00	50.08	437.6	433.3	440.9	70.02	20.83	22.59	17.32	5.27	5.59	28.17	0.99
10-03-2014	00:36:00	50.09	437.7	433.8	441.3	69.98	20.54	22.7	17.31	5.20	5.62	28.12	0.99
10-03-2014	00:38:00	50.08	437.7	433.8	441.3	69.99	20.57	22.67	17.33	5.20	5.61	28.14	0.99
10-03-2014	00:40:00	50.04	437.9	434	441.2	70.38	20.59	22.78	17.39	5.22	5.63	28.25	0.99
10-03-2014	00:42:00	49.99	437.6	433.8	441.1	69.77	20.61	22.81	17.23	5.22	5.64	28.09	0.99
10-03-2014	00:44:00	49.97	437.8	433.9	441	70.57	20.55	22.8	17.43	5.21	5.64	28.28	0.99
10-03-2014	00:46:00	49.98	437.7	434.1	441.1	70.4	20.52	22.77	17.39	5.21	5.63	28.23	0.99
10-03-2014	00:48:00	50.04	437.8	434.4	441.5	71.04	20.44	22.8	17.54	5.19	5.65	28.38	0.99
10-03-2014	00:50:00	50.05	438.2	434.3	441.5	70.64	20.55	22.84	17.46	5.22	5.66	28.33	0.99
10-03-2014	00:52:00	50.02	438.1	434.2	441.6	70.83	20.4	22.93	17.50	5.18	5.68	28.36	0.99
10-03-2014	00:54:00	49.99	438.2	434.1	441.4	70.73	20.7	22.97	17.47	5.25	5.68	28.41	0.99
10-03-2014	00:56:00	49.98	438	434.1	441.8	70.87	20.57	23.02	17.49	5.22	5.70	28.41	0.99
10-03-2014	00:58:00	49.97	438	434.3	441.9	70.77	20.79	22.94	17.48	5.27	5.68	28.44	0.99
10-03-2014	01:00:00	49.94	437.9	434.4	441.8	70.66	20.63	22.9	17.46	5.23	5.67	28.36	0.99
10-03-2014	01:02:00	49.93	438.3	434.4	442.1	70.33	20.72	22.95	17.39	5.26	5.69	28.34	0.99
10-03-2014	01:04:00	49.9	438.6	434.4	442.1	70.59	20.56	23.05	17.47	5.22	5.71	28.40	0.99
10-03-2014	01:06:00	49.93	438.5	434.7	442.1	70.88	20.64	22.93	17.53	5.24	5.68	28.45	0.99
10-03-2014	01:08:00	49.93	438.5	435.2	442.1	69.73	20.79	22.98	17.36	5.28	5.69	28.33	0.99
10-03-2014	01:10:00	49.96	438.6	435.4	442.4	70.19	20.59	22.98	17.49	5.24	5.70	28.42	0.99
10-03-2014	01:12:00	49.97	439.1	435.5	442.6	70.1	20.59	23.05	17.47	5.24	5.72	28.43	0.99

Measurement of Power Parameters at Kripal chowk Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
10-03-2014	01:14:00	50	439.3	435.8	442.7	70.12	20.75	23.04	17.48	5.28	5.72	28.48	0.99
10-03-2014	01:16:00	50.02	439	435.6	442.5	70.59	20.46	22.99	17.58	5.21	5.70	28.50	0.99
10-03-2014	01:18:00	50.04	439.3	435.9	442.7	70.16	20.84	22.95	17.49	5.31	5.69	28.50	0.99
10-03-2014	01:20:00	50.02	439.1	435.8	442.3	70.33	20.61	22.96	17.51	5.25	5.70	28.45	0.99
10-03-2014	01:22:00	49.95	438.6	435.2	442	69.57	20.67	23.01	17.30	5.26	5.70	28.26	0.99
10-03-2014	01:24:00	49.94	438.6	435	442.5	69.92	20.57	23.04	17.42	5.23	5.71	28.36	0.99
10-03-2014	01:26:00	49.91	437.9	434.8	442.3	69.47	20.57	22.88	17.29	5.22	5.67	28.18	0.99
10-03-2014	01:28:00	49.93	438.1	435.1	442.6	69.7	20.75	22.98	17.35	5.27	5.70	28.32	0.99
10-03-2014	01:30:00	49.94	438.2	435.2	442.7	69.33	20.65	23.03	17.25	5.24	5.71	28.21	0.99
10-03-2014	01:32:00	49.97	438.5	435.5	442.9	70	20.79	23	17.44	5.28	5.71	28.43	0.99
10-03-2014	01:34:00	49.99	438.6	435.2	442.9	69.58	20.67	23	17.35	5.25	5.71	28.31	0.99
10-03-2014	01:36:00	50	438.6	434.8	443.1	70.06	20.72	23.01	17.47	5.26	5.71	28.44	0.99
10-03-2014	01:38:00	50	438.9	435.2	442.8	69.31	20.76	22.96	17.29	5.28	5.69	28.26	0.99
10-03-2014	01:40:00	50	439	435.4	442.7	69.66	20.8	23.01	17.35	5.29	5.70	28.35	0.99
10-03-2014	01:42:00	50.02	439.4	435.9	442.9	69.47	20.72	23	17.32	5.28	5.71	28.30	0.99
10-03-2014	01:44:00	50.05	439.7	436.1	443.3	70.07	20.55	22.98	17.49	5.24	5.71	28.43	0.99
10-03-2014	01:46:00	50.06	439.8	436.2	443.3	69.48	20.83	22.97	17.34	5.31	5.70	28.36	0.99
10-03-2014	01:48:00	50.06	440.2	436.3	443.8	69.62	20.76	23.15	17.38	5.29	5.75	28.43	0.99
10-03-2014	01:50:00	50.04	440	436.1	443.9	69.25	20.92	23.17	17.29	5.33	5.76	28.38	0.99
10-03-2014	01:52:00	50.02	440.3	436.7	444.4	70.04	20.61	23.23	17.51	5.26	5.78	28.55	0.99
10-03-2014	01:54:00	50.01	440.6	436.7	444.6	70.02	20.99	23.23	17.52	5.35	5.78	28.65	0.99
10-03-2014	01:56:00	49.94	439.9	436.1	443.8	69.74	20.69	23.17	17.42	5.27	5.76	28.45	0.99
10-03-2014	01:58:00	49.93	439.8	436	443.7	69.58	21.03	23.18	17.37	5.35	5.76	28.48	0.99
10-03-2014	02:00:00	49.92	439.7	435.7	443.5	70.07	20.65	23.22	17.48	5.26	5.76	28.50	0.99
10-03-2014	02:02:00	49.9	439.4	435.7	443.4	70.16	20.68	23.09	17.52	5.26	5.73	28.51	0.99
10-03-2014	02:04:00	49.93	439.6	435.9	443.7	70.65	20.66	23.09	17.65	5.26	5.74	28.65	0.99
10-03-2014	02:06:00	49.98	439.9	436.2	443.8	69.75	20.75	23.09	17.66	5.17	5.77	28.59	0.99
10-03-2014	02:08:00	50.01	439.9	436.4	443.8	69.96	20.8	23.08	17.70	5.18	5.76	28.65	0.99
10-03-2014	02:10:00	49.98	439.7	436.3	443.9	69.92	20.65	23.07	17.70	5.14	5.76	28.61	0.99

Measurement of Power Parameters at Kripal chowk Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
10-03-2014	02:12:00	49.96	439.6	436.3	443.9	70.57	20.7	23.09	17.86	5.15	5.77	28.79	0.99
10-03-2014	02:14:00	49.94	439.4	436.1	443.7	70.69	20.6	23.01	17.89	5.13	5.75	28.76	0.99
10-03-2014	02:16:00	49.97	440.1	436.4	444	70.85	20.87	23.15	17.95	5.20	5.78	28.93	0.99
10-03-2014	02:18:00	50.02	440.4	436.5	444.2	70.42	20.55	23.1	17.86	5.13	5.77	28.76	0.99
10-03-2014	02:20:00	50	440	436.4	443.9	70.58	20.58	23.1	17.88	5.13	5.77	28.78	0.99
10-03-2014	02:22:00	49.98	440	436.4	444	70.56	20.64	23.12	17.87	5.15	5.77	28.79	0.99
10-03-2014	02:24:00	49.98	440.5	436.4	444.3	70.84	20.61	23.13	17.95	5.14	5.78	28.87	0.99
10-03-2014	02:26:00	49.99	440.6	436.7	444.2	70.66	20.69	23.03	17.92	5.16	5.76	28.83	0.99
10-03-2014	02:28:00	50.01	440.5	436.8	444.5	70.79	20.55	23.06	17.95	5.13	5.77	28.84	0.99
10-03-2014	02:30:00	50.06	440.8	437.3	445.2	70.88	20.69	23.05	18.00	5.17	5.77	28.94	0.99
10-03-2014	02:32:00	50.05	441.2	437.4	445.2	71.16	20.57	23.12	18.07	5.14	5.79	29.00	0.99
10-03-2014	02:34:00	50.04	441.1	437.2	445.1	70.6	20.67	23.1	17.94	5.16	5.78	28.88	0.99
10-03-2014	02:36:00	50.01	440.9	436.8	444.9	70.75	20.54	23.08	17.97	5.12	5.77	28.87	0.99
10-03-2014	02:38:00	50.01	441	437	444.8	70.71	20.59	23.13	17.96	5.14	5.79	28.89	0.99
10-03-2014	02:40:00	50.06	441.2	437.1	445	71.39	20.83	23.1	18.13	5.20	5.78	29.12	0.99
10-03-2014	02:42:00	50.05	441.3	437.2	445	71.32	20.77	23.12	18.11	5.19	5.79	29.08	0.99
10-03-2014	02:44:00	50.12	441.9	437.6	445.3	71.33	20.81	23.14	18.11	5.20	5.80	29.11	0.99
10-03-2014	02:46:00	50.11	442.1	437.6	445.4	72.93	20.66	23.15	18.43	5.17	5.80	29.40	0.98
10-03-2014	02:48:00	50.11	441.8	437.7	445.7	73.08	20.81	23.07	18.48	5.20	5.78	29.46	0.98
10-03-2014	02:50:00	50.08	441.9	437.7	445.3	73.54	20.75	23.15	18.57	5.19	5.80	29.56	0.98
10-03-2014	02:52:00	50.06	442.1	437.5	445.4	73.39	20.89	23.14	18.55	5.22	5.80	29.57	0.98
10-03-2014	02:54:00	50.09	442	437.9	446	72.8	20.72	23.04	18.43	5.18	5.78	29.39	0.99
10-03-2014	02:56:00	50.1	442.2	438.4	446.4	73.27	20.9	23.06	18.56	5.23	5.79	29.59	0.99
10-03-2014	02:58:00	50.11	442.3	438	446.7	72.67	20.92	23.16	18.41	5.23	5.82	29.46	0.98
10-03-2014	03:00:00	50.1	441.9	437.4	446.2	73.07	21.08	23.19	18.49	5.26	5.82	29.57	0.98
10-03-2014	03:02:00	50.12	440.8	436.5	445.3	72.48	20.78	23.06	18.31	5.18	5.78	29.26	0.98
10-03-2014	03:04:00	50.14	441.2	436.7	445.3	72.47	20.98	23.08	18.33	5.23	5.78	29.34	0.99
10-03-2014	03:06:00	50.12	441.4	436.9	445.1	71.25	20.77	23.06	18.08	5.19	5.77	29.04	0.99
10-03-2014	03:08:00	50.09	441.1	436.8	445	70.6	21.12	23.1	17.93	5.27	5.78	28.98	0.99

Measurement of Power Parameters at Kripal chowk Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
10-03-2014	03:10:00	50.08	441	436.9	445	70.58	20.88	23.15	17.92	5.21	5.79	28.92	0.99
10-03-2014	03:12:00	50.11	441.1	436.6	445.1	70.39	20.88	23.1	17.90	5.21	5.78	28.88	0.99
10-03-2014	03:14:00	50.11	441	436.8	445.1	69.93	20.79	23.06	17.79	5.19	5.77	28.74	0.99
10-03-2014	03:16:00	50.09	440.7	436.6	444.5	70.27	20.99	23.05	17.84	5.23	5.76	28.84	0.99
10-03-2014	03:18:00	50.08	440.8	436.4	444.7	70.24	20.77	23.16	17.83	5.18	5.79	28.79	0.99
10-03-2014	03:20:00	50.07	440.7	436.4	444.8	70.09	20.78	23.13	17.79	5.18	5.78	28.75	0.99
10-03-2014	03:22:00	50.08	440.7	436.5	444.9	69.74	20.55	23.09	17.71	5.13	5.77	28.62	0.99
10-03-2014	03:24:00	50.09	441.2	436.7	445.2	69.77	20.61	23.14	17.74	5.15	5.79	28.67	0.99
10-03-2014	03:26:00	50.08	441.2	436.7	444.5	70.04	20.53	23.07	17.79	5.13	5.76	28.68	0.99
10-03-2014	03:28:00	50.07	440.8	436.3	444.4	70.18	20.72	23.07	17.80	5.17	5.76	28.73	0.99
10-03-2014	03:30:00	50.1	441	436.6	444.7	70.39	20.51	23.09	17.86	5.12	5.77	28.75	0.99
10-03-2014	03:32:00	50.08	440.8	436.5	444.4	70.11	20.65	22.99	17.80	5.15	5.74	28.69	0.99
10-03-2014	03:34:00	50.06	440.4	436.2	444.3	70.46	20.42	23.03	17.88	5.09	5.75	28.72	0.99
10-03-2014	03:36:00	50.06	440.8	436.2	444.3	71.41	20.73	23.09	18.03	5.17	5.77	28.97	0.99
10-03-2014	03:38:00	50.09	440.6	436.2	444.5	72.52	20.62	23.03	18.27	5.14	5.75	29.16	0.98
10-03-2014	03:40:00	50.12	440.6	436.1	444.6	71.92	20.85	22.95	18.12	5.20	5.73	29.04	0.98
10-03-2014	03:42:00	50.16	440.7	436.3	444.8	71.84	20.49	22.94	18.12	5.11	5.74	28.97	0.98
10-03-2014	03:44:00	50.15	440.8	436.4	444.8	71.78	20.62	22.95	18.12	5.14	5.74	29.00	0.98
10-03-2014	03:46:00	50.16	440.8	436.3	445.1	72.24	20.54	22.99	18.24	5.12	5.75	29.12	0.98
10-03-2014	03:48:00	50.19	441.2	436.5	445.2	72.61	20.67	23.07	18.33	5.16	5.77	29.26	0.98
10-03-2014	03:50:00	50.18	441.1	436.5	444.9	71.87	20.51	23.09	18.13	5.11	5.77	29.02	0.98
10-03-2014	03:52:00	50.17	441	436.9	445	71.99	20.56	23.05	18.18	5.13	5.77	29.08	0.98
10-03-2014	03:54:00	50.15	441.1	437	445.1	71.94	20.28	23.06	18.18	5.06	5.77	29.01	0.99
10-03-2014	03:56:00	50.14	440.9	436.8	445	72.54	20.53	23.05	18.31	5.12	5.77	29.21	0.98
10-03-2014	03:58:00	50.12	440.9	436.8	444.4	72.29	20.34	23.08	18.22	5.08	5.77	29.07	0.98
10-03-2014	04:00:00	50.09	440.9	436.8	444.3	71.99	20.72	23.14	18.14	5.17	5.78	29.10	0.98
10-03-2014	04:02:00	50.02	440.5	436.4	443.8	71.39	20.62	23.15	17.99	5.14	5.78	28.92	0.98
10-03-2014	04:04:00	49.96	439.7	435.6	443.6	71.5	20.73	23.08	18.01	5.16	5.76	28.92	0.98
10-03-2014	04:06:00	49.94	439.5	435.2	443.6	71.79	20.61	23.02	18.08	5.13	5.74	28.94	0.98

Measurement of Power Parameters at Kripal chowk Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
10-03-2014	04:08:00	49.99	439.4	435.5	443.5	71.84	20.82	23.02	18.07	5.18	5.74	28.98	0.98
10-03-2014	04:10:00	50.04	439.7	436	443.7	72.26	20.7	22.95	18.19	5.15	5.73	29.07	0.99
10-03-2014	04:12:00	50.06	439.9	436.1	443.9	72.32	20.82	22.87	18.22	5.18	5.71	29.11	0.99
10-03-2014	04:14:00	50.01	439.6	436	443.5	72.67	20.69	22.91	18.29	5.15	5.72	29.16	0.99
10-03-2014	04:16:00	50.04	440.1	436	443.7	72.66	20.64	22.97	18.30	5.14	5.73	29.18	0.98
10-03-2014	04:18:00	50.01	440	435.7	443.4	73.25	20.82	22.98	18.42	5.18	5.73	29.34	0.98
10-03-2014	04:20:00	49.99	439.4	435.6	443.3	72.66	20.78	22.89	18.26	5.17	5.71	29.14	0.98
10-03-2014	04:22:00	49.99	439.7	435.7	443.6	72.58	20.65	23.02	18.25	5.14	5.75	29.14	0.98
10-03-2014	04:24:00	50	439.8	435.4	443.4	72.47	20.48	23.03	18.24	5.10	5.74	29.08	0.98
10-03-2014	04:26:00	50.05	440.1	435.4	443.6	72.37	20.66	23	18.23	5.15	5.73	29.11	0.98
10-03-2014	04:28:00	50.06	440	436	443.6	72.5	20.46	23.07	18.24	5.10	5.76	29.09	0.98
10-03-2014	04:30:00	50.07	440.1	436.3	443.6	71.1	20.72	23.06	17.95	5.16	5.76	28.87	0.99
10-03-2014	04:32:00	50.05	439.9	436.1	443.6	70.64	20.45	23.07	17.83	5.11	5.75	28.69	0.99
10-03-2014	04:34:00	50.01	439.2	435.7	443.1	70.19	20.51	22.98	17.47	5.22	5.70	28.39	0.99
10-03-2014	04:36:00	49.97	438.5	435.6	442.6	70.68	20.45	22.91	17.58	5.20	5.68	28.46	0.99
10-03-2014	04:38:00	49.96	438.2	434.8	442.2	70.34	20.35	22.93	17.49	5.17	5.68	28.34	0.99
10-03-2014	04:40:00	49.96	438.4	434.8	442.3	70.78	20.53	22.97	17.60	5.21	5.69	28.51	0.99
10-03-2014	04:42:00	49.99	438.2	434.4	442.3	70.49	20.44	22.98	17.54	5.19	5.69	28.42	0.99
10-03-2014	04:44:00	50.04	438.5	434.6	442.4	71.62	20.26	23.09	17.83	5.15	5.72	28.70	0.99
10-03-2014	04:46:00	50.07	438.9	434.8	442.5	71.32	20.4	22.94	17.79	5.19	5.68	28.67	0.99
10-03-2014	04:48:00	50	438.4	434.4	442	71.6	20.39	22.82	17.84	5.18	5.65	28.67	0.99
10-03-2014	04:50:00	49.96	438.3	434	441.8	72.38	20.64	22.77	18.05	5.24	5.63	28.91	0.99
10-03-2014	04:52:00	49.96	438.2	433.8	442.1	71.94	20.78	22.76	17.94	5.27	5.63	28.84	0.99
10-03-2014	04:54:00	50.07	438.4	434.3	442.8	71.99	20.67	22.77	17.97	5.24	5.64	28.85	0.99
10-03-2014	04:56:00	50.18	439.3	434.9	443.1	71.01	20.57	22.87	17.76	5.21	5.68	28.65	0.99
10-03-2014	04:58:00	50.21	439.2	435	443	71.08	20.58	22.47	17.99	5.12	5.61	28.71	0.99
10-03-2014	05:00:00	50.2	438.9	435.1	443	71.17	20.6	22.37	18.01	5.12	5.59	28.72	0.99
10-03-2014	05:02:00	50.11	438.1	434.5	442.5	71.19	20.58	22.38	17.98	5.10	5.58	28.67	0.99
10-03-2014	05:04:00	50.04	437.1	433.8	441.4	70.51	20.74	22.37	17.74	5.14	5.57	28.45	0.99

Measurement of Power Parameters at Kripal chowk Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
10-03-2014	05:06:00	49.96	436.7	433	440.6	70.07	20.5	22.47	17.60	5.07	5.58	28.25	0.99
10-03-2014	05:08:00	49.9	436.5	432.5	440.3	70.08	20.57	22.52	17.58	5.08	5.59	28.26	0.99
10-03-2014	05:10:00	50.01	436.6	433.1	440.7	70.75	20.42	22.4	17.77	5.05	5.56	28.39	0.99
10-03-2014	05:12:00	50.1	437.1	433.3	441.2	70.48	20.78	22.44	17.73	5.14	5.58	28.45	0.99
10-03-2014	05:14:00	50.12	436.7	433.2	441.3	70.37	20.54	22.33	17.70	5.08	5.55	28.33	0.99
10-03-2014	05:16:00	50.06	435.9	432.3	441.1	69.71	20.81	22.2	17.49	5.13	5.52	28.14	0.99
10-03-2014	05:18:00	49.99	435.6	431.9	441	69.86	20.7	22.08	17.54	5.10	5.48	28.12	0.99
10-03-2014	05:20:00	49.95	435	431.3	440.3	69.74	20.94	22.14	17.48	5.15	5.49	28.11	0.99
10-03-2014	05:22:00	49.94	435.1	431	440	69.31	20.84	22.16	17.37	5.13	5.49	27.99	0.99
10-03-2014	05:24:00	49.96	434.9	430.8	440	69.6	20.74	22.21	17.44	5.10	5.50	28.04	0.99
10-03-2014	05:26:00	49.96	434.8	431	440	69.23	20.63	22.24	17.34	5.07	5.51	27.92	0.99
10-03-2014	05:28:00	49.92	435.1	430.4	439.8	69.58	20.58	22.28	17.43	5.06	5.51	27.99	0.99
10-03-2014	05:30:00	49.89	434.6	430	439.3	68.88	20.62	22.25	17.21	5.06	5.50	27.77	0.99
10-03-2014	05:32:00	49.9	434.3	429.6	438.9	68.94	20.37	22.26	17.23	5.00	5.49	27.72	0.99
10-03-2014	05:34:00	49.96	434.4	429.4	439	68.22	20.48	22.36	17.06	5.03	5.52	27.60	0.99
10-03-2014	05:36:00	49.99	434.2	429.4	439.1	68.62	20.45	22.17	17.16	5.01	5.47	27.64	0.99
10-03-2014	05:38:00	50.02	434.4	429.8	438.9	68.7	20.13	22.32	17.15	4.94	5.51	27.61	0.99
10-03-2014	05:40:00	50.04	434.3	429.5	439.2	68.59	20.39	22.25	17.15	5.00	5.49	27.65	0.99
10-03-2014	05:42:00	50.01	434.1	429.2	438.8	68.12	20.16	22.2	17.03	4.95	5.47	27.45	0.99
10-03-2014	05:44:00	49.99	435.1	429.8	438.8	68.58	20.09	22.36	17.16	4.94	5.51	27.62	0.99
10-03-2014	05:46:00	49.92	434.4	428.9	437.5	67.98	20.18	22.42	16.97	4.96	5.51	27.44	0.99
10-03-2014	05:48:00	49.88	434	428.7	437.1	68.9	20.09	22.25	17.19	4.93	5.47	27.59	0.99
10-03-2014	05:50:00	49.84	432.8	428.3	436.3	68.86	19.91	21.97	17.14	4.88	5.40	27.42	0.99
10-03-2014	05:52:00	49.86	432.8	427.9	436.3	68.6	20.31	21.96	17.10	4.97	5.39	27.47	0.99
10-03-2014	05:54:00	49.94	433.7	427.9	437.1	67.2	20.43	22.13	16.80	5.01	5.43	27.23	0.99
10-03-2014	05:56:00	50.03	434	428.5	437.7	67.36	20.46	22.03	16.87	5.02	5.41	27.30	0.99
10-03-2014	05:58:00	50	433.2	428	437.2	67.28	20.65	21.97	16.81	5.05	5.40	27.26	0.99
10-03-2014	06:00:00	49.91	432.1	427.2	436.6	68.34	20.57	21.83	17.02	5.02	5.35	27.39	0.99
10-03-2014	06:02:00	49.85	431.7	426.6	436.1	67.56	20.46	21.99	16.82	4.99	5.39	27.19	0.99

Measurement of Power Parameters at Kripal chowk Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
10-03-2014	06:04:00	49.8	431.7	426	435.5	68.47	20.27	22.12	17.03	4.94	5.41	27.38	0.99
10-03-2014	06:06:00	49.8	431.1	426	435.6	68.12	20.36	22.01	16.93	4.96	5.38	27.28	0.99
10-03-2014	06:08:00	49.82	430.7	426.2	435.3	68.89	20.18	21.57	17.11	4.92	5.28	27.31	0.99
10-03-2014	06:10:00	49.9	431.3	426.5	435.7	68.78	20.12	21.49	17.11	4.91	5.27	27.29	0.99
10-03-2014	06:12:00	49.95	430.9	426.4	435.6	68.47	20.48	21.33	17.03	4.99	5.23	27.25	0.99
10-03-2014	06:14:00	49.95	430.8	425.7	435.2	67.64	20.43	21.47	16.83	4.97	5.26	27.06	0.99
10-03-2014	06:16:00	49.91	430.6	425.3	434.6	68.21	20.37	21.43	16.95	4.96	5.24	27.14	0.99
10-03-2014	06:18:00	49.86	429.9	424.9	434.1	67.52	20.64	21.36	16.75	5.01	5.22	26.98	0.99
10-03-2014	06:20:00	49.86	429.9	424.8	434.2	68.98	20.51	21.46	17.11	4.98	5.25	27.34	0.99
10-03-2014	06:22:00	49.92	430.5	425	435	69.3	20.39	21.44	17.23	4.95	5.24	27.43	0.99
10-03-2014	06:24:00	49.91	430.9	424.9	434.7	68.98	20.48	21.47	17.16	4.98	5.25	27.39	0.99
10-03-2014	06:26:00	49.92	430.2	425	434.2	69.32	20.31	21.32	17.22	4.93	5.21	27.36	0.99
10-03-2014	06:28:00	49.96	430.1	425	433.6	69.14	20.57	21.36	17.15	5.00	5.22	27.36	0.99
Average load in kW												28.18	0.99

Harmonics and Voltage & Current Unbalance Measurement

Harmonics & Voltage & Current Unbalance Measurement at Kripal chowk Switching Point										
Date	Time	Current Harmonics				Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
		Frequency	A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
		Hz	%	%	%	%	%	%	%	%
09-03-2014	22:32:00	49.82	9.3	13.1	15.8	2.4	2.7	2.3	43.2	1
09-03-2014	22:34:00	49.85	9.3	13.1	15.8	2.4	2.7	2.3	43.6	1
09-03-2014	22:36:00	49.91	9.3	13.1	15.7	2.4	2.6	2.3	43.3	1
09-03-2014	22:38:00	50	9.3	13	15.7	2.4	2.7	2.3	43.2	1
09-03-2014	22:40:00	50.03	9.3	13.1	15.5	2.4	2.7	2.3	44	1
09-03-2014	22:42:00	49.99	9.5	13.3	15.2	2.4	2.8	2.3	44.5	1
09-03-2014	22:44:00	49.91	9.5	13.3	15	2.4	2.7	2.2	44.5	1
09-03-2014	22:46:00	49.88	9.4	13.3	15	2.4	2.7	2.2	44.1	1.1
09-03-2014	22:48:00	49.91	9.4	13.4	15.1	2.4	2.7	2.3	44.1	1.1
09-03-2014	22:50:00	49.99	9.6	13.4	15	2.4	2.6	2.3	43.4	1
09-03-2014	22:52:00	50.04	9.6	13.5	15.1	2.4	2.6	2.2	43.4	1
09-03-2014	22:54:00	50.05	9.6	13.5	15.1	2.4	2.7	2.2	43.2	1
09-03-2014	22:56:00	50.02	9.5	13.6	15	2.3	2.7	2.3	43.4	0.9
09-03-2014	22:58:00	49.96	9.5	13.7	15.1	2.3	2.6	2.2	43.3	0.9
09-03-2014	23:00:00	49.94	9.6	13.6	15.1	2.3	2.6	2.2	43.6	0.9
09-03-2014	23:02:00	49.89	9.5	13.8	15.1	2.3	2.7	2.2	43.4	1
09-03-2014	23:04:00	49.9	9.4	13.7	15.1	2.2	2.6	2.2	43.1	1
09-03-2014	23:06:00	49.95	9.4	13.8	15.1	2.3	2.6	2.2	42.9	1.1
09-03-2014	23:08:00	49.99	9.4	13.8	15.2	2.2	2.5	2.2	42.9	1.1
09-03-2014	23:10:00	50.01	9.4	13.8	15.2	2.4	2.6	2.2	43.2	1.1
09-03-2014	23:12:00	49.98	9.4	13.9	15.1	2.3	2.7	2.2	43.1	1
09-03-2014	23:14:00	49.97	9.3	13.8	15.1	2.3	2.6	2.2	43.2	0.9
09-03-2014	23:16:00	49.98	9.4	13.8	15.2	2.3	2.6	2.1	42.8	1
09-03-2014	23:18:00	50.01	9.4	13.6	15.5	2.3	2.6	2.1	41.7	1

Harmonics & Voltage & Current Unbalance Measurement at Kripal chowk Switching Point										
09-03-2014	23:20:00	50.01	9.2	13.5	15.6	2.1	2.5	2	42.1	1
09-03-2014	23:22:00	50.04	9.2	13.6	15.6	2.1	2.5	2	42.5	1
09-03-2014	23:24:00	50.05	9.2	13.5	15.6	2.1	2.4	2	42.6	0.9
09-03-2014	23:26:00	50.06	9.2	13.5	15.7	2.2	2.4	2	42.5	1
09-03-2014	23:28:00	50.05	9.2	13.6	15.7	2.3	2.5	2	42.4	1
09-03-2014	23:30:00	50.06	9.3	13.7	15.5	2.4	2.5	2	43.5	1
09-03-2014	23:32:00	50.05	9.5	18.7	15.2	2.3	2.4	2	49.4	1
09-03-2014	23:34:00	50.09	9.1	14.6	15.3	2.2	2.4	1.9	46.1	1
09-03-2014	23:36:00	50.07	9.1	14.1	15.2	2.2	2.3	1.9	45.2	1
09-03-2014	23:38:00	50.05	9	13.9	15.2	2.2	2.3	1.9	44.1	1
09-03-2014	23:40:00	50.04	9.1	13.9	15.3	2.3	2.4	1.9	44.3	1
09-03-2014	23:42:00	50.05	9.1	13.9	15.3	2.5	2.5	2	44.3	1
09-03-2014	23:44:00	50.07	9.2	14	15.3	2.6	2.5	2	44.3	1.1
09-03-2014	23:46:00	50.11	9.3	14.1	15.3	2.5	2.5	2	44.4	1
09-03-2014	23:48:00	50.16	9.1	14.2	15.3	2.4	2.4	2	43.8	1
09-03-2014	23:50:00	50.2	9.1	14	15.3	2.2	2.4	2	44	1
09-03-2014	23:52:00	50.21	9	13.9	15.3	2.3	2.3	2	43.8	1.1
09-03-2014	23:54:00	50.19	9	13.8	15.3	2.4	2.4	2	44.3	1
09-03-2014	23:56:00	50.15	9.1	13.8	15.3	2.4	2.4	2	44.4	1
09-03-2014	23:58:00	50.09	9	13.9	15.4	2.3	2.3	1.9	44.3	1
10-03-2014	00:00:00	50.02	9	13.9	15.4	2.3	2.3	1.8	43.9	1
10-03-2014	00:02:00	49.94	9	14.1	15.4	2.5	2.4	2	44	1.1
10-03-2014	00:04:00	49.91	9.1	14	15.3	2.5	2.4	1.9	44	1.1
10-03-2014	00:06:00	49.95	9	14.1	15.3	2.4	2.3	1.9	44	1.1
10-03-2014	00:08:00	50.02	9	14.2	15.2	2.5	2.3	2	44	1
10-03-2014	00:10:00	50.08	9	14.1	15.2	2.4	2.3	1.9	44.3	1
10-03-2014	00:12:00	50.11	9.1	14.2	15.3	2.3	2.3	1.8	44.5	1
10-03-2014	00:14:00	50.09	9	14.3	15.3	2.5	2.3	1.9	44.1	1
10-03-2014	00:16:00	50.06	9	14.4	15.4	2.3	2.3	1.8	44.2	1
10-03-2014	00:18:00	50.02	9	14.5	15.4	2.4	2.4	1.9	44	0.9
10-03-2014	00:20:00	49.98	9.1	14.4	15.4	2.7	2.5	2.1	44	1
10-03-2014	00:22:00	49.94	9.1	14.4	15.5	2.8	2.6	2.2	44	1

Harmonics & Voltage & Current Unbalance Measurement at Kripal chowk Switching Point										
10-03-2014	00:24:00	49.96	9.1	14.4	15.5	2.7	2.6	2.1	43.7	1
10-03-2014	00:26:00	49.94	9	14.4	15.4	2.6	2.6	2	43.6	1
10-03-2014	00:28:00	49.97	8.9	14.4	15.5	2.5	2.5	1.9	43.6	1
10-03-2014	00:30:00	49.96	9	14.3	15.4	2.4	2.5	1.9	43.9	1
10-03-2014	00:32:00	50.01	9	14.4	15.4	2.4	2.5	1.8	44	1
10-03-2014	00:34:00	50.08	9	14.4	15.4	2.5	2.5	1.9	43.9	1
10-03-2014	00:36:00	50.09	9	14.4	15.3	2.4	2.4	1.8	44	0.9
10-03-2014	00:38:00	50.08	9	14.3	15.2	2.4	2.5	1.9	44	1
10-03-2014	00:40:00	50.04	9	14.3	15.2	2.5	2.5	1.9	44.1	0.9
10-03-2014	00:42:00	49.99	9	14.4	15.2	2.4	2.5	1.9	43.7	0.9
10-03-2014	00:44:00	49.97	9	14.2	15.3	2.5	2.5	2	44.3	0.9
10-03-2014	00:46:00	49.98	9	14.3	15.2	2.5	2.5	2	44.2	0.9
10-03-2014	00:48:00	50.04	9	14.2	15.2	2.5	2.5	2	44.5	0.9
10-03-2014	00:50:00	50.05	9	14.2	15.3	2.5	2.5	2.1	44.3	0.9
10-03-2014	00:52:00	50.02	9	14.2	15.3	2.5	2.5	2.1	44.3	1
10-03-2014	00:54:00	49.99	9	14.3	15.3	2.6	2.6	2.1	44.1	0.9
10-03-2014	00:56:00	49.98	9	14.4	15.3	2.6	2.6	2.1	44.2	1
10-03-2014	00:58:00	49.97	9.1	14.4	15.3	2.6	2.7	2.1	44.2	1
10-03-2014	01:00:00	49.94	9	14.4	15.4	2.6	2.7	2.1	44.3	1
10-03-2014	01:02:00	49.93	9	14.5	15.5	2.7	2.7	2.1	44	1
10-03-2014	01:04:00	49.9	9	14.3	15.6	2.7	2.7	2.2	44.2	1
10-03-2014	01:06:00	49.93	9.1	14.5	15.6	2.8	2.8	2.2	44.4	0.9
10-03-2014	01:08:00	49.93	9.4	14.5	15.6	2.8	2.9	2.2	43.5	0.9
10-03-2014	01:10:00	49.96	9.2	14.4	15.6	2.8	2.8	2.2	44	0.9
10-03-2014	01:12:00	49.97	9.3	14.3	15.6	2.8	2.8	2.2	43.9	0.9
10-03-2014	01:14:00	50	9.4	14.3	15.6	2.8	2.9	2.3	43.9	0.9
10-03-2014	01:16:00	50.02	9.4	14.3	15.6	2.7	2.8	2.2	44.3	0.9
10-03-2014	01:18:00	50.04	9.4	14.4	15.6	2.8	2.9	2.3	43.9	0.9
10-03-2014	01:20:00	50.02	9.4	14.4	15.6	2.7	2.9	2.2	44	0.8
10-03-2014	01:22:00	49.95	9.4	14.4	15.6	2.7	2.9	2.2	43.6	0.9
10-03-2014	01:24:00	49.94	9.3	14.3	15.6	2.7	2.9	2.3	43.9	0.9
10-03-2014	01:26:00	49.91	9.4	14.4	15.6	2.7	2.8	2.2	43.8	1

Harmonics & Voltage & Current Unbalance Measurement at Kripal chowk Switching Point										
10-03-2014	01:28:00	49.93	9.4	14.4	15.6	2.8	2.8	2.3	43.6	1
10-03-2014	01:30:00	49.94	9.3	14.5	15.6	2.8	2.9	2.3	43.4	1
10-03-2014	01:32:00	49.97	9.3	14.5	15.6	2.7	2.8	2.2	43.6	1
10-03-2014	01:34:00	49.99	9.3	14.5	15.6	2.5	2.7	2.2	43.7	1
10-03-2014	01:36:00	50	9.3	14.5	15.5	2.7	2.8	2.2	43.8	1.1
10-03-2014	01:38:00	50	9.4	14.5	15.5	2.8	2.8	2.2	43.5	1
10-03-2014	01:40:00	50	9.4	14.6	15.5	2.7	2.9	2.2	43.5	0.9
10-03-2014	01:42:00	50.02	9.4	14.6	15.5	2.8	2.9	2.2	43.5	0.9
10-03-2014	01:44:00	50.05	9.4	14.4	15.5	2.8	2.9	2.3	44	0.9
10-03-2014	01:46:00	50.06	9.4	14.5	15.5	2.8	2.8	2.3	43.5	0.9
10-03-2014	01:48:00	50.06	9.4	14.7	15.6	2.9	2.9	2.3	43.4	0.9
10-03-2014	01:50:00	50.04	9.3	14.7	15.7	2.9	2.9	2.3	43.1	1
10-03-2014	01:52:00	50.02	9.4	14.6	15.7	3	3	2.5	43.7	1
10-03-2014	01:54:00	50.01	9.4	14.6	15.7	3.1	3	2.5	43.4	1
10-03-2014	01:56:00	49.94	9.3	14.6	15.6	3	2.8	2.4	43.6	1
10-03-2014	01:58:00	49.93	9.3	14.7	15.7	2.9	2.9	2.3	43.2	1
10-03-2014	02:00:00	49.92	9.3	14.5	15.7	2.9	2.9	2.3	43.7	1
10-03-2014	02:02:00	49.9	9.4	14.4	15.7	3	3	2.3	43.9	1
10-03-2014	02:04:00	49.93	9.4	14.4	15.6	2.8	2.9	2.3	44.1	1
10-03-2014	02:06:00	49.98	9.4	14.5	15.7	2.8	2.9	2.3	43.5	1
10-03-2014	02:08:00	50.01	9.3	14.5	15.7	2.7	2.8	2.3	43.6	1
10-03-2014	02:10:00	49.98	9.3	14.5	15.7	3	2.9	2.4	43.7	1
10-03-2014	02:12:00	49.96	9.3	14.4	15.7	3	2.9	2.5	44	1
10-03-2014	02:14:00	49.94	9.4	14.4	15.7	2.9	2.9	2.4	44.2	1
10-03-2014	02:16:00	49.97	9.4	14.5	15.7	2.9	3	2.5	43.9	1
10-03-2014	02:18:00	50.02	9.4	14.4	15.8	2.9	3	2.4	44	1
10-03-2014	02:20:00	50	9.4	14.3	15.8	2.9	3	2.3	44.1	1
10-03-2014	02:22:00	49.98	9.4	14.4	15.8	2.9	3	2.4	44	1
10-03-2014	02:24:00	49.98	9.4	14.4	15.8	3	2.9	2.5	44.1	1
10-03-2014	02:26:00	49.99	9.4	14.4	15.7	3	3.1	2.5	44	0.9
10-03-2014	02:28:00	50.01	9.4	14.4	15.7	3.1	3.1	2.5	44.2	1
10-03-2014	02:30:00	50.06	9.4	14.4	15.7	3.2	3.2	2.6	44.1	1

Harmonics & Voltage & Current Unbalance Measurement at Kripal chowk Switching Point										
10-03-2014	02:32:00	50.05	9.4	14.5	15.8	3.1	3.1	2.5	44.3	1
10-03-2014	02:34:00	50.04	9.4	14.4	15.8	3	3.1	2.5	43.9	1
10-03-2014	02:36:00	50.01	9.4	14.4	15.7	3.1	3.1	2.5	44.1	1
10-03-2014	02:38:00	50.01	9.4	14.4	15.8	3.1	3.1	2.5	44.1	1
10-03-2014	02:40:00	50.06	9.4	14.5	15.8	3.1	3.1	2.5	44.3	1
10-03-2014	02:42:00	50.05	9.4	14.7	15.8	3.1	3.2	2.5	44.1	1
10-03-2014	02:44:00	50.12	9.4	14.6	15.8	3	3.1	2.5	44.2	1
10-03-2014	02:46:00	50.11	9	14.6	15.8	3	3.2	2.5	45.1	1
10-03-2014	02:48:00	50.11	9	14.6	15.7	3.1	3.1	2.6	45.1	1
10-03-2014	02:50:00	50.08	9.1	14.7	15.7	3.2	3.2	2.6	45.2	0.9
10-03-2014	02:52:00	50.06	9.1	14.7	15.8	3.2	3.2	2.7	45.1	1
10-03-2014	02:54:00	50.09	9	14.7	15.7	3.1	3.2	2.7	44.9	1
10-03-2014	02:56:00	50.1	9.1	14.6	15.7	3.2	3.3	2.7	45	1
10-03-2014	02:58:00	50.11	9.1	14.9	15.8	3.3	3.3	2.8	44.6	1.1
10-03-2014	03:00:00	50.1	9.1	14.8	15.8	3.2	3.4	2.8	44.7	1.1
10-03-2014	03:02:00	50.12	9	14.7	15.7	3.1	3.2	2.7	44.7	1.1
10-03-2014	03:04:00	50.14	9	14.6	15.7	3.1	3.2	2.7	44.7	1.1
10-03-2014	03:06:00	50.12	9.2	14.6	15.7	3.1	3.2	2.8	44.3	1
10-03-2014	03:08:00	50.09	9.3	14.8	15.7	3.1	3.3	2.8	43.7	1
10-03-2014	03:10:00	50.08	9.3	14.8	15.8	3.2	3.3	2.7	43.7	1
10-03-2014	03:12:00	50.11	9.3	14.7	15.7	3.1	3.3	2.8	43.7	1.1
10-03-2014	03:14:00	50.11	9.3	14.7	15.7	3.2	3.3	2.8	43.6	1.1
10-03-2014	03:16:00	50.09	9.3	14.8	15.7	3.2	3.3	2.7	43.7	1
10-03-2014	03:18:00	50.08	9.3	14.7	15.8	3.1	3.2	2.7	43.7	1.1
10-03-2014	03:20:00	50.07	9.3	14.6	15.8	3.1	3.1	2.6	43.7	1.1
10-03-2014	03:22:00	50.08	9.3	14.4	15.7	3	3.1	2.6	43.8	1.1
10-03-2014	03:24:00	50.09	9.3	14.4	15.8	3.2	3.1	2.7	43.8	1.1
10-03-2014	03:26:00	50.08	9.3	14.4	15.7	3.1	3.1	2.7	44	1
10-03-2014	03:28:00	50.07	9.4	14.4	15.7	3.1	3.1	2.7	43.8	1
10-03-2014	03:30:00	50.1	9.3	14.4	15.8	3	3.1	2.6	44	1
10-03-2014	03:32:00	50.08	9.3	14.4	15.7	3	3.1	2.6	43.9	1
10-03-2014	03:34:00	50.06	9.3	14.4	15.7	3	3	2.6	44.2	1

Harmonics & Voltage & Current Unbalance Measurement at Kripal chowk Switching Point										
10-03-2014	03:36:00	50.06	9.1	14.4	15.7	3.1	3	2.6	44.4	1
10-03-2014	03:38:00	50.09	9.1	14.6	15.7	3.1	3.1	2.7	45	1.1
10-03-2014	03:40:00	50.12	9.1	14.6	15.7	3	3	2.6	44.6	1.1
10-03-2014	03:42:00	50.16	9	14.5	15.6	3	3	2.7	44.8	1.1
10-03-2014	03:44:00	50.15	9	14.4	15.7	3.1	3	2.7	44.8	1.1
10-03-2014	03:46:00	50.16	9	14.4	15.7	3.1	3.1	2.7	44.9	1.1
10-03-2014	03:48:00	50.19	9	14.5	15.7	3	3.1	2.7	44.9	1.1
10-03-2014	03:50:00	50.18	9	14.5	15.8	3	3.1	2.5	44.6	1.1
10-03-2014	03:52:00	50.17	9	14.4	15.7	3	3.1	2.5	44.7	1
10-03-2014	03:54:00	50.15	9	14.2	15.7	3	3.1	2.6	44.9	1
10-03-2014	03:56:00	50.14	9.1	14.2	15.7	3.1	3.1	2.7	45	1
10-03-2014	03:58:00	50.12	9.1	14.3	15.7	3.1	3.2	2.7	44.9	1
10-03-2014	04:00:00	50.09	9	14.4	15.8	3.1	3.2	2.7	44.6	1
10-03-2014	04:02:00	50.02	9	14.5	15.8	3.2	3.2	2.7	44.4	0.9
10-03-2014	04:04:00	49.96	9	14.5	15.7	3.2	3.1	2.7	44.5	1
10-03-2014	04:06:00	49.94	9	14.5	15.7	3.1	3.2	2.8	44.7	1
10-03-2014	04:08:00	49.99	9	14.7	15.7	3.2	3.2	2.7	44.6	1
10-03-2014	04:10:00	50.04	9	14.6	15.7	3.1	3.1	2.6	44.9	1
10-03-2014	04:12:00	50.06	9	14.6	15.6	3.2	3.1	2.7	44.9	1
10-03-2014	04:14:00	50.01	9	14.5	15.7	3.2	3.2	2.8	45.1	0.9
10-03-2014	04:16:00	50.04	9.1	14.5	15.7	3.2	3.1	2.8	45.1	1
10-03-2014	04:18:00	50.01	9	14.6	15.7	3.2	3.2	2.7	45.2	1
10-03-2014	04:20:00	49.99	9.1	14.7	15.7	3.1	3.1	2.7	45	1
10-03-2014	04:22:00	49.99	9.1	14.5	15.7	3.2	3.1	2.8	45	1
10-03-2014	04:24:00	50	9	14.4	15.7	3.2	3.2	2.9	45.3	1
10-03-2014	04:26:00	50.05	9	14.4	15.7	3.2	3.1	2.8	45.1	1
10-03-2014	04:28:00	50.06	9.1	14.3	15.7	3.2	3.2	2.8	45.2	1
10-03-2014	04:30:00	50.07	9.3	14.5	15.8	3.3	3.3	2.8	44.2	0.9
10-03-2014	04:32:00	50.05	9.4	14.4	15.7	3.2	3.1	2.7	44.1	0.9
10-03-2014	04:34:00	50.01	9.4	14.3	15.5	3.1	3	2.6	44	0.9
10-03-2014	04:36:00	49.97	9.4	14.2	15.5	3.1	3	2.6	44.3	0.9
10-03-2014	04:38:00	49.96	9.4	14.3	15.4	3.1	2.9	2.6	44.2	0.9

Harmonics & Voltage & Current Unbalance Measurement at Kripal chowk Switching Point										
10-03-2014	04:40:00	49.96	9.4	14.2	15.5	3.1	2.9	2.6	44.3	1
10-03-2014	04:42:00	49.99	9.3	14.4	15.4	3	2.9	2.5	44.3	1
10-03-2014	04:44:00	50.04	9.3	14.1	15.5	3	2.9	2.6	44.9	1
10-03-2014	04:46:00	50.07	9.4	14.1	15.4	3.1	2.9	2.6	44.9	1
10-03-2014	04:48:00	50	9.4	14.2	15.4	3.1	3	2.7	45.2	1
10-03-2014	04:50:00	49.96	9.4	14.3	15.4	3.1	2.9	2.7	45.6	1
10-03-2014	04:52:00	49.96	9.5	14.5	15.4	3.1	3	2.7	45.2	1.1
10-03-2014	04:54:00	50.07	9.4	14.6	15.3	3	2.9	2.6	45.1	1.1
10-03-2014	04:56:00	50.18	9.4	14.4	15.4	2.9	2.8	2.5	44.6	1
10-03-2014	04:58:00	50.21	9.3	14.4	15.8	2.9	2.7	2.5	44.8	1
10-03-2014	05:00:00	50.2	9.4	14.3	15.7	2.8	2.7	2.4	44.9	1
10-03-2014	05:02:00	50.11	9.4	14.4	15.7	2.9	2.7	2.5	44.8	1
10-03-2014	05:04:00	50.04	9.4	14.5	15.7	2.9	2.7	2.3	44.3	1
10-03-2014	05:06:00	49.96	9.3	14.4	15.7	2.8	2.7	2.3	44.2	1
10-03-2014	05:08:00	49.9	9.3	14.4	15.8	2.8	2.6	2.3	44.1	1
10-03-2014	05:10:00	50.01	9.3	14.3	15.7	2.7	2.6	2.2	44.7	1
10-03-2014	05:12:00	50.1	9.3	14.4	15.7	2.5	2.4	2.2	44.4	1
10-03-2014	05:14:00	50.12	9.3	14.5	15.7	2.6	2.4	2.2	44.5	1
10-03-2014	05:16:00	50.06	9.3	14.6	15.7	2.6	2.5	2.2	44	1.1
10-03-2014	05:18:00	49.99	9.3	14.6	15.6	2.7	2.6	2.2	44.3	1.2
10-03-2014	05:20:00	49.95	9.3	14.8	15.6	2.7	2.5	2.1	43.9	1.2
10-03-2014	05:22:00	49.94	9.3	14.7	15.6	2.6	2.4	2.2	43.8	1.2
10-03-2014	05:24:00	49.96	9.3	14.7	15.7	2.5	2.4	2.1	44	1.2
10-03-2014	05:26:00	49.96	9.2	14.5	15.6	2.5	2.4	2.1	43.9	1.2
10-03-2014	05:28:00	49.92	9.2	14.6	15.7	2.4	2.4	2.1	44.1	1.2
10-03-2014	05:30:00	49.89	9.3	14.4	15.7	2.5	2.4	2.1	43.6	1.2
10-03-2014	05:32:00	49.9	9.3	14.3	15.7	2.5	2.4	2	43.9	1.2
10-03-2014	05:34:00	49.96	9.3	14.3	15.7	2.5	2.3	2.1	43.3	1.2
10-03-2014	05:36:00	49.99	9.3	14.2	15.7	2.4	2.3	2	43.7	1.2
10-03-2014	05:38:00	50.02	9.3	14.1	15.7	2.3	2.2	1.8	43.9	1.2
10-03-2014	05:40:00	50.04	9.2	14.1	15.7	2.2	2.2	1.9	43.9	1.2
10-03-2014	05:42:00	50.01	9.2	14	15.6	2.2	2.2	1.9	43.9	1.2

Harmonics & Voltage & Current Unbalance Measurement at Kripal chowk Switching Point										
10-03-2014	05:44:00	49.99	9.2	14	15.7	2.4	2.3	1.9	44.2	1.2
10-03-2014	05:46:00	49.92	9.2	13.9	15.7	2.3	2.3	1.8	43.7	1.1
10-03-2014	05:48:00	49.88	9.2	13.9	15.7	2.4	2.3	1.9	44.3	1.1
10-03-2014	05:50:00	49.84	9.3	13.8	15.5	2.4	2.3	1.9	44.4	1
10-03-2014	05:52:00	49.86	9.2	13.9	15.4	2.3	2.2	1.8	44.1	1.1
10-03-2014	05:54:00	49.94	9.1	14.1	15.5	2.4	2.3	1.8	43.3	1.2
10-03-2014	05:56:00	50.03	9.2	14.3	15.5	2.3	2.3	1.8	43.5	1.2
10-03-2014	05:58:00	50	9.1	14.4	15.4	2.2	2.2	1.8	43.4	1.2
10-03-2014	06:00:00	49.91	9.2	14.5	15.3	2.3	2.2	1.8	44	1.2
10-03-2014	06:02:00	49.85	9.2	14.2	15.4	2.3	2.2	1.8	43.6	1.2
10-03-2014	06:04:00	49.8	9.2	14.1	15.5	2.3	2.2	1.8	44.2	1.2
10-03-2014	06:06:00	49.8	9.3	14.1	15.5	2.4	2.3	1.9	44.1	1.2
10-03-2014	06:08:00	49.82	9.2	13.8	15.3	2.2	2.2	1.8	44.7	1.2
10-03-2014	06:10:00	49.9	9.2	13.9	15.1	2.2	2.1	1.8	44.6	1.2
10-03-2014	06:12:00	49.95	9.2	14.1	15	2.2	2	1.8	44.2	1.2
10-03-2014	06:14:00	49.95	9.1	14.1	15	2	2	1.6	43.8	1.2
10-03-2014	06:16:00	49.91	9.1	14.2	15	1.9	2	1.5	44.3	1.2
10-03-2014	06:18:00	49.86	9.2	14.3	15	1.9	1.9	1.5	43.6	1.2
10-03-2014	06:20:00	49.86	9.2	14.2	15	2.1	2	1.6	44.2	1.2
10-03-2014	06:22:00	49.92	9.2	14.2	15	1.9	1.9	1.5	44.5	1.3
10-03-2014	06:24:00	49.91	9.2	14.1	15.1	2	1.9	1.6	44.3	1.3
10-03-2014	06:26:00	49.92	9.2	14	15	1.9	2	1.4	44.6	1.2
10-03-2014	06:28:00	49.96	9.1	14.2	14.9	1.8	1.8	1.4	44.4	1.1

❖ **Observation:**

- Voltage unbalance is there.
- Current unbalance is considerable.
- Average power factor is 0.99
- Line Voltage total harmonics distortion is there.
- Total Current Harmonics distortion is there.

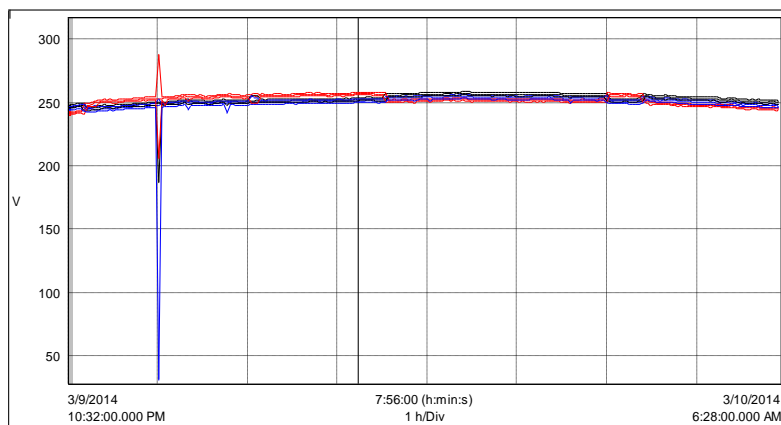
Study of electrical parameters at Kripal chowk Switching Point

1. Phase Voltage

Table.: Phase Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
V1 RMS	09-03-2014	22:32:00	253.556	245.3	257.8	V	07:58:00	(h:min:s)
V2 RMS	09-03-2014	22:32:00	252.999	242	257.6	V	07:58:00	(h:min:s)
V3 RMS	09-03-2014	22:32:00	251.67	244.9	255.4	V	07:58:00	(h:min:s)

Graph : Phase Voltage Variation for the Recorded Time



**RMS, Max RMS & Min. RMS
Phase voltage variation**

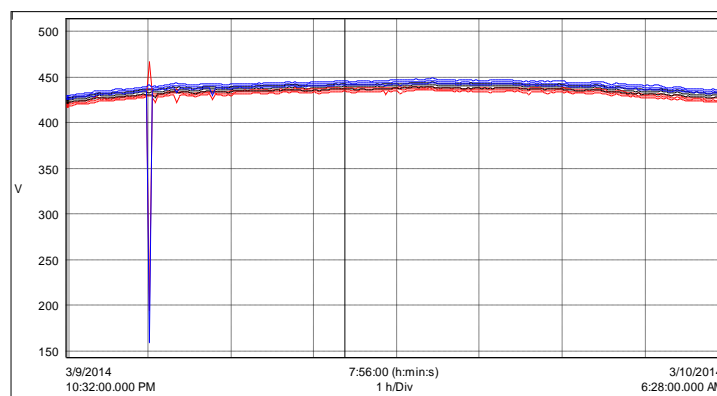
- Voltage unbalance is within limit

2. Line Voltage

Table.: Line Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
U1 RMS	09-03-2014	22:32:00	437.804	424.9	442.3	V	07:58:00	(h:min:s)
U2 RMS	09-03-2014	22:32:00	433.665	420.4	438.4	V	07:58:00	(h:min:s)
U3 RMS	09-03-2014	22:32:00	441.684	427.9	446.7	V	07:58:00	(h:min:s)

Graph : Line Voltage Variation for the Recorded Time



RMS, Max RMS & Min. RMS

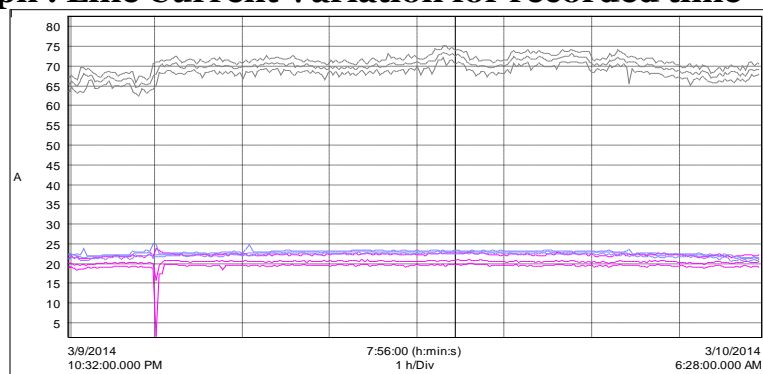
Line voltage variation

3. Current

Table.: Current

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 RMS	09-03-2014	22:32:00	70.063	64.61	73.54	A	07:58:00	(h:min:s)
A2 RMS	09-03-2014	22:32:00	20.58	15.74	21.12	A	07:58:00	(h:min:s)
A3 RMS	09-03-2014	22:32:00	22.705	21.32	23.23	A	07:58:00	(h:min:s)

Graph : Line Current Variation for recorded time



RMS, Max RMS & Min. RMS Current variation

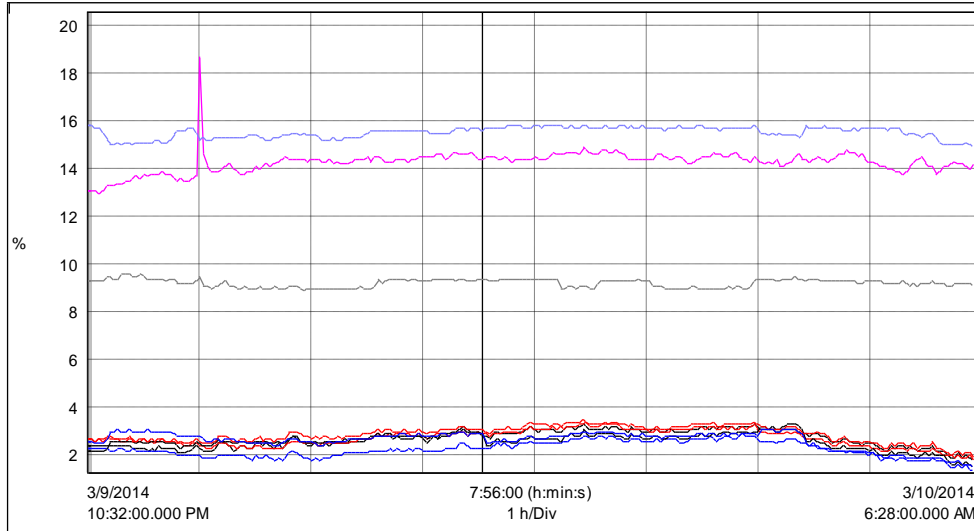
- Current unbalance is considerable.

4. Total harmonic Distortion (THD).

Table.: THD

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 THD	09-03-2014	22:32:00	9.228	8.9	9.6	%	07:58:00	(h:min:s)
A2 THD	09-03-2014	22:32:00	14.283	13	18.7	%	07:58:00	(h:min:s)
A3 THD	09-03-2014	22:32:00	15.519	14.9	15.8	%	07:58:00	(h:min:s)
U1 THD	09-03-2014	22:32:00	2.695	1.8	3.3	%	07:58:00	(h:min:s)
U2 THD	09-03-2014	22:32:00	2.726	1.8	3.4	%	07:58:00	(h:min:s)
U3 THD	09-03-2014	22:32:00	2.266	1.4	2.9	%	07:58:00	(h:min:s)
V1 THD	09-03-2014	22:32:00	2.609	1.5	3.3	%	07:58:00	(h:min:s)
V2 THD	09-03-2014	22:32:00	2.895	1.9	3.5	%	07:58:00	(h:min:s)
V3 THD	09-03-2014	22:32:00	2.642	1.5	3.1	%	07:58:00	(h:min:s)

Graph : THD



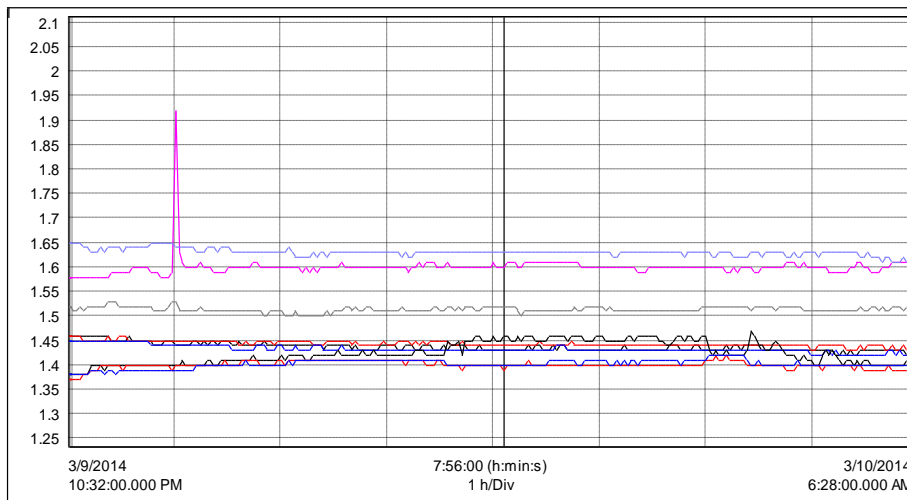
**Variation of current, Phase Voltage, Line Voltage
Total Harmonic Distortion**

5. Crest Factor

Table.: Crest Factor

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 CF	09-03-2014	22:32:00	1.513	1.5	1.53		07:58:00	(h:min:s)
A2 CF	09-03-2014	22:32:00	1.601	1.58	1.92		07:58:00	(h:min:s)
A3 CF	09-03-2014	22:32:00	1.63	1.61	1.65		07:58:00	(h:min:s)
U1 CF	09-03-2014	22:32:00	1.437	1.42	1.46		07:58:00	(h:min:s)
U2 CF	09-03-2014	22:32:00	1.443	1.43	1.46		07:58:00	(h:min:s)
U3 CF	09-03-2014	22:32:00	1.433	1.42	1.45		07:58:00	(h:min:s)
V1 CF	09-03-2014	22:32:00	1.425	1.38	1.47		07:58:00	(h:min:s)
V2 CF	09-03-2014	22:32:00	1.401	1.37	1.42		07:58:00	(h:min:s)
V3 CF	09-03-2014	22:32:00	1.403	1.38	1.42		07:58:00	(h:min:s)

Graph : Crest Factor



Variation of Crest Factor

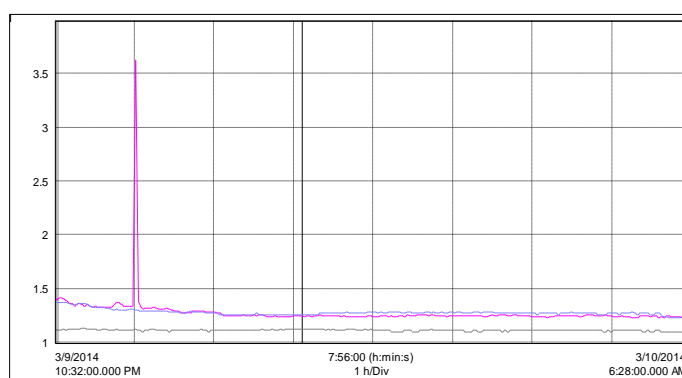
- Crest factor is above 1.41 hence there is some degree of impacting

6. K Factor

Table.: K- Factor

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
KF1	09-03-2014	22:32:00	1.111	1.1	1.13		07:58:00	(h:min:s)
KF2	09-03-2014	22:32:00	1.278	1.23	3.63		07:58:00	(h:min:s)
KF3	09-03-2014	22:32:00	1.278	1.22	1.37		07:58:00	(h:min:s)

Graph :K- Factor



Variation of K Factor

- K-factor is from 1.1 to 1.37. K-factor above 1 indicates a non-linear load & presence of harmonics.

• **Study of Power Parameter and Harmonics Measurements at Sagda Sai Switching Point**

Data logging is carried out for different power parameters like voltage, current, PF, kW, Current unbalance, Voltage unbalance, THD, etc. and tabulated as under

Measurement of Power Parameters at Sagda Sai Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW/ Phase				
		Hz	V	V	V	A	A	A	kW	kW	kW		
12/14/2013	10:00:00 PM	49.9	438.5	444.4	436.8	35.95	17.62	24.36	8.36	0.22	5.73	17.99	0.90
12/14/2013	10:05:00 PM	49.88	436.7	442.9	435.7	35.78	17.59	24.31	8.28	0.22	5.70	17.85	0.90
12/14/2013	10:10:00 PM	49.95	437.2	443.9	436.4	35.71	17.59	24.31	8.28	0.22	5.71	17.87	0.90
12/14/2013	10:15:00 PM	50.1	438.2	444.5	437.1	35.56	17.5	24.11	8.29	0.22	5.69	17.85	0.91
12/14/2013	10:20:00 PM	50.08	438.7	444.8	437.9	35.62	17.54	24.19	8.32	0.22	5.72	17.92	0.91
12/14/2013	10:25:00 PM	49.95	438.9	445.1	438.4	35.83	17.59	24.35	8.38	0.22	5.76	18.04	0.91
12/14/2013	10:30:00 PM	50.07	439.7	445.3	438.7	35.74	17.53	24.21	8.38	0.22	5.74	18.01	0.91
12/14/2013	10:35:00 PM	50.15	441.2	446.7	439.7	35.76	17.53	24.21	8.42	0.22	5.75	18.09	0.91
12/14/2013	10:40:00 PM	50.13	441.2	446.4	440	35.81	17.55	24.24	8.44	0.22	5.77	18.12	0.91
12/14/2013	10:45:00 PM	50.15	442.2	447.4	441.2	35.91	17.57	24.29	8.47	0.22	5.82	18.22	0.91
12/14/2013	10:50:00 PM	50.17	442.4	447.4	441.3	35.97	17.53	24.24	8.49	0.22	5.81	18.22	0.91
12/14/2013	10:55:00 PM	50.11	442.8	448	441.8	36.01	17.6	24.35	8.51	0.22	5.85	18.30	0.91
12/14/2013	11:00:00 PM	50.08	442.8	448.1	441.3	36.01	17.61	24.32	8.62	0.21	5.82	18.33	0.91
12/14/2013	11:05:00 PM	50.1	443.6	448.9	442.5	36.12	17.63	24.39	8.74	0.21	5.83	18.44	0.91
12/14/2013	11:10:00 PM	50.09	443.6	449.2	442.5	36.05	17.63	24.35	8.74	0.21	5.83	18.44	0.91
12/14/2013	11:15:00 PM	50.08	444.2	449.1	442.7	36.13	17.67	24.36	8.76	0.21	5.81	18.47	0.91
12/14/2013	11:20:00 PM	50.09	444.7	449.7	443.7	36.2	17.62	24.42	8.80	0.21	5.84	18.54	0.91
12/14/2013	11:25:00 PM	50.19	445.2	450.7	444.5	36.06	17.6	24.35	8.79	0.21	5.85	18.54	0.91
12/14/2013	11:30:00 PM	50.13	445.2	451.1	444.6	36.13	17.64	24.45	8.80	0.21	5.87	18.59	0.91
12/14/2013	11:35:00 PM	50.1	444.9	450.8	444.6	36.2	17.66	24.47	8.80	0.21	5.87	18.59	0.91
12/14/2013	11:40:00 PM	50.08	445.6	451.4	445.2	36.3	17.7	24.52	8.83	0.21	5.89	18.66	0.91
12/14/2013	11:45:00 PM	50.06	445.3	451.2	445.2	36.3	17.68	24.52	8.84	0.21	5.89	18.66	0.91
12/14/2013	11:50:00 PM	50.15	446.5	452.3	446.3	36.21	17.69	24.45	8.86	0.21	5.90	18.71	0.91

Measurement of Power Parameters at Sagda Sai Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
		Hz	V	V	V	A	A	A	kW	kW	kW		
12/14/2013	11:55:00 PM	50.13	446	451.5	445.5	36.12	17.66	24.37	8.85	0.21	5.88	18.66	0.91
12/15/2013	12:00:00 AM	50.11	446.6	452.2	446.2	36.32	17.71	24.47	8.90	0.21	5.91	18.74	0.91
12/15/2013	12:05:00 AM	50.02	446.1	451.5	445.9	36.41	17.73	24.5	8.91	0.21	5.91	18.75	0.91
12/15/2013	12:10:00 AM	50.06	446.4	452	446.5	36.4	17.73	24.54	8.92	0.21	5.93	18.78	0.91
12/15/2013	12:15:00 AM	50.07	447	452.8	447	36.34	17.74	24.55	8.93	0.21	5.95	18.83	0.91
12/15/2013	12:20:00 AM	50.03	447.3	452.9	447.2	36.43	17.75	24.59	8.96	0.21	5.96	18.87	0.91
12/15/2013	12:25:00 AM	49.96	447.2	452.8	446.9	36.49	17.81	24.62	8.97	0.21	5.96	18.90	0.91
12/15/2013	12:30:00 AM	50.03	447.2	453.2	447.1	36.48	17.77	24.63	8.96	0.21	5.97	18.88	0.91
12/15/2013	12:35:00 AM	50.01	447.8	453.4	447.6	36.56	17.82	24.68	8.99	0.21	5.99	18.95	0.91
12/15/2013	12:40:00 AM	50.01	447.7	453	447.3	36.57	17.79	24.65	8.99	0.21	5.97	18.92	0.91
12/15/2013	12:45:00 AM	50.03	448.5	454.2	448.4	36.6	17.84	24.72	9.02	0.21	6.01	19.01	0.91
12/15/2013	12:50:00 AM	49.99	448.3	453.5	447.7	36.64	17.86	24.69	9.02	0.21	5.98	18.98	0.91
12/15/2013	12:55:00 AM	50.03	449.2	454.6	448.8	36.71	17.87	24.76	9.05	0.21	6.01	19.06	0.91
12/15/2013	1:00:00 AM	50	448.9	454.2	448.4	36.73	17.89	24.75	9.05	0.21	6.01	19.05	0.91
12/15/2013	1:05:00 AM	49.94	448.8	454.2	448.2	36.82	17.93	24.8	9.06	0.21	6.01	19.07	0.91
12/15/2013	1:10:00 AM	49.97	449.2	454.4	448.4	36.79	17.91	24.78	9.06	0.21	6.01	19.08	0.91
12/15/2013	1:15:00 AM	50.09	449.8	455.3	449.2	36.61	17.86	24.71	9.06	0.21	6.02	19.08	0.91
12/15/2013	1:20:00 AM	50.1	450.2	455.8	449.4	36.61	17.9	24.72	9.06	0.21	6.03	19.11	0.91
12/15/2013	1:25:00 AM	50.11	450.5	456	449.8	36.68	17.91	24.72	9.09	0.21	6.03	19.14	0.91
12/15/2013	1:30:00 AM	50.03	450	455.8	449.8	36.86	17.94	24.89	9.10	0.21	6.06	19.18	0.91
12/15/2013	1:35:00 AM	49.93	449	454.5	448.9	36.98	17.97	24.91	9.09	0.21	6.04	19.14	0.91
12/15/2013	1:40:00 AM	50.01	450.5	456.2	450.1	36.87	17.94	24.87	9.12	0.21	6.07	19.22	0.91
12/15/2013	1:45:00 AM	50.07	450.6	456.1	450.1	36.8	17.92	24.78	9.05	0.21	6.07	19.17	0.91
12/15/2013	1:50:00 AM	50.03	451.3	456.9	450.7	36.94	18.02	24.92	8.96	0.21	6.14	19.23	0.92
12/15/2013	1:55:00 AM	50.03	452.2	457.6	451.4	37.09	18	24.93	9.01	0.21	6.16	19.31	0.92
12/15/2013	2:00:00 AM	50.06	453	458.6	452.6	37.12	18.05	25	9.05	0.21	6.19	19.39	0.92
12/15/2013	2:05:00 AM	50.07	453.1	458.6	452.6	37.11	18.03	24.97	9.05	0.21	6.19	19.39	0.92
12/15/2013	2:10:00 AM	50.07	452.7	458.2	452.3	37.09	18.03	24.98	9.04	0.21	6.18	19.36	0.92
12/15/2013	2:15:00 AM	50.06	452.8	458.4	452.4	37.17	18.02	24.98	9.05	0.21	6.18	19.38	0.92

Measurement of Power Parameters at Sagda Sai Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
		Hz	V	V	V	A	A	A	kW	kW	kW		
12/15/2013	2:20:00 AM	50.1	452.8	458.3	452.5	37.16	18.01	24.94	9.05	0.21	6.17	19.37	0.92
12/15/2013	2:25:00 AM	50.1	453.3	458.5	452.4	37.2	18.07	24.96	9.06	0.21	6.16	19.39	0.91
12/15/2013	2:30:00 AM	50.06	453	458.2	452.4	37.31	18.02	24.98	9.07	0.21	6.17	19.39	0.92
12/15/2013	2:35:00 AM	49.98	453.3	458.6	452.9	37.44	18.1	25.13	9.11	0.21	6.21	19.49	0.91
12/15/2013	2:40:00 AM	49.98	452.8	458.2	452.2	37.39	18.09	25.1	9.08	0.21	6.19	19.43	0.91
12/15/2013	2:45:00 AM	50.01	453.5	458.8	452.6	37.34	18.11	25.11	9.09	0.21	6.20	19.46	0.91
12/15/2013	2:50:00 AM	50.06	453.4	458.7	452.6	37.25	18.04	25	9.07	0.21	6.18	19.42	0.92
12/15/2013	2:55:00 AM	50.06	453.9	459.2	453.3	37.36	18.08	25.05	9.10	0.21	6.20	19.48	0.92
12/15/2013	3:00:00 AM	50.1	454.2	459.4	453.4	37.36	18.08	25.04	9.11	0.21	6.20	19.49	0.92
12/15/2013	3:05:00 AM	50.16	454.7	460	453.8	37.21	18.08	25	9.10	0.21	6.20	19.49	0.92
12/15/2013	3:10:00 AM	50.07	453.7	458.9	452.8	37.28	18.07	25.03	9.08	0.21	6.18	19.44	0.92
12/15/2013	3:15:00 AM	50.01	453.5	458.7	452.9	37.37	18.1	25.08	9.10	0.21	6.20	19.47	0.91
12/15/2013	3:20:00 AM	50.04	453.5	458.6	452.7	37.32	18.07	25.05	9.09	0.21	6.19	19.45	0.92
12/15/2013	3:25:00 AM	49.9	452.5	457.6	451.9	37.5	18.18	25.18	9.09	0.21	6.19	19.45	0.91
12/15/2013	3:30:00 AM	49.93	452.9	458.1	452.4	37.5	18.13	25.2	9.10	0.21	6.21	19.48	0.91
12/15/2013	3:35:00 AM	50.01	453.2	458.5	452.4	37.34	18.15	25.13	9.18	0.21	6.17	19.48	0.91
12/15/2013	3:40:00 AM	49.96	453.1	458.4	452.4	37.34	18.15	25.14	9.25	0.21	6.15	19.50	0.91
12/15/2013	3:45:00 AM	49.99	452.8	458.4	452.5	37.2	18.09	25.02	9.23	0.21	6.14	19.46	0.91
12/15/2013	3:50:00 AM	50.12	454	459.5	453.3	37.13	18.07	24.9	9.25	0.21	6.13	19.48	0.92
12/15/2013	3:55:00 AM	50.22	454.3	459.8	453.8	37.15	18.05	24.92	9.25	0.21	6.13	19.48	0.91
12/15/2013	4:00:00 AM	50.18	454.4	460.1	453.9	37.23	18.06	25	9.26	0.21	6.15	19.52	0.91
12/15/2013	4:05:00 AM	50.05	453.7	459.2	453	37.31	18.13	25.08	9.26	0.21	6.14	19.51	0.91
12/15/2013	4:10:00 AM	49.96	453.6	458.7	453.4	37.54	18.18	25.18	9.29	0.21	6.17	19.57	0.91
12/15/2013	4:15:00 AM	49.98	453.1	458.5	453.1	37.46	18.14	25.13	9.27	0.21	6.15	19.52	0.91
12/15/2013	4:20:00 AM	50.01	453.5	459.3	453.5	37.39	18.18	25.16	9.26	0.21	6.17	19.55	0.91
12/15/2013	4:25:00 AM	50.04	452.5	458.7	453	37.26	18.12	25.09	9.09	0.21	6.18	19.43	0.91
12/15/2013	4:30:00 AM	50	452.5	458.6	452.8	37.26	18.19	25.13	9.03	0.22	6.21	19.42	0.91
12/15/2013	4:35:00 AM	49.93	451.8	458	452.1	37.25	18.18	25.18	9.00	0.22	6.21	19.38	0.91
12/15/2013	4:40:00 AM	49.94	452.2	457.8	452.1	37.38	18.24	25.27	9.02	0.22	6.20	19.41	0.91

Measurement of Power Parameters at Sagda Sai Switching Point													
Date	Time	Line Voltage Measurement				Current Measurement			kW/ Phase			Total kW	PF
		Frequency	U1 RMS	U2 RMS	U3 RMS	A1 RMS	A2 RMS	A3 RMS	kW	kW	kW		
		Hz	V	V	V	A	A	A	kW	kW	kW		
12/15/2013	4:45:00 AM	49.92	452.2	458.2	452.7	37.36	18.17	25.25	9.04	0.21	6.22	19.44	0.91
12/15/2013	4:50:00 AM	49.96	452.4	458.4	452.4	37.31	18.14	25.17	9.03	0.22	6.20	19.41	0.91
12/15/2013	4:55:00 AM	50.17	454.1	459.6	454.1	37.17	18.04	25.04	9.06	0.21	6.21	19.45	0.92
12/15/2013	5:00:00 AM	49.95	452.7	458.3	452.4	37.38	18.1	25.21	9.07	0.21	6.20	19.44	0.91
12/15/2013	5:05:00 AM	49.91	452.2	457.4	451.6	37.41	18.11	25.17	9.05	0.21	6.18	19.39	0.91
12/15/2013	5:10:00 AM	50.02	452.5	458	452.4	37.33	18.1	25.2	9.05	0.21	6.19	19.40	0.91
12/15/2013	5:15:00 AM	49.98	451.4	456.9	451.2	37.22	18.09	25.09	9.00	0.21	6.15	19.30	0.91
12/15/2013	5:20:00 AM	49.9	451.1	456.6	450.6	37.4	18.13	25.2	9.01	0.21	6.15	19.31	0.91
12/15/2013	5:25:00 AM	50.12	452	457.2	451.8	37.18	17.98	24.97	9.00	0.21	6.13	19.27	0.91
12/15/2013	5:30:00 AM	49.98	450.2	455.9	450.5	37.1	18.04	25.02	8.95	0.21	6.13	19.20	0.91
12/15/2013	5:35:00 AM	49.88	450.3	456.1	451.3	37.38	18.1	25.21	9.00	0.21	6.17	19.30	0.91
12/15/2013	5:40:00 AM	49.94	449.8	456.3	450.9	37.19	18.04	25.15	8.95	0.21	6.17	19.24	0.91
12/15/2013	5:45:00 AM	49.96	449.5	456.3	451.4	37.07	18.02	25.1	8.93	0.21	6.18	19.22	0.91
12/15/2013	5:50:00 AM	49.98	450.5	456.6	451.6	37.16	18.03	25.14	8.97	0.21	6.18	19.27	0.91
12/15/2013	5:55:00 AM	50.26	453.5	458.9	454.2	37	17.97	24.97	9.03	0.21	6.20	19.37	0.92
12/15/2013	6:00:00 AM	50.27	453.6	459.3	454.4	36.95	17.96	24.97	9.02	0.21	6.21	19.39	0.92
12/15/2013	6:05:00 AM	50.23	452.1	458.3	453.2	36.84	17.92	24.95	8.96	0.21	6.19	19.28	0.92
12/15/2013	6:10:00 AM	50.23	452.1	457.8	452.6	36.76	17.91	24.94	8.95	0.21	6.18	19.25	0.92
12/15/2013	6:15:00 AM	50.1	449.9	456.3	450.4	36.79	17.95	24.78	8.90	0.21	6.10	19.11	0.92
12/15/2013	6:20:00 AM	50.15	449.2	455.4	449.4	36.6	17.87	24.61	8.84	0.22	6.04	18.97	0.92
12/15/2013	6:25:00 AM	50.21	448	453.7	448.5	36.28	17.8	24.54	8.75	0.22	6.01	18.81	0.92
Average load in kW												19.04	0.91

Harmonics and Voltage & Current Unbalance Measurement

Harmonics & Voltage & Current Unbalance Measurement at Sagda Sai Switching Point										
Date	Time	Frequency Hz	Current Harmonics			Line Voltage Harmonics			Current Unbalance	Voltage Unbalance
			A1 THD	A2 THD	A3 THD	U1 THD	U2 THD	U3 THD	Aunb	Vunb
			%	%	%	%	%	%	%	%
12/14/2013	10:00:00 PM	49.9	25.5	22.9	23.6	2.8	2.3	2.9	23	1
12/14/2013	10:05:00 PM	49.88	25.4	22.8	23.3	2.9	2.3	2.9	23	1
12/14/2013	10:10:00 PM	49.95	25.3	22.7	23.4	2.8	2.2	2.8	23	1
12/14/2013	10:15:00 PM	50.1	25	22.9	23.1	2.8	2.2	2.7	23.1	1
12/14/2013	10:20:00 PM	50.08	24.6	22.9	22.8	2.7	2.2	2.5	23.1	0.9
12/14/2013	10:25:00 PM	49.95	24.8	23	23.1	2.7	2.2	2.6	23.2	0.9
12/14/2013	10:30:00 PM	50.07	24.6	22.7	22.9	2.6	2.2	2.5	23.3	0.9
12/14/2013	10:35:00 PM	50.15	24.8	22.8	23.2	2.5	2.2	2.5	23.2	0.9
12/14/2013	10:40:00 PM	50.13	24.9	23.3	23.3	2.6	2.3	2.5	23.3	0.9
12/14/2013	10:45:00 PM	50.15	25.2	23.2	23.5	2.6	2.2	2.6	23.4	0.8
12/14/2013	10:50:00 PM	50.17	25.6	23.1	23.4	2.6	2.2	2.5	23.4	0.8
12/14/2013	10:55:00 PM	50.11	25.1	23.2	23.1	2.4	2.1	2.5	23.3	0.8
12/14/2013	11:00:00 PM	50.08	24.8	22.9	22.8	2.4	2.1	2.4	23.3	0.9
12/14/2013	11:05:00 PM	50.1	24.9	22.9	23.1	2.4	2.1	2.4	23.4	0.9
12/14/2013	11:10:00 PM	50.09	24.5	22.9	22.8	2.3	2	2.3	23.3	0.9
12/14/2013	11:15:00 PM	50.08	24.4	23.3	23	2.2	2.1	2.3	23.4	0.8
12/14/2013	11:20:00 PM	50.09	24.6	22.7	22.8	2.2	1.9	2.3	23.4	0.8
12/14/2013	11:25:00 PM	50.19	24.1	22.6	22.4	2.1	1.9	2.2	23.4	0.8
12/14/2013	11:30:00 PM	50.13	24.2	22.6	22.8	2	1.9	2.2	23.4	0.9
12/14/2013	11:35:00 PM	50.1	24.5	22.5	22.8	2.1	1.9	2.2	23.4	0.9
12/14/2013	11:40:00 PM	50.08	24.7	22.4	22.8	2	1.8	2.2	23.5	0.9
12/14/2013	11:45:00 PM	50.06	24.5	22.5	22.8	2	1.8	2.1	23.6	0.8
12/14/2013	11:50:00 PM	50.15	23.7	22.5	22.2	1.9	1.7	2.1	23.6	0.8
12/14/2013	11:55:00 PM	50.13	23.1	22.4	21.7	1.7	1.6	1.9	23.5	0.8
12/15/2013	12:00:00 AM	50.11	23.9	22.3	22.2	1.8	1.7	2	23.5	0.8
12/15/2013	12:05:00 AM	50.02	24	22.5	22.1	1.8	1.7	2	23.5	0.8

Harmonics & Voltage & Current Unbalance Measurement at Sagda Sai Switching Point										
12/15/2013	12:10:00 AM	50.06	24	22.5	22.4	1.8	1.7	1.9	23.5	0.8
12/15/2013	12:15:00 AM	50.07	23.5	22.7	22	1.7	1.7	1.9	23.5	0.8
12/15/2013	12:20:00 AM	50.03	23.2	22.3	22	1.7	1.6	1.9	23.6	0.8
12/15/2013	12:25:00 AM	49.96	23.2	22.7	21.8	1.7	1.7	1.9	23.5	0.8
12/15/2013	12:30:00 AM	50.03	23.7	22.8	22.2	1.8	1.7	2	23.5	0.8
12/15/2013	12:35:00 AM	50.01	23.8	23.1	22.4	1.8	1.8	2	23.6	0.8
12/15/2013	12:40:00 AM	50.01	23.9	22.8	22.2	1.8	1.7	2	23.6	0.8
12/15/2013	12:45:00 AM	50.03	23.8	23.2	22.6	1.8	1.8	2	23.6	0.8
12/15/2013	12:50:00 AM	49.99	23.9	23.4	22.7	1.8	1.8	2	23.6	0.8
12/15/2013	12:55:00 AM	50.03	24.3	23.4	22.9	1.8	1.8	2.1	23.5	0.8
12/15/2013	1:00:00 AM	50	24.6	23.9	23.1	1.9	1.9	2.1	23.6	0.8
12/15/2013	1:05:00 AM	49.94	24.7	23.9	23	2	1.9	2.1	23.5	0.8
12/15/2013	1:10:00 AM	49.97	24.6	23.8	23.2	1.9	1.9	2.1	23.6	0.8
12/15/2013	1:15:00 AM	50.09	24	23.8	22.8	1.8	1.9	2	23.5	0.8
12/15/2013	1:20:00 AM	50.1	24.2	24.1	23.1	1.9	1.9	2	23.5	0.8
12/15/2013	1:25:00 AM	50.11	24.3	24.4	23.1	1.9	2	2.1	23.6	0.8
12/15/2013	1:30:00 AM	50.03	25.4	24.5	24.1	2.1	2.1	2.2	23.6	0.8
12/15/2013	1:35:00 AM	49.93	25.8	24.8	24.2	2.2	2.1	2.2	23.6	0.8
12/15/2013	1:40:00 AM	50.01	24.9	24	23.4	2	2	2.2	23.6	0.8
12/15/2013	1:45:00 AM	50.07	24.9	24.7	23.2	2.1	2	2.1	23.6	0.8
12/15/2013	1:50:00 AM	50.03	25.2	25.1	23.7	2.2	2.2	2.2	23.6	0.8
12/15/2013	1:55:00 AM	50.03	25.8	24.8	23.5	2.2	2.1	2.3	23.7	0.8
12/15/2013	2:00:00 AM	50.06	25.6	25.3	24.1	2.2	2.2	2.3	23.7	0.8
12/15/2013	2:05:00 AM	50.07	25.5	25.5	23.9	2.2	2.2	2.3	23.7	0.8
12/15/2013	2:10:00 AM	50.07	25.5	25.4	23.9	2.2	2.2	2.3	23.7	0.8
12/15/2013	2:15:00 AM	50.06	26	25.1	24.3	2.2	2.2	2.3	23.7	0.8
12/15/2013	2:20:00 AM	50.1	26	25.1	24.2	2.3	2.2	2.3	23.7	0.8
12/15/2013	2:25:00 AM	50.1	26.2	26.1	24.9	2.3	2.3	2.3	23.7	0.8
12/15/2013	2:30:00 AM	50.06	26.9	25.3	24.8	2.3	2.2	2.5	23.7	0.8
12/15/2013	2:35:00 AM	49.98	26.9	25.7	25	2.3	2.3	2.5	23.7	0.8
12/15/2013	2:40:00 AM	49.98	27.1	25.7	25.3	2.3	2.3	2.5	23.6	0.8
12/15/2013	2:45:00 AM	50.01	26.7	25.8	25.5	2.3	2.4	2.4	23.6	0.8

Harmonics & Voltage & Current Unbalance Measurement at Sagda Sai Switching Point										
12/15/2013	2:50:00 AM	50.06	26.6	25.3	24.6	2.2	2.2	2.4	23.6	0.8
12/15/2013	2:55:00 AM	50.06	27	25.5	24.6	2.3	2.2	2.4	23.7	0.8
12/15/2013	3:00:00 AM	50.1	27.2	25.8	25.1	2.3	2.3	2.4	23.7	0.8
12/15/2013	3:05:00 AM	50.16	26.4	25.7	24.8	2.2	2.3	2.3	23.6	0.8
12/15/2013	3:10:00 AM	50.07	26.8	25.6	25.2	2.3	2.3	2.4	23.6	0.8
12/15/2013	3:15:00 AM	50.01	26.6	25.7	24.6	2.3	2.3	2.3	23.6	0.8
12/15/2013	3:20:00 AM	50.04	26.9	25.9	25	2.3	2.3	2.4	23.6	0.8
12/15/2013	3:25:00 AM	49.9	27.5	27	25.5	2.5	2.5	2.5	23.6	0.8
12/15/2013	3:30:00 AM	49.93	27.5	26	25.5	2.4	2.4	2.5	23.6	0.8
12/15/2013	3:35:00 AM	50.01	27.3	26.3	25.7	2.4	2.4	2.5	23.6	0.8
12/15/2013	3:40:00 AM	49.96	27	26.1	25.7	2.3	2.4	2.5	23.7	0.8
12/15/2013	3:45:00 AM	49.99	26.1	25.2	24.3	2.2	2.3	2.3	23.7	0.8
12/15/2013	3:50:00 AM	50.12	26	25.7	24.3	2.2	2.3	2.3	23.7	0.8
12/15/2013	3:55:00 AM	50.22	27.2	26.1	25.6	2.3	2.4	2.4	23.7	0.8
12/15/2013	4:00:00 AM	50.18	27.3	26.1	25.6	2.3	2.4	2.5	23.7	0.8
12/15/2013	4:05:00 AM	50.05	27.2	26.2	25.8	2.3	2.5	2.5	23.7	0.8
12/15/2013	4:10:00 AM	49.96	28	26.5	25.9	2.4	2.5	2.5	23.8	0.7
12/15/2013	4:15:00 AM	49.98	27.8	26.4	25.5	2.4	2.4	2.5	23.8	0.7
12/15/2013	4:20:00 AM	50.01	27.5	26.4	25.4	2.4	2.4	2.5	23.7	0.8
12/15/2013	4:25:00 AM	50.04	27.4	26	25.6	2.4	2.4	2.5	23.7	0.8
12/15/2013	4:30:00 AM	50	27.1	26.3	25.2	2.4	2.5	2.5	23.6	0.8
12/15/2013	4:35:00 AM	49.93	27	26.1	25.6	2.3	2.5	2.5	23.6	0.9
12/15/2013	4:40:00 AM	49.94	27.9	27	26.9	2.4	2.7	2.7	23.6	0.8
12/15/2013	4:45:00 AM	49.92	27.6	25.9	25.7	2.3	2.4	2.6	23.7	0.8
12/15/2013	4:50:00 AM	49.96	27.3	25.6	25.5	2.3	2.4	2.5	23.7	0.8
12/15/2013	4:55:00 AM	50.17	26.9	25.6	25.1	2.2	2.3	2.4	23.8	0.8
12/15/2013	5:00:00 AM	49.95	27.1	25.6	25.7	2.3	2.4	2.5	23.6	0.8
12/15/2013	5:05:00 AM	49.91	27.2	25.7	25.7	2.3	2.5	2.5	23.6	0.8
12/15/2013	5:10:00 AM	50.02	27.4	26.5	26.4	2.4	2.6	2.5	23.6	0.8
12/15/2013	5:15:00 AM	49.98	26.8	26.3	25.7	2.3	2.5	2.5	23.6	0.8
12/15/2013	5:20:00 AM	49.9	27.8	26	26.3	2.4	2.5	2.6	23.5	0.8
12/15/2013	5:25:00 AM	50.12	27.6	25.8	25.5	2.3	2.4	2.4	23.6	0.7

Harmonics & Voltage & Current Unbalance Measurement at Sagda Sai Switching Point										
12/15/2013	5:30:00 AM	49.98	26.8	25.7	24.8	2.2	2.4	2.3	23.5	0.8
12/15/2013	5:35:00 AM	49.88	27.5	25.4	25.3	2.3	2.4	2.5	23.6	0.7
12/15/2013	5:40:00 AM	49.94	27.3	25	25.2	2.2	2.3	2.4	23.6	0.9
12/15/2013	5:45:00 AM	49.96	26.6	24.7	24.8	2.1	2.2	2.3	23.7	0.9
12/15/2013	5:50:00 AM	49.98	26.7	24.6	24.9	2.2	2.3	2.4	23.7	0.8
12/15/2013	5:55:00 AM	50.26	26.4	24.9	24.5	2.2	2.2	2.3	23.8	0.7
12/15/2013	6:00:00 AM	50.27	26.3	24.5	24.2	2.2	2.2	2.3	23.7	0.7
12/15/2013	6:05:00 AM	50.23	26.2	24.6	23.9	2.1	2.1	2.3	23.6	0.8
12/15/2013	6:10:00 AM	50.23	25.6	24.3	23.3	2	2.1	2.2	23.6	0.8
12/15/2013	6:15:00 AM	50.1	25.2	24.7	23.4	2.1	2.1	2.2	23.6	0.9
12/15/2013	6:20:00 AM	50.15	25.1	24.6	23.3	2.1	2.1	2.2	23.3	0.8
12/15/2013	6:25:00 AM	50.21	24.6	24.3	22.9	2	2.1	2.1	23.4	0.8

❖ **Observation:**

- Voltage unbalance is there.
- Current unbalance is considerable.
- Average power factor is 0.91
- Line Voltage total harmonics distortion is there.
- Total Current Harmonics distortion is there.

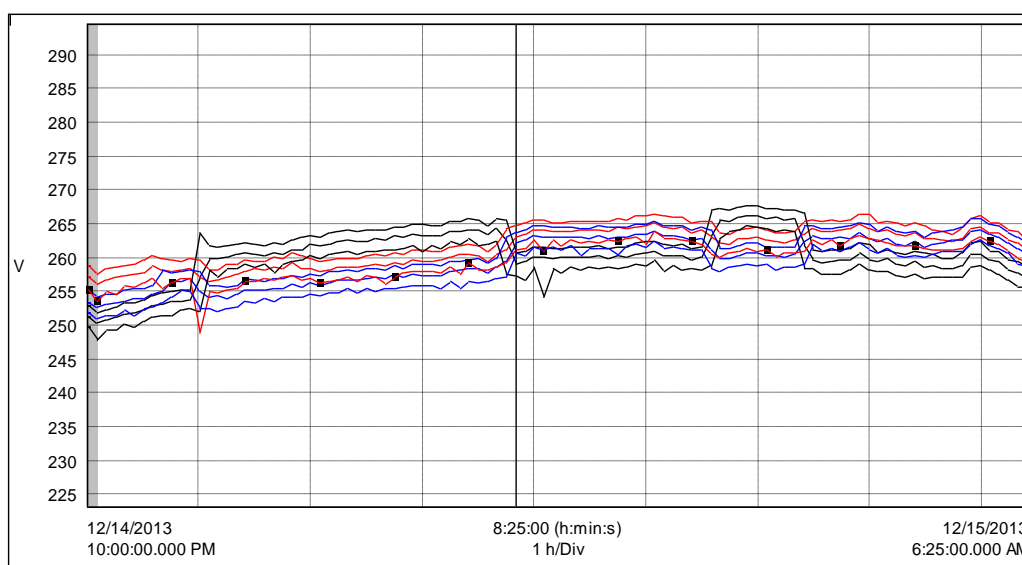
Study of electrical parameters at Sagda Sai Switching Point

1. Phase Voltage

Table.: Phase Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
V1 RMS	14-12-2013	22:00:00	261.445	250.5	266.3	V	08:30:00	(h:min:s)
V2 RMS	14-12-2013	22:00:00	262.602	256.2	265.2	V	08:30:00	(h:min:s)
V3 RMS	14-12-2013	22:00:00	260.801	252.7	264.2	V	08:30:00	(h:min:s)

Graph : Phase Voltage Variation for the Recorded Time



**RMS, Max RMS & Min. RMS
Phase voltage variation**

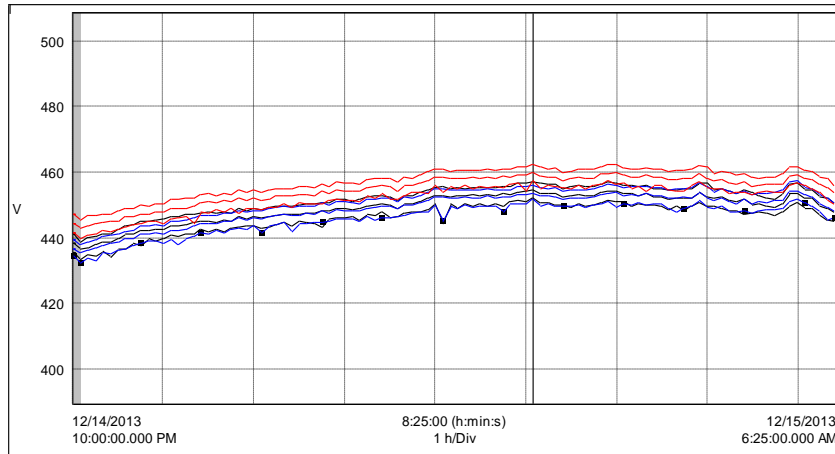
➤ Voltage unbalance is within limit

2. Line Voltage

Table.: Line Voltage

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
U1 RMS	14-12-2013	22:00:00	451.354	436.7	454.7	V	08:30:00	(h:min:s)
U2 RMS	14-12-2013	22:00:00	456.974	442.9	460.1	V	08:30:00	(h:min:s)
U3 RMS	14-12-2013	22:00:00	450.969	435.7	454.4	V	08:30:00	(h:min:s)

Graph : Line Voltage Variation for the Recorded Time



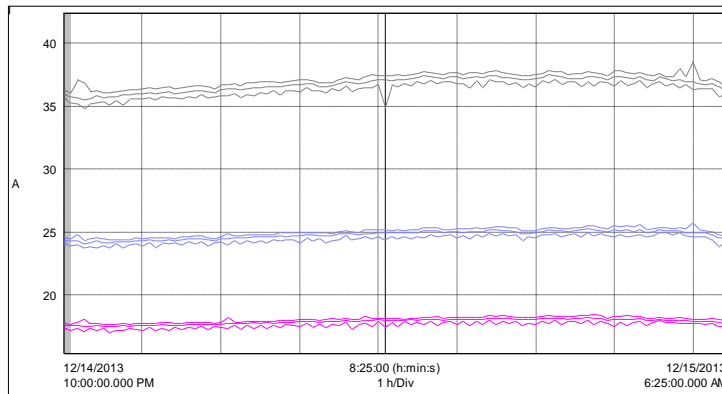
**RMS, Max RMS & Min. RMS
Line voltage variation**

3. Current

Table.: Current

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 RMS	14-12-2013	22:00:00	36.968	35.56	37.54	A	08:30:00	(h:min:s)
A2 RMS	14-12-2013	22:00:00	17.997	17.5	18.24	A	08:30:00	(h:min:s)
A3 RMS	14-12-2013	22:00:00	24.924	24.11	25.27	A	08:30:00	(h:min:s)

Graph : Line Current Variation for recorded time



**RMS, Max RMS & Min. RMS
Current variation**

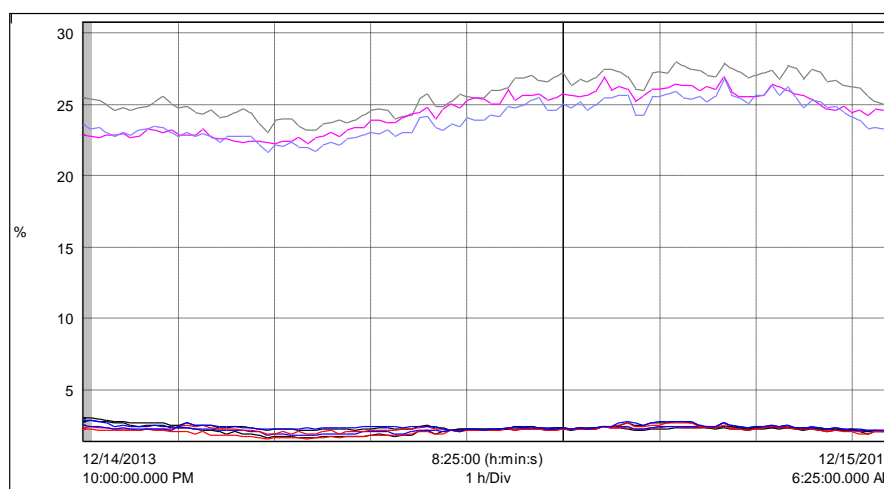
➤ Current is slightly unbalanced.

4. Total harmonic Distortion (THD).

Table.: THD

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
A1 THD	14-12-2013	22:00:00	25.707	23.1	28	%	08:30:00	(h:min:s)
A2 THD	14-12-2013	22:00:00	24.484	22.3	27	%	08:30:00	(h:min:s)
A3 THD	14-12-2013	22:00:00	24.006	21.7	26.9	%	08:30:00	(h:min:s)
U1 THD	14-12-2013	22:00:00	2.21	1.7	2.9	%	08:30:00	(h:min:s)
U2 THD	14-12-2013	22:00:00	2.157	1.6	2.7	%	08:30:00	(h:min:s)
U3 THD	14-12-2013	22:00:00	2.327	1.9	2.9	%	08:30:00	(h:min:s)
V1 THD	14-12-2013	22:00:00	2.446	2	3.1	%	08:30:00	(h:min:s)
V2 THD	14-12-2013	22:00:00	2.296	2	2.7	%	08:30:00	(h:min:s)
V3 THD	14-12-2013	22:00:00	2.433	2.1	2.8	%	08:30:00	(h:min:s)

Graph : THD



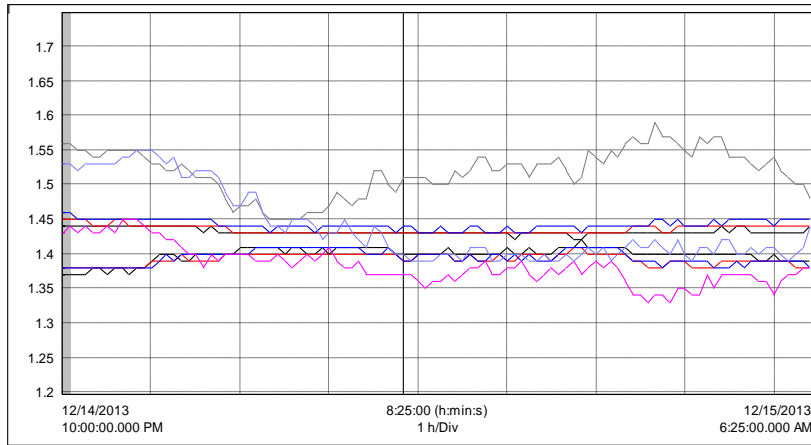
**Variation of current, Phase Voltage, Line Voltage
Total Harmonic Distortion**

5. Crest Factor

Table.: Crest Factor

Name	Date	Time	RMS	Min	Max	Duration	Unit
A1 CF	14-12-2013	22:00:00	1.519	1.45	1.59	08:30:00	(h:min:s)
A2 CF	14-12-2013	22:00:00	1.384	1.33	1.45	08:30:00	(h:min:s)
A3 CF	14-12-2013	22:00:00	1.44	1.39	1.55	08:30:00	(h:min:s)
U1 CF	14-12-2013	22:00:00	1.432	1.42	1.44	08:30:00	(h:min:s)
U2 CF	14-12-2013	22:00:00	1.435	1.43	1.45	08:30:00	(h:min:s)
U3 CF	14-12-2013	22:00:00	1.442	1.43	1.46	08:30:00	(h:min:s)
V1 CF	14-12-2013	22:00:00	1.399	1.37	1.42	08:30:00	(h:min:s)
V2 CF	14-12-2013	22:00:00	1.393	1.38	1.41	08:30:00	(h:min:s)
V3 CF	14-12-2013	22:00:00	1.395	1.38	1.41	08:30:00	(h:min:s)

Graph : Crest Factor



Variation of Crest Factor

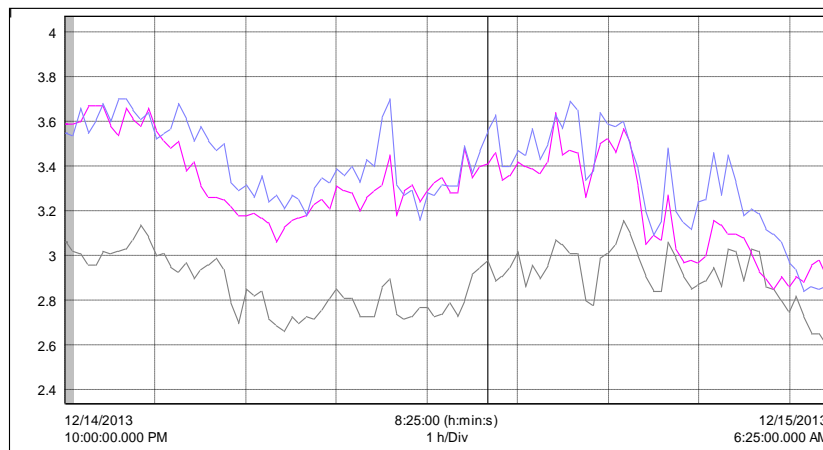
- Crest factor is above 1.41 hence there is some degree of impacting

6. K Factor

Table. : K- Factor

Name	Date	Time	RMS	Min	Max	Unit	Duration	Unit
KF1	14-12-2013	22:00:00	2.887	2.6	3.16		08:30:00	(h:min:s)
KF2	14-12-2013	22:00:00	3.287	2.85	3.67		08:30:00	(h:min:s)
KF3	14-12-2013	22:00:00	3.382	2.84	3.7		08:30:00	(h:min:s)

Graph K- Factor

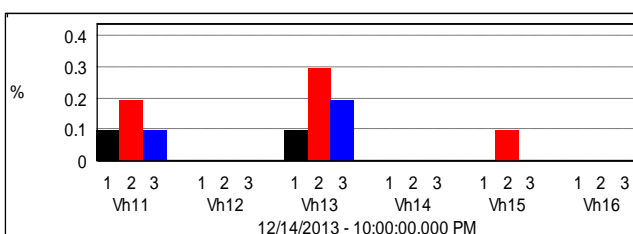
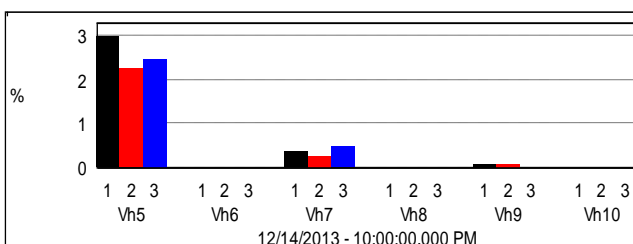
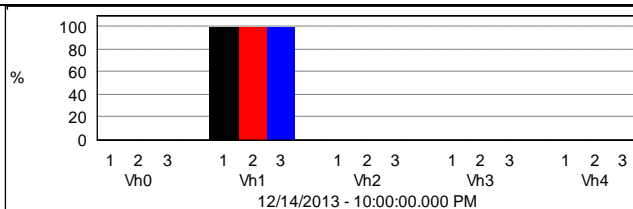


Variation of K Factor

- K-factor is from 2.8 to 3.7. K-factor above 1 indicates a non-linear load & presence of harmonics.

❖ **Voltage Harmonics of different order & their Max, Min and average values**

Name	Avg	Min	Max	Unit
V1h0	0	0	0	%
V1h1	100	100	100	%
V1h10	0	0	0	%
V1h11	0.148	0	0.3	%
V1h12	0	0	0	%
V1h13	0.045	0	0.2	%
V1h14	0	0	0	%
V1h15	0	0	0	%
V1h16	0	0	0	%
V1h2	0	0	0	%
V1h3	0.641	0.1	1.3	%
V1h4	0	0	0	%
V1h5	2.026	1.4	3	%
V1h6	0	0	0	%
V1h7	0.907	0.4	1.3	%
V1h8	0	0	0	%
V1h9	0.06	0	0.2	%
V2h0	0	0	0	%
V2h1	100	100	100	%
V2h10	0	0	0	%
V2h11	0.134	0	0.3	%
V2h12	0	0	0	%
V2h13	0.158	0	0.4	%
V2h14	0	0	0	%
V2h15	0.009	0	0.1	%
V2h16	0	0	0	%
V2h2	0	0	0	%
V2h3	0.482	0.1	1.1	%
V2h4	0	0	0	%
V2h5	1.875	1.4	2.4	%
V2h6	0	0	0	%
V2h7	0.97	0.3	1.5	%
V2h8	0	0	0	%
V2h9	0.142	0	0.4	%
V3h0	0	0	0	%
V3h1	100	100	100	%
V3h10	0	0	0	%
V3h11	0.119	0	0.2	%
V3h12	0	0	0	%
V3h13	0.242	0	0.4	%
V3h14	0	0	0	%
V3h15	0.003	0	0.1	%
V3h16	0	0	0	%
V3h2	0	0	0	%
V3h3	0.597	0	1.4	%
V3h4	0	0	0	%



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V3h5	1.865	1.4	2.5	%
V3h6	0	0	0	%
V3h7	1.135	0.5	2	%
V3h8	0	0	0	%
V3h9	0.073	0	0.3	%

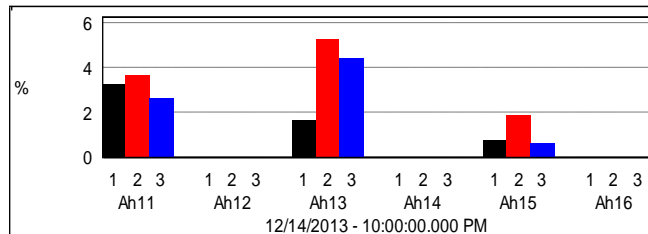
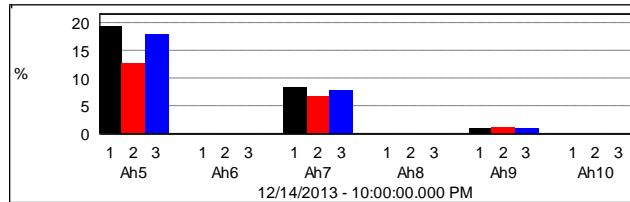
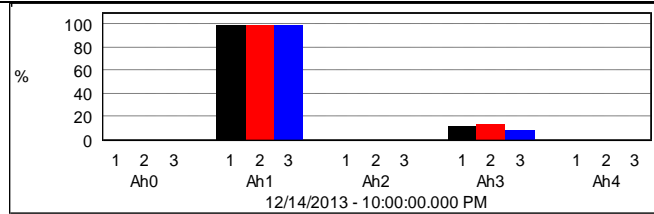
Name	Avg	Min	Max	Unit
V1h17	0.073	0	0.1	%
V1h18	0	0	0	%
V1h19	0.006	0	0.1	%
V1h20	0	0	0	%
V1h21	0	0	0	%
V1h22	0	0	0	%
V1h23	0	0	0	%
V1h24	0	0	0	%
V1h25	0	0	0	%
V1h26	0	0	0	%
V1h27	0	0	0	%
V1h28	0	0	0	%
V1h29	0	0	0	%
V1h30	0	0	0	%
V1h31	0	0	0	%
V1h32	0	0	0	%
V1h33	0	0	0	%
V2h17	0.168	0.1	0.3	%
V2h18	0	0	0	%
V2h19	0.031	0	0.1	%
V2h20	0	0	0	%
V2h21	0	0	0	%
V2h22	0	0	0	%
V2h23	0	0	0	%
V2h24	0	0	0	%
V2h25	0	0	0	%
V2h26	0	0	0	%
V2h27	0	0	0	%
V2h28	0	0	0	%
V2h29	0	0	0	%
V2h30	0	0	0	%
V2h31	0	0	0	%
V2h32	0	0	0	%
V2h33	0	0	0	%
V3h17	0.075	0	0.2	%
V3h18	0	0	0	%
V3h19	0	0	0	%
V3h20	0	0	0	%
V3h21	0	0	0	%
V3h22	0	0	0	%
V3h23	0	0	0	%
V3h24	0	0	0	%
V3h25	0	0	0	%



V3h26	0	0	0	%	
V3h27	0	0	0	%	
V3h28	0	0	0	%	
V3h29	0	0	0	%	
V3h30	0	0	0	%	
V3h31	0	0	0	%	
V3h32	0	0	0	%	
V3h33	0	0	0	%	

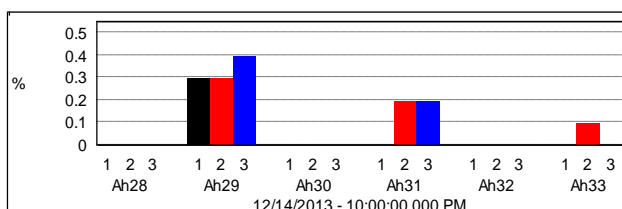
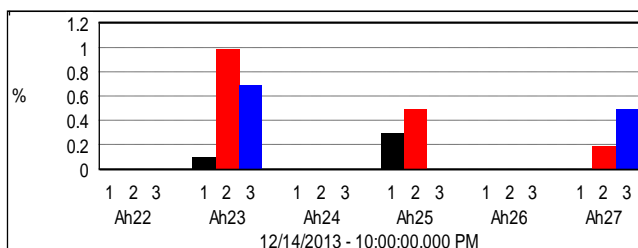
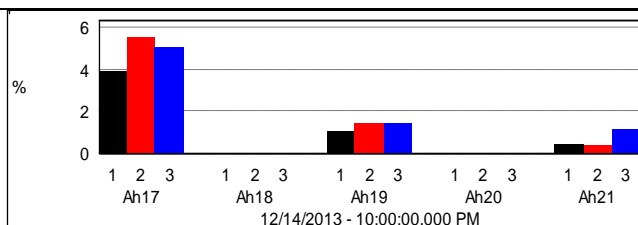
❖ **Current Harmonics of different order & their Max, Min and average values**

Name	Avg	Min	Max	Unit
A1h0	0	0	0	%
A1h1	100	100	100	%
A1h10	0.032	0	0.1	%
A1h11	2.469	0.4	3.9	%
A1h12	0.003	0	0.1	%
A1h13	1.724	0.3	2.3	%
A1h14	0.059	0	0.1	%
A1h15	0.382	0.2	0.8	%
A1h16	0	0	0	%
A1h2	0	0	0	%
A1h3	15.208	12.6	16.3	%
A1h4	0.097	0	0.2	%
A1h5	15.316	12	19.6	%
A1h6	0.048	0	0.2	%
A1h7	12.883	7.8	16.9	%
A1h8	0.105	0	0.3	%
A1h9	0.94	0.2	1.8	%
A2h0	0	0	0	%
A2h1	100	100	100	%
A2h10	0.093	0	0.2	%
A2h11	3.479	0.8	4.6	%
A2h12	0.037	0	0.1	%
A2h13	3.903	1.4	5.4	%
A2h14	0.035	0	0.1	%
A2h15	1.033	0.2	2	%
A2h16	0.076	0	0.1	%
A2h2	0	0	0	%
A2h3	15.805	14.8	16.4	%
A2h4	0.053	0	0.2	%
A2h5	12.375	9	14.6	%
A2h6	0.036	0	0.3	%
A2h7	11.633	6.9	16	%
A2h8	0.018	0	0.1	%
A2h9	1.097	0.2	2	%
A3h0	0	0	0	%
A3h1	100	100	100	%
A3h10	0.178	0.1	0.3	%
A3h11	2.436	0.3	3.8	%
A3h12	0	0	0	%
A3h13	4.083	0.8	5.7	%
A3h14	0.067	0	0.1	%
A3h15	1.049	0.5	1.5	%
A3h16	0.029	0	0.1	%
A3h2	0	0	0	%
A3h3	11.735	10	12.4	%
A3h4	0.085	0	0.2	%



A3h5	14.281	11.6	18	%
A3h6	0.033	0	0.2	%
A3h7	13.345	7.8	18.7	%
A3h8	0.082	0	0.2	%
A3h9	1.247	0.4	2.8	%

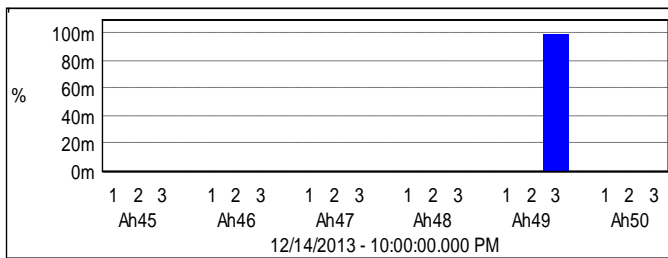
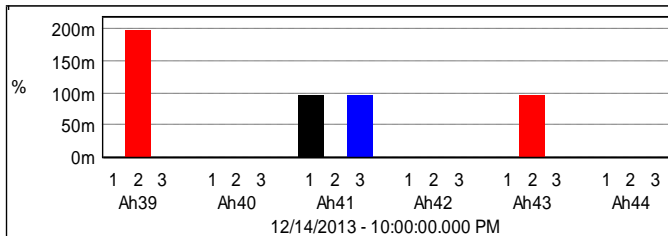
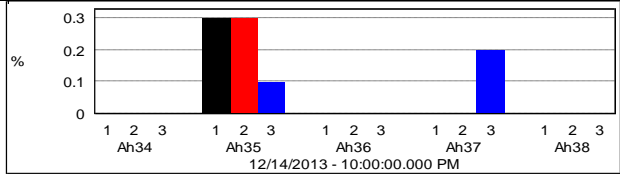
Name	Avg	Min	Max	Unit
A1h17	2.594	1.1	4.1	%
A1h18	0	0	0	%
A1h19	0.403	0	1.1	%
A1h20	0	0	0	%
A1h21	0.222	0	0.5	%
A1h22	0	0	0	%
A1h23	0.141	0	0.3	%
A1h24	0	0	0	%
A1h25	0.367	0.2	0.5	%
A1h26	0	0	0	%
A1h27	0.025	0	0.1	%
A1h28	0	0	0	%
A1h29	0.194	0.1	0.3	%
A1h30	0	0	0	%
A1h31	0.013	0	0.1	%
A1h32	0	0	0	%
A1h33	0	0	0	%
A2h17	4.027	2.3	5.8	%
A2h18	0.001	0	0.1	%
A2h19	1.199	0.5	2	%
A2h20	0.001	0	0.1	%
A2h21	0.257	0.1	0.5	%
A2h22	0	0	0	%
A2h23	0.699	0.5	1.1	%
A2h24	0	0	0	%
A2h25	0.522	0.2	0.8	%
A2h26	0	0	0	%
A2h27	0.304	0	0.5	%
A2h28	0	0	0	%
A2h29	0.17	0	0.5	%
A2h30	0	0	0	%
A2h31	0.152	0	0.3	%
A2h32	0	0	0	%
A2h33	0.032	0	0.2	%
A3h17	3.69	2.1	5.4	%
A3h18	0.001	0	0.1	%
A3h19	0.874	0.5	1.5	%
A3h20	0.001	0	0.1	%
A3h21	0.777	0.4	1.2	%
A3h22	0	0	0	%
A3h23	0.533	0.2	0.9	%
A3h24	0	0	0	%



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A3h25	0.164	0	0.4	%
A3h26	0	0	0	%
A3h27	0.289	0.1	0.6	%
A3h28	0	0	0	%
A3h29	0.233	0.1	0.5	%
A3h30	0	0	0	%
A3h31	0.144	0	0.3	%
A3h32	0	0	0	%
A3h33	0.062	0	0.2	%

Name	Avg	Min	Max	Unit
A1h34	0	0	0	%
A1h35	0.171	0	0.3	%
A1h36	0	0	0	%
A1h37	0.001	0	0.1	%
A1h38	0	0	0	%
A1h39	0.015	0	0.1	%
A1h40	0	0	0	%
A1h41	0.042	0	0.1	%
A1h42	0	0	0	%
A1h43	0	0	0	%
A1h44	0	0	0	%
A1h45	0	0	0	%
A1h46	0	0	0	%
A1h47	0	0	0	%
A1h48	0	0	0	%
A1h49	0	0	0	%
A1h50	0	0	0	%
A2h34	0	0	0	%
A2h35	0.251	0.1	0.3	%
A2h36	0	0	0	%
A2h37	0.049	0	0.1	%
A2h38	0	0	0	%
A2h39	0.129	0	0.2	%
A2h40	0	0	0	%
A2h41	0.062	0	0.1	%
A2h42	0	0	0	%
A2h43	0.052	0	0.1	%
A2h44	0	0	0	%
A2h45	0	0	0	%
A2h46	0	0	0	%
A2h47	0.002	0	0.1	%
A2h48	0	0	0	%
A2h49	0	0	0	%
A2h50	0	0	0	%
A3h34	0	0	0	%
A3h35	0.239	0.1	0.3	%
A3h36	0	0	0	%
A3h37	0.012	0	0.2	%
A3h38	0	0	0	%



A3h39	0.007	0	0.1	%	
A3h40	0	0	0	%	
A3h41	0.095	0	0.2	%	
A3h42	0	0	0	%	
A3h43	0.002	0	0.1	%	
A3h44	0	0	0	%	
A3h45	0.012	0	0.1	%	
A3h46	0	0	0	%	
A3h47	0	0	0	%	
A3h48	0	0	0	%	
A3h49	0.004	0	0.1	%	
A3h50	0	0	0	%	

❖ **Observation:**

- 3rd, 5th, and 7th harmonics are considerable.

Annexure-V, Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load

1. Polipathar Zone

Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Polipathar Zone												
Sr. No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data	Installed Load in kW	Sanctioned Load with MPKVCL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Polypathar	Adarsh Nagar Near Dr. Kumar	44470311-34-91-341824	Bill Received	Meter is found	MEZ01060	15.09	26	73320	20	55320	18000
2	Polypathar	Adarsh Nagar	44470305-29-91-341940	Bill Received	Meter is found	3589871	8.90	18	50760	12	32627	18133
3	Polypathar	Ashok Vihar Near Lodhi Samudayak Bhavan	1444700349227	Bill Received	Meter is found	1309432	5.81	1.85	5217	8	21292	-16075
4	Polypathar	Awanti Vihar	144470058154	Bill Received	Meter is found	3090857	1.22	3	8460	2	4487	3973
5	Polypathar	Bital General Store Ke Pass	44470313-36-92-463036	Bill Received	Meter is found	9808521	5.20	18	50760	7	19078	31682
6	Polypathar	Brajmohan Nagar Sociey	44470306-21-91-281645	Bill Received	Meter is found	965854	0.80	6.4	18048	1	2933	15115
7	Polypathar	Chote Hanuman	44470305-29-91-341563	Bill Received	Meter is found	MEZ00882	9.78	48	135360	13	35868	99492
8	Polypathar	Chungi Naka Rampur, Near Sule Nursing Home	44470305-29-91-441077	Bill Received	Meter is found	MEZ983402	1.91	18	50760	2	6995	43765
9	Polypathar	Daroga Ghat	44470312-35-91-341903	Bill Received	Meter is found	MEZ00936	2.64	30	84600	3	9678	74922
10	Polypathar	Durga Nagar Saint Alayasis School	1444700341710.00	Bill Received	Meter is found	5094770	0.87	20	56400	1	3197	53203

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Polipathar Zone												
11	Polypathar	Tagore Nagar, Forest Gate	44470311-34-91-341850	Bill Received	Meter Not Found		2.42	12.5	35250	3	8872	26378
12	Polypathar	Jai Bheem Nagar Society	44470306-21-91-548455	Bill Received	Meter is found	9808518	3.57	10	28200	5	13080	15120
13	Polypathar	Jihari Ghat Station	44470312-35-91-463048	Bill Received	Meter is found	608962	3.98	31	87420	5	14576	72844
14	Polypathar	Jalahrigaon Narmada Road	44470313-36-92-401511	Bill Received	Meter is found	611088	0.70	17	47940	1	2552	45388
15	Polypathar	Jogney Nagar Chui Khadan	1444700341812.00	Bill Received	Meter is found	9806697	0.77	16	45120	1	2815	42305
16	Polypathar	Kalariwala Polipathar	44470312-35-91-341885	Bill Received	Meter is found	3589875	4.96	38	107160	6	18169	88991
17	Polypathar	Lalpur	1444700341680.00	Bill Received	Meter is found	6909643	1.21	15	42300	2	4429	37871
18	Polypathar	Polipathar Near Homiopathic Aaushadhalaya/MPHBP P Colony	44470312-35-91-9067644	Bill Received	Meter is found	9887566	3.39	13	36660	4	12435	24225
19	Polypathar	Murddaya Ghat	44470312-35-91-341915	Bill Received	Meter is found	9803399	4.51	25	70500	6	16519	53981
20	Polypathar	Near Chhapar of Ganesh Yadav	44470305-29-91-341939	Bill Received	Meter is found	3589876	6.43	35	98700	8	23558	75142
21	Polypathar	Patel Mohalla, Rampur	44470305-29-91-464235	Bill Received	Meter is found	MEZ201173	10.89	50	141000	14	39930	101070
22	Polypathar	Polipathar Gwarighat Bigbazar	44470311-34-91-341666	Bill Received	Meter Not Found		7.03	31	87420	9	25765	61655
23	Polypathar	PWD Colony	1444700349215.00	Bill Received	Meter is found	7624343	7.89	3	8460	10	28917	-20457

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Polipathar Zone												
24	Polypathar	Ravidas Nagar	44470311-34-91-341794	Bill Received	Meter Not Found		9.34	12.72	35870	12	34226	1645
25	Polypathar	Rewa Colony	44470306-21-91-341836	Bill Received	Meter is found	3588506	7.62	17	47940	10	27950	19990
26	Polypathar	Santnagar New PP Colony	Direct		Meter Not Found		1.46			2	5367	-5367
27	Polypathar	Sant Shiromani Ashram	44470312-35-91-600763	Bill Received	Meter is found	3588501	3.09	25	70500	4	11335	59165
28	Polypathar	Satyanand Vihar Garden,Durga Nagar	44470305-29-91-341733	Bill Received	Meter is found	3589870	5.29	29	81780	7	19386	62394
29	Polypathar	Shankar Nagar Corporation	44470305-29-91-349239	Bill Received	Meter Not Found		0.64	10	28200	1	2361	25839
30	Polypathar	Sidhanath	44470306-21-91-341952	Bill Received	Meter is found	9803404	0.54	14	39480	1	1980	37500
31	Polypathar	Vijaynagar Chhpar	44470305-29-91-342257	Bill Received	Meter is found	MEZ00876	5.76	40	112800	7	21109	91691
32	Polypathar	Jhanda Chowk Gwarighat	44470312-35-91-341551	Bill Received	Meter is found	MEZ00947	21.08	24	67680	27	77294	-9614
Total							164.78	657.47	1854065	214	604098	1249967

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2. Bilhari Zone

Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Bilhari Zone												
Sr.No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data	Installed Load in kW	Sanctioned Load with MPKVCL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Bilhari	Dhobi Ghat Near New Time Telor	342075	Bill Received	Meter not found		5.016	20.4	57528	6.52	18389	39139
2	Bilhari	Govt. Primary School Kajarwara	342105	Bill Received	Meter found	611869	2.84	12.8	36096	3.69	10411	25685
3	Bilhari	Janta Medical Hall	342130	Bill Received	Meter not found		14.1	14.75	41595	18.33	51691	-10096
4	Bilhari	Khermai Mandir, Dixit Ata Chakki	341988	Bill Received	Meter not found		2.756	19.85	55977	3.58	10103	45874
5	Bilhari	Purani Kalahari Ke Piche	342166	Bill Received	Meter not found		5.712	16	45120	7.43	20940	24180
6	Bilhari	Temar Bitra Road	342154	Bill Received	Meter not found		1.804	0.44	1241	2.35	6613	-5373
7	Bilhari	Post Office Gali Ke Andar Vijay Tailor Ke Pass	342129	Bill Received	Meter not found		8.233	14.75	41595	10.70	30182	11413
8	Bilhari	Shivpuri Kajarwara	342117	Bill Received	Meter not found		1.868	13.6	38352	2.43	6848	31504
9	Bilhari	Gaur Thane Opp	342002	Bill Received	Meter found	611268	2.992	19.85	55977	3.89	10969	45008
10	Bilhari	Gupta Tent House, Ekta Market, Gauraiya Ghat	342014	Bill Received	Meter found	611279	0.984	19.85	55977	1.28	3607	52370
11	Bilhari	Durga Mandir Kajarwara		Bill Not Received	Meter found		2.26			2.94		
Total							48.57	152.29	429458	63.13	169754	259704

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3. Ranjhi

Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Ranjhi Zone												
Sr.No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data	Installed Load in kW	Sanctioned Load with MPKVV CL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Ranjhi	75 H Bhagat Singh Ward	44420301-2-98-53752	Bill Received	Meter is found	MPE 89973	17.43	75	211500	22.66	63895	147605
2	Ranjhi	72-G Infront Of Akansha Silai Center	44420301-2-98-53740	Bill Received	Meter is not found		17.10	75	211500	22.24	62703	148797
3	Ranjhi	Chandan Colony	44420302-3-98-339209	Bill Received	Meter is found	18421	12.19	40	112800	15.84	44681	68119
4	Ranjhi	Gokalpur Marghatai	44420303-1-98-73623	Bill Received	Meter is found	30880414	4.90	50	141000	6.37	17963	123037
5	Ranjhi	Main Road Gokalpur	44420303-1-98-51780	Bill Received	Meter is found	MEZ 35203	15.25	70	197400	19.82	55899	141501
6	Ranjhi	Mastana Chowk Ranjhi	44420302-3-98-51860	Bill Received	Meter is found	MPE 35205	33.43	70	197400	43.46	122547	74853
7	Ranjhi	Major Kirana Store Ganesh Ganj	2198/123638	Bill Received	Meter is found	MPE 35201	11.77	50	141000	15.30	43160	97840
8	Ranjhi	Merghatai Road ,Khairmai Mandir	44420301-2-98-54252	Bill Received	Meter is found	MPB90675	19.35	75	211500	25.15	70933	140567
9	Ranjhi	Police Thana	44420302-3-98-129112	Bill Received	Meter is found	MPE 35202	19.76	70	197400	25.69	72455	124945
10 (A)	Ranjhi	Raksha nagar New		Bill Received	Meter is found	18680	3.41			4.44	12508	

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10 (B)	Ranjhi	Raksha nagar Colony	44420301-2-98-80639	Bill Received	Meter is not found		3.32	30	84600	4.32	12171	
	Total						6.73	30	84600	8.75	24680	59920
11	Ranjhi	Ranjhi Bazar Colony	44420302-3-98-27231 0	Bill Received	Meter is found	3580076	6.91	40	112800	8.98	25325	87475
12	Ranjhi	Ravan Park Ranjhi	44420302-3-98-51895	Bill Received	Meter is found	MEZ 984	8.09	70	197400	10.51	29651	167749
13	Ranjhi	Shanti Nagar Ranghi (S-29)	44420301-2-98-15287 0	Bill Received	Meter is found	2539833	1.74	20	56400	2.27	6394	50006
14	Ranjhi	Sharda Nagar Ranghi (S-1)	44420301-2-98-53739	Bill Received	Meter is found	17223	4.15	60	169200	5.40	15221	153979
15	Ranjhi	Neutral Garden Ranghi/Sharda Nagar Park	44420301-2-98-33675 0	Bill Received	Meter is not found		5.14	15	42300	6.69	18858	23442
16 (A)	Ranjhi	Uday Nagar	44420303-1-98-51792	Bill Received	Meter is not found		5.90	70	197400	7.67	21629	
16 (B)	Ranjhi	Uday Nagar - 3,(E29)		Bill Not Received	Meter is not found		0.64			0.84	2361	
	Total						6.54	70	197400	8.51	23990	173410
Total							190.50	880	2481600	248	698355	1549915

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4. Garha Zone

Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Garha Zone												
Sr. No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data	Installed Load in kW	Sanctioned Load with MPKVVC L in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Garha	Amanpur Nursing ward	344679	Bill Received	Meter found	MEZ02561	11.68	35	98700	15	42819	55881
2	Garha	Bedi Nagar Near Gurudwara Area & Central lighting	44470201-17-93-544668	Bill Received	Meter Not Found		7.00	10.5	29610	9	25677	3933
3	Garha	Bedi nagar	44470214-33-93-462329	Bill Received	Meter found	MEZ01010	4.82	26	73320	6	17670	55650
4	Garha	Brajmohan nagar supatal	344473	Bill Received	Meter found	MEZ02700	3.12	24	67680	4	11438	56242
5	Garha	Choti bagariya shree ram mandir ke samne	936261365	Bill Not Received	Meter Not found		13.56	22	62040	18	49696	12344
6	Garha	Dargah Road	NSC	Bill Not Received	Meter Not found		5.11			7		
7	Garha	Devtal Ayodayapuri	469518	Bill Received	Meter found	MEZ00919	6.25	22	62040	8	22905	39135
8	Garha	Ekta chowk	48255	Bill Not Received	Meter found	MEZ201021	3.48	24	67680	5	12772	54908
9	Garha	Ganga Sagar	39-93-344539	Bill Received	Meter found	MEZ02734	5.32	28	78960	7	19503	59457
10	Garha	Garha Bazar maszid ke pass	44470201-17-93-344461	Bill Received	Meter found	MPB90341	24.32	24	67680	32	89142	-21462

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Garha Zone												
11	Garha	Near of Gullah Chouraha	344655	Bill Received	Meter found	MEZ00932	10.11	25	70500	13	37063	33437
12	Garha	Gupteshwar Near Babbu Vidhayak House	402217	Bill Received			2.24	30	84600	3	8227	76373
13	Garha	HP Petrol Pump Sharda Chowk	44470201-17-93-544530	Bill Received	Meter found	MEZ01084	9.87	13.25	37365	13	36183	1182
14	Garha	Indira nagar	NSC	Bill Not Received	Meter Not found		7.12			9		
15	Garha	In Front Of Dr. Loth Hospital	44470214-33-93-469520	Bill Received	Meter found	MEZ01005	8.74	20	56400	11	32048	24352
16	Garha	In front of Triveni Complex LIC Chowk	44470214-33-93-469531	Bill Received	Meter found	MEZ00950	7.90	21	59220	10	28947	30273
17	Garha	Kachpura Overbridge	344618	Bill Received	Meter found	MEZ00084	7.05	20	56400	9	25845	30555
18	Garha	Khudabaksh Garha Bazar	544681	Bill Received	Meter Not found		4.70	7.75	21855	6	17216	4639
19	Garha	Kripal Chowk	344540	Bill Received	Meter found	MEZ01148	17.82	35	98700	23	65343	33357
20	Garha	LIC Office	544670	Bill Received	Meter found	MEZ00970	12.67	11.25	31725	16	46448	-14723
21	Garha	Main Road Ratan Nagar	44470206-23-93-384460	Bill Received	Meter found	3077106	3.66	20	56400	5	13403	42997
22	Garha	Near Bank Of Maharashtra Gautam Madhia	4470204-20-92-344515	Bill Received	Meter Not Found		22.01	25	70500	29	80681	-10181
23	Garha	Near Geological Survey Of India	344576	Bill Received	Meter found	MEZ01043	16.29	25	70500	21	59726	10774

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Garha Zone												
24	Garha	Near H.K. Engg. Work	344552	Bill Received	Meter found	MEZ00916	8.92	24	67680	12	32715	34965
25	Garha	Near Supatal Sulabh Complex	344448	Bill Received	Meter found	MEZ01106	3.46	25	70500	5	12699	57801
26	Garha	Panday Vyas Chowk	402205	Bill Received	Meter found	16462	4.70	20	56400	6	17216	39184
27	Garha	Pishanhari Ki Madiya	44470211-31-92-368702	Bill Received	Meter found	954855	9.61	7.2	20304	12	35238	-14934
28	Garha	Rani durgavati	44470214-33-93-488306	Bill Received	Meter found	MEZ01051	8.96	18	50760	12	32847	17913
29	Garha	Ratan Nagar Gupteshwar	44470206-23-93-344485	Bill Received	Meter Not Found		8.38	30	84600	11	30721	53879
30	Garha	Sanjivani Nagar Beside Rly Track	44470204-20-92-344588	Bill Received	Meter Not Found		7.95	20	56400	10	29152	27248
31	Garha	Sainik Society	44470218-40-93-344527	Bill Received	Meter found	MEZ00926	11.75	28	78960	15	43068	35892
32	Garha	Shakti Nagar Chowk	344680	Bill Received	Meter found	MEZ02721	10.13	25	70500	13	37144	33356
33	Garha	Shakti Nagar Shree Sai Palace Barat Ghar	384458	Bill Received	Meter found	MEZ01054	10.94	20	56400	14	40106	16294
34	Garha	Sharda Mandir Road	4470214-33-93-344643	Bill Received	Meter Not found		7.01	22	62040	9	25706	36334
35	Garha	Shukla Nagar	8045623876	Bill Not Received	Meter found	3238628	12.37	34	95880	16	45356	50524
36	Garha	Subhash Chowk Shakti Nagar	344692	Bill Received	Meter found	MEZ01022	21.27	27	76140	28	77968	-1828
37	Garha	Supatal Talab	436902	Bill Received	Meter found	MEZ01030	12.69	23	64860	16	46522	18338
Total							353	792	2233299	459	1249211	984088

5. Indramarket Zone

Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Indramarket Zone												
Sr. No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter number as per field data	Installed Load in kW	Sanctioned Load with MPKVCL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Indramarket	Adarsh Nursing Home	44420208-21-94-70440	Bill Received	Meter is Found	MPB90044	7.614	22	62040	10	27913	34127
2	Indramarket	Allahabad Bank Chowk	44420105-9-98-70816	Bill Received	Meter is Found	MPB90345	21.404	36.67	103409	28	78467	24942
3	Indramarket	Bai Ka Bagicha Nandani Foundation	44420104-8-94-71377	Bill Received	Meter is Found	MPB90403	53.51	25	70500	70	196168	-125668
4	Indramarket	Baldi Kori Ki Dafai	44420107-12-94-70725	Bill Received	Meter is Found	MPB90685	15.154	50	141000	20	55555	85445
5	Indramarket	Besides Kotawali	44420201-13-94-71122	Bill Received	Meter is Found	MPB90045	16.824	20	56400	22	61677	-5277
6	Indramarket	Bhawani Chowk Sidh Baba Road	44420203-17-94-70385	Bill Received	Meter is Found	MPB90623	32.728	27.2	76704	43	119981	-43277
7	Indramarket	Bohara Bag Chowk	44420205-19-94-70439	Bill Received	Meter is Found	90622	23.206	48	135360	30	85073	50287
8	Indramarket	Chandmari Talaiya Near Durga Mandir	44420107-12-94-70713	Bill Received	Meter is Found	MPB90217	14.416	50	141000	19	52849	88151
9	Indramarket	CharKhabha	44420208-21-94-70452	Bill Received	Meter is Found	MPB89972	22.809	7.2	20304	30	83618	-63314
10	Indramarket	Choti Madar Tekari	44420205-19-94-70464	Bill Received	Meter is Not Found		9.62	22	62040	13	35267	26773

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Indramarket Zone												
11	Indramarket	Chui Khadan	44420106-10-94-71353	Bill Received	Meter is Found	9139260	5.058	19.5	54990	7	18543	36447
12	Indramarket	Civil Line, Near police station	NSC	Bill Not Received	Meter is Not Found		10.208			13		
13	Indramarket	Civil Lines Thana	NSC	Bill Not Received	Meter is Not Found		4.713			6		
14	Indramarket	Deepak dairy sidbaba road,hanuman hotel.	44420203-17-94-70373	Bill Received	Meter is Found	MPB90581	28.28	20	56400	37	103674	-47274
15	Indramarket	Ekta Transport Services, Sanjivani Hospital	44420205-19-94-70488	Bill Received	Meter is Found	MPB90029	1.452	15	42300	2	5323	36977
16	Indramarket	Ghamapur Chowk , Arvind ward	44420201-13-94-71092	Bill Received	Meter is Found	MPB90598	23.516	22	62040	31	86210	-24170
17	Indramarket	Gopal Hotel	44420107-12-94-70701	Bill Received	Meter is Found	MPB90060	34.146	45	126900	44	125179	1721
18	Indramarket	Haddi Godam	70415	Bill Received	Meter is Found	MPB90385	8.592	16	45120	11	31498	13622
19	Indramarket	Hanumantal Thana Ke Pass	44420202-16-94-71080	Bill Received	Meter is Found	MPE58441	50.755	58.06	163729	66	186068	-22339
20	Indramarket	In Front of Agrawal Traders	44420102-6-94-358228	Bill Received	Meter is Found	3855388	19.176	12	33840	25	70299	-36459
21	Indramarket	Inside Galagala Shiv mandir	44420206-20-94-70658	Bill Received	Meter is Found	MEZ00001	21.34	45	126900	28	78232	48668
22	Indramarket	Kachghar Chowk	44420107-12-94-70683	Bill Received	Meter is Found	MEZ01425	26.516	55	155100	34	97208	57892
23	Indramarket	Futhatal Mazar Ke Samne , L/148	44420201-13-94-71110	Bill Received	Meter is Found	MPB90353	24.08	35	98700	31	88277	10423
24	Indramarket	Lohia Pool	44420102-6-94-159487	Bill Received	Meter is Found		27.02	8	22560	35	99055	-76495

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Indramarket Zone												
25	Indramarket	Lohia Ward	44420102-7-0841	Bill Received	Meter is Found	18462	10.696	16.96	47827	14	39212	8616
26	Indramarket	Mominpura Talaiya	44420208-21-94-310724	Bill Received	Meter is Found	MPE37496	7.448	10	28200	10	27304	896
27	Indramarket	Mothi Nalla	44420208-21-94-70476	Bill Received	Meter is Found	MPB90638	13.692	32	90240	18	50195	40045
28	Indramarket	Near Bridge No 1	44420209-26-94-70646	Bill Received	Meter is Found	3847473	16.556	25	70500	22	60694	9806
29	Indramarket	Near Empire Talkies	44420105-9-94-70853	Bill Received	Meter is Found	MEZ00014	13.903	36	101520	18	50968	50552
30	Indramarket	Near IPS Office	NSC	Bill Not Received	Meter is Not Found		3.872			5		
31	Indramarket	Near Kharmai Gate	44420202-16-94-71079	Bill Received	Meter is Found	MPB90384	14.368	42	118440	19	52673	65767
32	Indramarket	Near Maulana Abdul Kalam Ward Gate,Rajja Chowk	44420207-15-94-70348	Bill Received	Meter is Found	MPB90097	28.142	33	93060	37	103169	-10109
33	Indramarket	Near RTO Office	44420109-23-98-190317	Bill Received	Meter is Found	3238094	13.728	10	28200	18	50327	-22127
34	Indramarket	16 Quarter Thkkargram	70324	Bill Received	Meter is Found	MPB90086	11.652	20	56400	15	42716	13684
35	Indramarket	Sathiya Kuva	44420201-13-94-71109	Bill Received	Meter is Found	MEZ00123	20.566	35	98700	27	75395	23305
36	Indramarket	Science College	44420111-25-94-71043	Bill Received	Meter is Found	9139000	7.428	8.9	25098	10	27231	-2133
37	Indramarket	Shiv Mandir, Kadam Taliya	44420206-20-94-70671	Bill Received	Meter is Found	MPB90682	38.112	50	141000	50	139719	1281
38	Indramarket	Tahasil Chowk	44420209-26-94-70634	Bill Received	Meter is Not Found		33.542	25	70500	44	122965	-52465

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Indramarket Zone												
39	Indramarket	Thakur Electronic Kachghar Colony	44420107-12-94-71389	Bill Received	Meter is Found	MPB90047	32.82	15	42300	43	120318	-78018
40	Indramarket	Vyoharbagh Central Lighting	NSC	Bill Not Received	Meter is Not Found		14.946			19		
Total							784	1017	2869322	1019	2749020	120302

6. Mission Compound Zone

Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Mission Compound Zone												
Sr.No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data	Installed Load in kW	Sanctioned Load with MPKVCL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Mission Compound	Bada Fuhara	44505106-1-97-100171	Bill Received	Meter is found	MPB90683	66.64	40	112800	87	244302	-131502
2	Mission Compound	Baldev Bag Agrawal Petrol Pump Ke Samne	44505103-61-97-100183	Bill Received	Meter is found	MPB90141	47.45	35	98700	62	173952	-75252
3	Mission Compound	Golbazar Near Ranital Chowk	44505107-18-97-100237	Bill Received	Meter is found	MPB90644	52.83	60	169200	69	193682	-24482
4	Mission Compound	Gopal Vihar Colony	44505101-6-99-150022	Bill Received	Meter is found	MPB34913	20.33	15	42300	26	74537	-32237
5	Mission Compound	Gurunanak School & College Karamchand Chowk	44505204-14-98-242720	Bill Received	Meter is found	30726976	11.00	10	28200	14	40319	-12119
6	Mission Compound	Karamchand Chowk Near Baglai Culb	44505301-10-99-100468	Bill Received	Meter is found	MEZ00201	30.43	35	98700	40	111542	-12842
7	Mission Compound	Kotwali Thana	44505309-23-99-100481	Bill Received	Meter is found	MEZ01579	43.00	35	98700	56	157649	-58949
8	Mission Compound	Madhvtal Yatayat Thana	44505301-10-98-179279	Bill Received	Meter is found	MPE34964	28.62	20	56400	37	104936	-48536

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9	Mission Compound	Milauniganj Chowk	NSC	Bill Not Received			23.28			30		
10	Mission Compound	Mission Compound Chouraha	44505302-13-98-100407	Bill Received	Meter is found	MEZ00172	32.71	10	28200	43	119922	-91722
11	Mission Compound	Near Gohalpur Thana	44505304-12-99-100493	Bill Received	Meter is found	MEZ01090	28.09	35	98700	37	102993	-4293
12	Mission Compound	Near Kachyaana Chowk	44505107-18-97-150769	Bill Received	Meter is found	MPZ01829	11.66	45	126900	15	42746	84154
13	Mission Compound	Russel Chowk Near State Bank of Patiala	44505307-20-98-100286	Bill Received	Meter is found	MEZ01080	17.90	40	112800	23	65621	47179
14	Mission Compound	Russel Chowk Opposite Anmol Auto Mobiles	44505307-20-98-483909200	Bill Received	Meter is found	15971	3.360	3.5	9870	4	12318	-2448
15	Mission Compound	Shastri Bridge ICICI Bank	44505307-20-98-100420	Bill Received	Meter is found	MEZ00041	16.52	25	70500	21	60548	9952
16	Mission Compound	Telegraph gate no.2	44505102-4-99-100262	Bill Received	Meter is found	MEZ01196	27.68	30	84600	36	101482	-16882
Total							462	439	1236570	600	1606548	-369978

7. Gorakhpur Zone

Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Gorakhpur Zone												
Sr. No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data	Installed Load in kW	Sanctioned Load with MPKVCL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential saving in fixed monthly charges in Rs.
1	Gorakhpur	Ambey Traders Shethi Nagar	44505203-9-28-309783	Bill Received	Meter is found	3588487	13.24	12.08	34066	17	48538	-14472
2	Gorakhpur	Anand Enterprises Choti Lines Fatak	44505203-9-99-323688	Bill Received	Meter is not found		1.89	40	112800	2	6929	105871
3	Gorakhpur	Madan Mahal BSNL Office Ke Pass	44505202-7-99-292436	Bill Received	Meter is found	MPB90693	9.57	15	42300	12	35084	7216
4	Gorakhpur	Esai Mohalla Chowk	44505202-7-99-100614	Bill Received	Meter is found	MPB90637	15.98	25	70500	21	58590	11910
5	Gorakhpur	Employment Office	44505203-9-25-100699	Bill Received	Meter is found	MPB90307	38.85	40	112800	51	142431	-29631
6	Gorakhpur	Ghantaghar Omati Thana Ke Samne	44505206-24-99-100559	Bill Received	Meter is found	MPB90701	25.28	40	112800	33	92684	20116
7	Gorakhpur	J.K.Complex Gorakhpur	44505205-17-99-100640	Bill Received	Meter is found	MPB90071	39.04	32	90240	51	143135	-52895
8	Gorakhpur	Katanga Tiraha	44505205-17-99-418079	Bill Received	Meter is found	MPB90584	24.41	36	101520	32	89494	12026
9	Gorakhpur	Madan Mahal Thana	44505201100584.00	Bill Received	Meter is found	MEZ02729	18.28	35	98700	24	67022	31678
10	Gorakhpur	Navbhrat Press(Near of santnavent motor mitra)	44505307-20-98-100419	Bill Received	Meter is found	MEZ01111	1.92	23	64860	3	7053	57807
11	Gorakhpur	Near BPCL Petrol Pump Medical	44505201-16-98-408852	Bill Received	Meter is found	14910	12.13	5	14100	16	44454	-30354

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Gorakhpur Zone												
		Road,Main Bus Stand										
12	Gorakhpur	Near Narmada Traders	44505203-9-25-100729	Bill Received	Meter is found	MPB90091	33.87	40	112800	44	124167	-11367
13	Gorakhpur	Near Shri Guru Tegh Bahadur Khalsa College	44505202-7-99-227547	Bill Received	Meter is found	MPB90018	10.72	18	50760	14	39285	11475
14	Gorakhpur	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	44505202-7-99-100602	Bill Received	Meter is found	MPB90020	29.09	25	70500	38	106651	-36151
15	Gorakhpur	Rishi Vihar Colony	44505207-21-98-169018	Bill Received	Meter is found	MPB90218	9.47	30	84600	12	34706	49894
16	Gorakhpur	Saluja Tyres Madhotal Road	44505201-16-99-100560	Bill Received	Meter is found	MPB90078	14.66	35	98700	19	53744	44956
17	Gorakhpur	Santosh Garage	44505202-7-99-100596	Bill Received	Meter is found	MPB90661	10.61	25	70500	14	38889	31611
18	Gorakhpur	Teenpatti Chauraha	44505204-14-99-100547	Bill Received	Meter is found	MPB90011	14.19	40	112800	18	52006	60794
19	Gorakhpur	Wright Town Pankaj Palace	44505201-16-99-183519	Bill Received	Meter is found	MPE35164	19.49	35	98700	25	71465	27235
Total							343	551	1554046	446	1256327	297718

8. Purva Zone

Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Purva Zone												
Sr.No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data	Installed Load in kW	Sanctioned Load with MPKVCL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Purva	Baznamath Mandir Road	44470208-25-91-368696	Bill Received	Meter is found	5042053	5.19	16	45120	6.75	19034	26086
2	Purva	Bhairav Baba Road	44470316-50-96-342142	Bill Received			4.59	4	11956.8	5.97	16834	-4877
3	Purva	Shastri Nagar Sai Mandir Ke Samne/Bhairav Nagar Bada Pathar	44470208-25-91-744750	Bill Received	Meter is found	3708988	15.23	10	28200	19.80	55826	-27626
4A)	Purva	Bhairav Nagar Near Sub Station MPEB Purva		Bill Received	Meter is not found		1.82			2.37		
4B)	Purva	Neharu Nagar Near Apex Hospital		Bill Received	Meter is found	3589123	4.85			6.31		
4	Purva	Bhairav Nagar Near Sub Station MPEB Purva & Neharu Nagar Near Apex Hospital	44470211-31-92-272462	Bill Received	#VALUE!	3589123	6.68	15	42300	8.68	24474	17826

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5	Purva	Bhukamp Colony	44470216-38-91-368660	Bill Received	Meter is found	3236859	5.25	3	8460	6.83	19254	-10794
6	Purva	Devtal Main Road, Sharn Park	44470212-32-91-344564	Bill Received	Meter is found	5810350	3.18	27	76140	4.14	11673	64467
7	Purva	Dr.Colony-I, Type Medical Quarter Ke Samne		Bill Received	Meter is not found		3.00			3.90	10998	-10998
8A)	Purva	Ganga Nagar Road		Bill Received	Meter is found	MPE98121	18.77			24.40		
8B)	Purva	Rajul City		Bill Received	Meter is not found		3.24			4.22		
8	Purva	Ganga Nagar Road & Rajul City	44470207-24-91-368593	Bill Received			22.02	20	56400	28.62	80711	-24311
9	Purva	Garha Thana , Near Medical College	44470212-32-91-793050	Bill Received	Meter found	3588178	15.23	10	28200	19.80	55826	-27626
10A)	Purva	Gupta Nagar		Bill Received	Meter is not found		1.48			1.93		
10B)	Purva	Near Sagda Sai Mandir,Opposite Ananad Krushi Kendra		Bill Received	Meter is found		16.92			22.00		
10	Purva	Gupta Nagar & Near Sagda Sai Mandir,Opposite Ananad Krushi Kendra	44470208-25-91-742880				18.40	10	28200	23.93	67469	-39269
11	Purva	LIG Colony,Near Akarshan Beauty parlor	44470201-17-93-469581	Bill Received	Meter is not found		6.85	22	62040	8.91	25119	36921

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12	Purva	Lodhi Mohalla Shastri Nagar	44470214-33-93-344503	Bill Received	Meter Not found		4.52	18	50760	5.87	16556	34204
13	Purva	Medical Colony (Dr.Colony)	44470207-24-91-520834	Bill Received	Meter is found	16729	5.79	8	22560	7.52	21219	1341
14	Purva	Near Gyanganga College	44470208-25-91-742867	Bill Received	Meter is found	3708987	15.79	10	28200	20.53	57893	-29693
15	Purva	Near Hotel Maruti Mandapam	44470212-32-91-584873	Bill Received	Meter is not found		11.00	10	28200	14.30	40319	-12119
16	Purva	Near Jain Mandir	44470201-17-93-436938	Bill Received	Meter found	3588180	13.54	12	33840	17.60	49623	-15783
17	Purva	Near of Jasuja City	44470215-37-92-725171	Bill Received	Meter is found	3580222	14.95	13	36660	19.43	54792	-18132
18	Purva	Near Kangi House (Chungi Naka)		Bill Not Received	Meter is not found		9.58			12.46	35128	-35128
19	Purva	Near Shahi Naka	44470205-22-93-344590	Bill Received	Meter is found	MPB90440	8.05	25	70500	10.46	29504	40996
20	Purva	Near Samudayak Bhawan	44470215--37-91-368570	Bill Received	Meter is found	992757	15.04	13	36660	19.55	55140	-18480
21	Purva	Near Water Tank Tripura Chowk	44470211-31-92-549721	Bill Received	Meter is found	3587943	1.82	1	3525	2.37	6687	-3162
22	Purva	Paraswada Colony	44470216-38-91-368660	Bill Received	Meter is found	3589123	4.73	3	8460	6.15	17348	-8888
23	Purva	Ram Nagar - 1		Bill Not Received	Meter is not found		1.88			2.44	6892	-6892
24	Purva	Ram Nagar-2		Bill Not Received	Meter is found	16729	0.62			0.81	2288	-2288
25	Purva	Sagda Sai Mandir	44470314-41-96-584204	Bill Received	Meter is not found		2.48	3	8460	3.22	9092	-632
26	Purva	Sagar Colony		Bill Not Received	Meter is found	9922651	2.04			2.66	7493	-7493

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27	Purva	Sai Colony	44470036872	Bill Received	Meter is found	182676	1.32	2	5640	1.72	4839	801
28	Purva	Shahnala	44470208-25-91-368684	Bill Received	Meter is found	517465	0.87	5	14100	1.13	3197	10903
29A)	Purva	Shastri Nagar Chouraha I		Bill Received	Meter is not found		4.32			5.62		
29B)	Purva	Shastri Nagar-2		Bill Not Received	Meter is not found		7.36			9.57		
29	Purva	Shastri Nagar Chouraha I & Shastri Nagar-2	44470208-25-91-368635	Bill Received			11.69	18	50760	15.19	42848	7912
30	Purva	Tilwara Ghat Road	444-70208-25-91-368532	Bill Received	Meter is found	3388173	10.47	15	42300	13.61	38376	3924
31	Purva	Tripuri Chowk	44470211-31-92-368714	Bill Received	Meter is not found		3.16	3	8460	4.11	11599	-3139
		Total					244.97	296	836102	318	898049	-61947

9. Adhartal Zone

Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Adhartal Zone												
Sr. No.	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data	Installed Load in kW	Sanctioned Load with MPKVVCL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Adhartal Zone	Adhartal Tiraha	44470101-6-91-352147 & 44470101-6-91-352305	Bill Received	Meter Not Found		22.0	28	78960	28.6	80740	-1780
2	Adhartal Zone	Gaji Nagar	44470111-47-91-35211 1	Bill Received	Meter Not Found		15.6	15	42300	20.3	57248	-14948
3	Adhartal Zone	Chokse Hotel (New Kanchanpur)	44470102-7-93-665836	Bill Received	Meter Not Found		5.0	5	14100	6.5	18359	-4259
4	Adhartal Zone	Ram Nagar (New R-11)	44470111-47-91-82537 2	Bill Received	Meter Not Found		16.2	10	28200	21.1	59521	-31321
5	Adhartal Zone	Afak Bekari Makka Nagar Gali no-3	44470102-7-93-663451	Bill Received	Meter Not Found		4.4	5	14100	5.7	16145	-2045
6	Adhartal Zone	Agrawal Kirana Store Shankar Chowk	44470102-7-93-352159	Bill Received	Meter Found	MPB9070 8	3.7	4	11280	4.8	13410	-2130
7	Adhartal Zone	Anand Nagar, Near Dr Ansari Clinic	44470101-6-91-505535	Bill Received	Meter Found	3077277	7.9	7.5	21150	10.3	28947	-7797
8	Adhartal Zone	Dr Ambedkar Colony	44470102-7-93-663463	Bill Received	Meter Not		12.0	5	14100	15.6	43904	-29804

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					Found							
9	Adhartal Zone	G. C. F. Colony	44470111-47-91-35233 0	Bill Received	Meter Not Found		15.8	10	28200	20.6	57996	-29796
10	Adhartal Zone	Gandhi Chowk Katra, Near Vishwkarma Electric	44470101-6-91-673651	Bill Received	Meter Not Found		2.2	10	28200	2.9	8065	20135
11	Adhartal Zone	Gayatri Nagar	44470111-47-91-35213 5	Bill Received	Meter Not Found		2.6	15	42300	3.4	9590	32710
12	Adhartal Zone	Hussainiya masjid , Rajja chowk	44470101-6-91-665812	Bill Received	Meter Not Found		1.1	8	22560	1.4	4077	18483
13	Adhartal Zone	Housing Board in Pump House	44470102-7-93-352329	Bill Received	Meter Not Found		6.8	15	42300	8.9	25061	17239
14	Adhartal Zone	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass	44470103-8-90-352160	Bill Received	Meter Found	6979048	1.4	4	11280	1.8	5088	6192
15	Adhartal Zone	Industrial Area Near Power House	44470110-16-90-35222 6	Bill Received	Meter Not Found		5.2	10	28200	6.7	18902	9298
16	Adhartal Zone	Jawahar Nagar , Hussain Masjid	44470102-7-93-663554	Bill Received	Direct Poles		4.7	5	14100	6.1	17304	-3204
17	Adhartal Zone	Katra Sabji Mandi	44470101-6-91-352100	Bill Received	Meter Found	MPB9053 4	4.4	10	28200	5.7	16072	12128
18	Adhartal Zone	Main Road Adhartal Near Nilesh Computer	44470101-6-91-505547	Bill Received	Meter Found	3077282	7.9	7.5	21150	10.3	28947	-7797

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19 (A)	Adhartal Zone	Shankar Mandir Neharu Nagar	NSC	Bill Not Received	Meter Not Found		1.1			1.4	3871	
19 (B)	Adhartal Zone	Vivek Colony	44470110-16-90-35223 8	Bill Received	Meter Found	5048235	0.9	4	11280	1.2	3461	
	Total						2.0	4	11280	2.6	7332	3948
20	Adhartal Zone	New Ramnagar NR5	44470111-47-91-44848 5	Bill Received	Meter Not Found		4.6	15	42300	6.0	16981	25319
21	Adhartal Zone	New Ram Nagar NR/10/5	44470111-47-91-80525 7	Bill Received	Meter Not Found		2.6	15	42300	3.4	9653	32647
22	Adhartal Zone	Old Kanchanpur Samudayik Bhavan	NSC	Bill Not Received	Meter Not Found		2.2		0	2.9	8227	-8227
23	Adhartal Zone	Pandey Gas Agency	44470110-16-90-35221 4	Bill Received	Meter Not Found		1.4	10	28200	1.8	5132	23068
24	Adhartal Zone	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	44470102-7-93-352342	Bill Received	Meter Not Found		7.4	15	42300	9.6	27158	15142
25	Adhartal Zone	Rain Baysara, Anand Nagar	44470101-6-91-352287	Bill Received	Meter Not Found		10.8	20	56400	14.0	39607	16793
26	Adhartal Zone	Sanjay Nagar Industrial Arya Chand Mari Road	44470103-8-90-352093	Bill Received	Meter Not Found		1.2	7	19740	1.6	4487	15253
27	Adhartal Zone	Sanjay Nagar	44470104-9-90-352123	Bill Received	Meter Found	MPB8997 7	2.9	10	28200	3.8	10734	17466

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28	Adhartal Zone	SBI ATM New Kanchanpur	44470104-9-90-352251	Bill Received	Meter Found	MPB9044 3	11.0	6.58	18555.6	14.4	40487	-21932
29	Adhartal Zone	Sharda Colony New Kanchanpur	NSC	Bill Not Received	Meter Found	90510	3.7			4.8	13447	-13447
30	Adhartal Zone	Shobapur Railway Fatak	44470104-9-90-352263	Bill Received	Meter Found	MPE0023 1	10.3	9.23	26028.6	13.4	37848	-11819
31	Adhartal Zone	Xlean Bharat Gas Agency	44470101-6-91-505523	Bill Received	Meter Found	3077087	7.9	7.5	21150	10.3	28947	-7797
32	Adhartal Zone	Zenda Chowk J.P. Nagar	44470111-47-91-66578 2	Bill Received	Meter Not Found		3.2	8	22560	4.2	11819	10741
Total							210	301	849694	273	771235	74511

10. Vijaynagar Zone

Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Vijaynagar Zone												
Sr. No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data	Installed Load in kW	Sanctioned Load with MPKVCL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Vijay Nagar	Agrawal Madpump	NSC	Bill Not received	Meter not found		9.43			12		
2	Vijay Nagar	Amkhera Sanjay Telecom	44470109-15-98-352275	Bill Received	Meter found	MPZ00983	12.30	49	138180	16	45092	93088
3	Vijay Nagar	Basti No-1 Amarkhera Gohalapur	44470109-15-98-406089	Bill Received	Meter found	MPZ00954	6.44	33.57	94667	8	23624	71044
4	Vijay Nagar	Central Lighting Works,Kamla Nehru Nagar,Near Mobile Shopee	44505102-4-99-411565	Bill Received	Meter found	9199249	17.48	15	42300	23	64096	-21796
5	Vijay Nagar	Central Street Light Ranital	44505102-4-99-398901	Bill Received	Meter found	3713648	15.23	10	28200	20	55826	-27626
6	Vijay Nagar	Damuh Naka Chowk Z33 & Near Damoh Naka Chowk	44505305-15-99-100500	Bill Received	Meter found	78756	42.48	35	98700	55	155746	-57046
7	Vijay Nagar	Dindayal Chowk	921142	Bill Received	Meter found	LEZ00961	10.69	13.90	39198	14.97	42212	-3014
8	Vijay Nagar	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha	44470114-43-98-840622	Bill Received	Meter found		6.88	5	14100	9	25222	-11122

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Vijaynagar Zone												
9	Vijay Nagar	Dr.Atul Sharma	921130	Bill Received	Meter not found		11.34	15	42300	14.75	41583	717
10	Vijay Nagar	Global Hospital Ukhaari	921129	Bill Received	Meter found	MEZ00922	16.49	20	56400	21	60456	-4056
11	Vijay Nagar	Hat Bajar	44470112-45-98-539855	Bill received	Meter found	MP472135	2.65	5	14100	3	9708	4392
12	Vijay Nagar	ITI Near Swastik Hospital	44470112-45-98-894874	Bill Received	Meter found	16521	17.48	12	33840	23	64096	-30256
13	Vijay Nagar	Jain Mandir Mather Theresa	343638	Bill Received	Meter found	8989265	4.90	3.12	8798	6	17952	-9154
14	Vijay Nagar	Jankey Nagar	44470116-44-98-352299	Bill Received	Meter found	MEZ008811	8.39	26	73320	11	30772	42548
15	Vijay Nagar	Kasodhan Colony Green City	44470113-48-98-581227	Bill Received	Meter not found		4.25	3	8460	6	15577	-7117
16	Vijay Nagar	Labour Chowk	44505104-3-99-100274	Bill Received	Meter not found		9.51	35	98700	12	34856	63844
17	Vijay Nagar	Mandi Area In Front of Baba Sai Clinic	44470112894898	Bill Received	Meter found	16662	14.66	12	33840	19	53758	-19918
18	Vijay Nagar	Near Rose Beauty salon Ekta Tilhara	44470116-44-98-352378	Bill Received	Meter not found		14.60	18.99	53552	18.99	53538	14
19	Vijay Nagar	Om Enterprises	539843	Bill Received	Meter not found		2.50	3.5	9870	3.74	10558	-688
20	Vijay Nagar	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk	44470114-43-98-539806	Bill Received	Meter not found		3.12	7.3	20586	4	11438	9148
21	Vijay Nagar	Pili Building Ke Samne Near Deligh Mariage.Com	44505105-2-99-446786	Bill Received	Meter found	9138464	20.87	12	33840	27	76502	-42662

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Vijaynagar Zone												
22	Vijay Nagar	BH/08 Pushp Nagar	44505102310372	Bill Received	Meter not found		2.08	15	42300	3	7611	34689
23	Vijay Nagar	Sarvaday Nagar	44505102-4-99-356104	Bill Received	Meter found	17209	9.86	10	28200	13	36154	-7954
24	Vijay Nagar	Shanti Nagar	44505308-22-99-149974	Bill Received	Meter found	MPE34815	21.19	30	84600	28	77697	6903
25	Vijay Nagar	Sneha Nagar Jayaswal Treders	44505104-3-99-97962	Bill Received	Meter not found		20.87	30	84600	27	76517	8083
26	Vijay Nagar	Trimurti Nagar Madhotal	44470113-48-98-352202	Bill Received	Meter found	MEZ1197	16.62	53	149460	22	60929	88531
27	Vijay Nagar	Varsa Kirana Store	44470116-44-98-352172	Bill Received	Meter not found		5.11	25	70500	7	18726	51774
28	Vijay Nagar	Shiv Nagar Near APT Machine	44505105100225	Bill Received	Meter not found		13.89	12	33840	18	50921	-17081
29	Vijay Nagar	Damoha Naka Road	44505105-2-95-100213	Bill Received	Meter found	MPB90695	21.27	35	98700	28	77983	20717
30	Vijay Nagar	Chota Fuhara Chowk	44505305-15-99-100511	Bill Received	Meter not found		21.90	35	98700	28	80278	18422
31	Vijay Nagar	DR.Vijay Jain	44470114-43-98-352184	Bill Received	Meter found	MEZ00948	6.66	25	70500	9	24423	46077
32	Vijay Nagar	Hat Bazar	680461	Bill Received	Meter not found		10.85	20	56400	14	39787	16613
33	Vijay Nagar	Namdav Brother Ke Pass S.B.I. Colony	44470112-45-98-352240	Bill Received	Meter found	MEZ01178	15.83	25	70500	21	58047	12453
34	Vijay Nagar	Rameshvaram Colony	NSC	Bill not received	Meter not found		11.32			15		
35	Vijay Nagar	ITI Madital	44470112-45-98-352196	Bill Received	Meter not found		5.98	25	70500	8	21930	48570

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Potential Saving by Rationalization & Enhancement of Existing Sanctioned Load at Vijaynagar Zone												
36	Vijay Nagar	Sagam Colony	921117	Bill Received	Meter not found		10.44	12.72	35870	13.6	38266	-2395
37	Vijay Nagar	Thana Vijay Nagar	4598539831	Bill Received	Meter not found		2.26	5	14100	3	8292	5808
38	Vijay Nagar	P.No.66 Tulsi Nagar	44505105-2-95-174762	Bill Received	Meter found	MPE35120	13.33	11	31020	17	48871	-17851
39	Vijay Nagar	Union Bank Ke Pass	98859760	Bill Received	Meter found	3848590	6.60	8	22560	9	24181	-1621
40	Vijay Nagar	Yadav Colony	44505102-4-97-100250	Bill Received	Meter found	MPB 90602	16.54	30	84600	22	60643	23957
41	Vijay Nagar	Yadav Colony	44505102-4-97-129884	Bill Received	Meter found	MPB 90702	25.26	35	98700	33	92588	6112
42	Vijay Nagar	Disha Sanchi Corner	NSC	Bill not received	Meter found		11.44			15		
43	Vijay Nagar	Lal bahadur Shastri Colony	44470113-48-98-586675	Bill Received	Meter not found		2.43	10	28200	3	8901	19299
Total							523.44	786.1	2216802	682	1805360	411442

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11. Highmast

Sr.No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Metering Status	Meter Number as per field data	Installed Load in kW	Sanctioned Load with MPKVCL in kW	Annual Fixed Monthly Charges in Rs.	Proposed Sanctioned Load in kW	Annual Proposed Fixed Monthly Charges in Rs.	Potential Saving in Fixed Monthly Charges in Rs.
1	Ranjhi	Adarsh Market Ranjhi	4442030251949	Bill Received	Meter is found	3580238	3.38	3	8460	4.40	12406	-3946
2	Ranjhi	Ranjhi Badapathar	4442030153764	Bill Received	Meter is not found		5.30	3	8460	6.90	19444	-10984
3	Ranjhi	Vehicle Mode Ranjhi	4442030251901	Bill Received	Meter is found	3580237	3.38	3	8460	4.40	12406	-3946
4	Ranjhi	Sharda Nagar Park	44420301-2-98-336750	Bill Received	Meter is found	3772550	7.96		0	10.34		
5	Ranjhi	Near Saraswati School Rajhi	44420301285912	Bill Received	Meter is not found	3772551	5.30	3	8460	6.90	19444	-10984
6	Gorakhpur	Katanga Tiraha Near Kundan Jewellers	44505205-17-97-100663	Bill Received	Meter is found	9199217	3.38	4	11280	4.40	12406	-1126
7	Gorakhpur	Main Bus Stand	44505201-16-99-100572	Bill Received	Meter is found	13789	7.96	35	98700	10.34	29167	69533
8	Gorakhpur	Rajiv Gandhi chowk	44505204-14-97-100523	Bill Received	Meter is found	9199109	3.38	8	22560	4.40	12406	10154
9	Gorakhpur	Chothi Lines Fathak Gorakhpur	44505203100687	Bill Received	Meter is not found		3.38	4	11280	4.40	12406	-1126
10	Gorakhpur	Madan Mahal	44505202100675	Bill Received	Meter is not found		5.08	4	11280	6.60	18609	-7329

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11	Gorakhpur	Welfare Association & Tow bhaisasur Road	44505205-17-98-392078	Bill Received	Meter is not found		3.38	4	11280	4.40	12406	-1126
12	Gorakhpur	Madan Mahal Chowk Station Road	44505201-16-98-453067	Bill Received	Meter is found	16750	3.38	3.2	9024	4.40	12406	-3382
13	Mission Compound	Baburao Paranjpe Near Ranital Gate No.2	44505306-19-98-290520	Bill Received	Meter is found	3235837	5.30	6	16920	6.90	19444	-2524
14	Mission Compound	Pa.Kunjilal Dube Marg Nepiar Town	44505307-20-98-100444	Bill Received	Meter is not found	9199010	3.38	8	22560	4.40	12406	10154
15	Mission Compound	Malviya Chowk	44505301-10-99-100470	Bill Received	Meter is found	MPE54097	7.96	9.9	27918	10.34	29167	-1249
16	Mission Compound	Russel Chowk	44505307-20-98-100432	Bill Received	Meter is found	9199138	7.96	8	22560	10.34	29167	-6607
17	Mission Compound	Nagrath Chowk	44505302-13-98-100456	Bill Received	Meter is found	3843068	3.38	3	8460	4.40	12406	-3946
18	Mission Compound	Omati Thana	44505303-8-98-187616	Bill Received	Meter is found	1103421	3.38	4.6	12972	4.40	12406	566
19	Mission Compound	Bada Fuhara	44505106100201	Bill Received	Meter is found	3235045	3.38	3	8460	4.40	12406	-3946
20	Mission Compound	Lardganj Tiraha	44505106100195	Bill Received	Meter is found	3708696	3.38	3	8460	4.40	12406	-3946
21	Indramarket	Mal Godam Railway station	44420209-26-94-70610	Bill Received	Meter is found	3238804	7.96	6	16920	10.34	29167	-12247
22	Indramarket	Allahabad Bank Chowk	44420110-24-94-70828	Bill Received	Meter is found		7.96	7.2	20304	10.34	29167	-8863

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23	Indramarket	Kanchghar Chowk	44420107-12-94-70660	Bill Received	Meter is not found	9233872	5.30	5	14100	6.90	19444	-5344
24	Indramarket	Tahasil Chowk /Ambedkar Chowk	4442020934617	Bill Received	Meter is not found	3589644	3.38	3	8460	4.40	12406	-3946
25	Indramarket	Ghamapur Chowk	NSC	Bill Not Received	Meter is not found		3.38			4.40		
26	Indramarket	Raddi Chowki	4442020573957	Bill Received	Meter is not found		7.96	12	33840	10.34	29167	4673
27	Indramarket	Collectorate Chowk High Court	NSC	Bill Not Received	Meter is not found		5.30			6.90		
28	Indramarket	GCF CJ Building	44420070830	Bill Received	Meter is found	3708623	3.38	3	8460	4.40	12406	-3946
29	Polipathar	Gwarighat-1	44470312-35-91-442628	Bill Received	Meter is found	3588502	27.33	25	70500	36	100184	-29684
	Polipathar	Gwarighat-2										
	Polipathar	Gwarighat-3										
	Polipathar	Gwarighat -4										
30	Polipathar	Gwarighat-5 Near Daroga Ghat	44470312-35-91-341903	Bill Received	Meter is found		8.69					
31	Polipathar	Jilahari Ghat Ke Pass	NSC	Bill Not Received	Meter is not found		7.07			7		
32	Polipathar	Rampur Chowk	44470305-29-91-341964	Bill Received	Meter is found	3712830	5.30	17	47940	5	14957	32983
33	Purva	Medical Colony	44470211-31-92-368702	Bill Received	Meter is found	967999	7.96	7.2	20304	8	22436	-2132

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34	Purva	Tilwara Ghat	44470208-25-91-789409	Bill Received	Meter is found	3772426	8.20	6.5	18330	8	23124	-4794
35	Purva	Tripuri Chowk Near gahara thana pass	44470211-31-92-368714	Bill Received	Meter is found	3587858	3.38	3	8460	3	9543	-1083
36	Purva	Dhanatwari Nagar Chowk	44470215-37-91-368726	Bill Received	Meter is found	3587945	3.38	3	8460	3	9543	-1083
37	Purva	Andhamukh School Ke pass	445215-90-5-1328943	Bill Received	Meter is found	3581400	7.00	8	22560	7	19729	2831
38	Garha	Gullaua Chowk	44470204-20-92-344606	Bill Received	Meter is found	30291246	3.38	5	14100	3	9543	4557
39	Vijay Nagar	Transport Nagar-1	322829	Bill Received	Meter is not found		5.08	2.4	6768	5	14314	-7546
40	Vijay Nagar	Transport nagar - 2	322866	Bill Received	Meter is not found		3.38	2.4	6768	3	9543	-2775
41	Vijay Nagar	Transport Nagar -3	264702	Bill Received	Meter is not found		3.38	7.2	20304	3	9543	10761
42	Vijay Nagar	Dindayal Chowk	4447-0112352317	Bill Received	Meter is found	3239058	7.96	3.50	9870	8	22436	-12566
43	Vijay Nagar	Samata Colony Shanti Nagar	2298455143.00	Bill Received	Meter is found	17717	3.38	3	8460	3	9543	-1083
44	Vijay Nagar	Bus Stand Z38	44505305-15-99-100535	Bill Received	Meter is not found		7.96	7.2	20304	8	22436	-2132
45	Bilhari	Kattiyaghat Mini High Mast	44470308-30-96-342038	Bill Received	Meter is not found		1.13	14	39480	1	3181	36299
46	Aadhartal	Aadhartal Tiraha High mast	44470101-6-91-660012	Bill Received	Meter is found		7.96	8	22560	8	22436	124
							260	278	784806	301	767558	17248

Annexure-VI, Potential Saving by Providing Street Lighting Control Panel for Existing Load

1. Polipathar Zone

Potential Saving by Providing Street Lighting Control Panel for Existing Load at Polipathar Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Polypathar	Adarsh Nagar Near Dr. Kumar	Meter is found	MEZ01060	5948	22604	6556	24912	3242	12319	10696	10696	15746	81229
2	Polypathar	Adarsh Nagar	Meter is found	3589871	3480	13224	3835	14574	1897	7207	6258	6258	9212	47521
3	Polypathar	Ashok Vihar Near Lodhi Samudayak Bhavan	Meter is found	1309432	2290	8700	2523	9589	1248	4742	4117	4117	6061	31264
4	Polypathar	Awanti Vihar	Meter is found	3090857					263	999	1060	1060	263	3120
5	Polypathar	Bital Gaeneral Store Ke Pass	Meter is found	9808521	2051	7795	2261	8591	1118	4248	3689	3689	5430	28013
6	Polypathar	Brajmohan Nagar Sociey	Meter is found	965854					172	653	693	693	172	2039
7	Polypathar	Chote Hanuman	Meter is found	MEZ00882	3857	14656	4251	16153	2102	7988	6935	6935	10210	52667
8	Polypathar	Chungi Naka Rampur, Near Sule Nursing Home	Meter is found	MEZ983402					410	1558	1653	1653	410	4863
9	Polypathar	Daroga Ghat	Meter is found	MEZ00936	1041	3955	1147	4358	567	2155	1871	1871	2755	14211
10	Polypathar	Durga Nagar Sent Alayasis School	Meter is found	5094770					187	712	755	755	187	2223
11	Polypathar	Tagore Nagar, Forest Gate	Meter Not Found						520	1976	2096	2096	520	6168
12	Polypathar	Jai Bheem Nagar Society	Meter is found	9808518	1407	5345	1550	5890	767	2913	2529	2529	3723	19206

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Potential Saving by Providing Street Lighting Control Panel for Existing Load at Polipathar Zone														
13	Polypathar	Jihari Ghat Station	Meter is found	608962	1567	5956	1727	6564	854	3246	2818	2818	4149	21403
14	Polypathar	Jalahrigaon Narmada Road	Meter is found	611088					150	568	603	603	150	1774
15	Polypathar	Jogney Nagar Chui Khadan	Meter is found	9806697					165	627	665	665	165	1958
16	Polypathar	Kalariwala Polipathar	Meter is found	3589875	1954	7424	2153	8182	1065	4046	3513	3513	5172	26678
17	Polypathar	Lalpur	Meter is found	6909643					260	986	1046	1046	260	3079
18	Polypathar	Polipathar Near Homiopathic Aaushadhalaya/MPHBPP Colony	Meter is found	9887566	1337	5081	1474	5600	729	2769	2404	2404	3540	18259
19	Polypathar	Murddaya Ghat	Meter is found	9803399	1776	6750	1958	7439	968	3679	3194	3194	4702	24256
20	Polypathar	Near Chhapar of Ganesh Yadav	Meter is found	3589876	2533	9626	2792	10609	1381	5246	4555	4555	6705	34591
21	Polypathar	Patel Mohalla, Rampur	Meter is found	MEZ201173	4294	16316	4732	17982	2340	8892	7721	7721	11366	58631
22	Polypathar	Polipathar Gwarighat Bigbazar	Meter Not Found		2770	10528	3053	11603	1510	5738	4982	4982	7334	37831
23	Polypathar	PWD Colony	Meter is found	7624343	3109	11816	3427	13022	1695	6440	5591	5591	8231	42461
24	Polypathar	Ravidas Nagar	Meter Not Found		3680	13985	4056	15413	2006	7622	6618	6618	9742	50255
25	Polypathar	Rewa Colony	Meter is found	3588506	3005	11420	3312	12587	1638	6224	5404	5404	7956	41040
26	Polypathar	Santnagar New PP Colony	Meter Not Found						315	1195	1268	1268	315	3732
27	Polypathar	Sant Shiromani Ashram	Meter is found	3588501	1219	4632	1343	5105	664	2524	2192	2192	3226	16644
28	Polypathar	Satyanand Vihar Garden, Durga Nagar	Meter is found	3589870	2085	7921	2297	8730	1136	4317	3748	3748	5518	28465
29	Polypathar	Shankar Nagar Corporation	Meter Not Found						138	526	558	558	138	1642
30	Polypathar	Sidhanath	Meter is found	9803404					116	441	468	468	116	1376

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Potential Saving by Providing Street Lighting Control Panel for Existing Load at Polipathar Zone														
31	Polypathar	Vijaynagar Chhapar	Meter is found	MEZ00876	2270	8625	2502	9506	1237	4701	4081	4081	6008	30995
32	Polypathar	Jhanda Chowk Gwarighat	Meter is found	MEZ00947	8311	31583	9160	34808	4530	17213	14945	14945	22001	113494
Total					59985	227942	66110	251217	35387	134469	118729	118729	161481	851085

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Polipathar Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Polypathar	Adarsh Nagar Near Dr. Kumar	Meter is found	MEZ01060	15.09	30.2	181400	15746	81229	7800	3388	70041	31	No & Low saving due to less connected load at some of the switching points
2	Polypathar	Adarsh Nagar	Meter is found	3589871	8.9	17.8	159855	9212	47521	7800	3037	36683	52	
3	Polypathar	Ashok Vihar Near Lodhi Samudayak Bhavan	Meter is found	1309432	5.808	11.6	159855	6061	31264	7800	3037	20427	94	
4	Polypathar	Awanti Vihar	Meter is found	3090857	1.224	2.4	25000	263	3120		400	2720	110	
5	Polypathar	Bital Gaeneral Store Ke Pass	Meter is found	9808521	5.204	10.4	159855	5430	28013	7800	3037	17176	112	
6	Polypathar	Brajmohan Nagar Sociey	Meter is found	965854	0.8	1.6	25000	172	2039		400	1639	183	
7	Polypathar	Chote Hanuman	Meter is found	MEZ00882	9.784	19.6	159855	10210	52667	7800	3037	41830	46	
8	Polypathar	Chungi Naka Rampur, Near Sule Nursing Home	Meter is found	MEZ983402	1.908	3.8	25000	410	4863		400	4463	67	
9	Polypathar	Daroga Ghat	Meter is found	MEZ00936	2.64	5.3	132050	2755	14211	7800	2541	3870	409	
10	Polypathar	Durga Nagar Sent Alayasis School	Meter is found	5094770	0.872	1.7	25000	187	2223		400	1823	165	
11	Polypathar	Tagore Nagar, Forest Gate	Meter Not Found		2.42	4.8	25000	520	6168		400	5768	52	
12	Polypathar	Jai Bheem Nagar Society	Meter is found	9808518	3.568	7.1	132050	3723	19206	7800	2541	8865	179	
13	Polypathar	Jihari Ghat Station	Meter is found	608962	3.976	8.0	132050	4149	21403	7800	2541	11062	143	
14	Polypathar	Jalahrigaon Narmada Road	Meter is found	611088	0.696	1.4	25000	150	1774		400	1374	218	

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Polipathar Zone													
15	Polypathar	Jogney Nagar Chui Khadan	Meter is found	9806697	0.768	1.5	25000	165	1958		400	1558	193
16	Polypathar	Kalariwala Polipathar	Meter is found	3589875	4.956	9.9	132050	5172	26678	7800	2541	16337	97
17	Polypathar	Lalpur	Meter is found	6909643	1.208	2.4	25000	260	3079		400	2679	112
18	Polypathar	Polipathar Near Homiopathic Aaushadhalaya/MPHBPP Colony	Meter is found	9887566	3.392	6.8	132050	3540	18259	7800	2541	7918	200
19	Polypathar	Murddaya Ghat	Meter is found	9803399	4.506	9.0	132050	4702	24256	7800	2541	13915	114
20	Polypathar	Near Chhapar of Ganesh Yadav	Meter is found	3589876	6.426	12.9	159855	6705	34591	7800	3037	23754	81
21	Polypathar	Patel Mohalla, Rampur	Meter is found	MEZ201173	10.892	21.8	163855	11366	58631	7800	3037	47794	41
22	Polypathar	Polipathar Gwarighat Bigbazar	Meter Not Found		7.028	14.1	159855	7334	37831	7800	3037	26994	71
23	Polypathar	PWD Colony	Meter is found	7624343	7.888	15.8	159855	8231	42461	7800	3037	31623	61
24	Polypathar	Ravidas Nagar	Meter Not Found		9.336	18.7	159855	9742	50255	7800	3037	39418	49
25	Polypathar	Rewa Colony	Meter is found	3588506	7.624	15.2	159855	7956	41040	7800	3037	30202	64
26	Polypathar	Santnagar New PP Colony	Meter Not Found		1.464	2.9	25000	315	3732		400	3332	90
27	Polypathar	Sant Shiromani Ashram	Meter is found	3588501	3.092	6.2	132050	3226	16644		2541	14103	112
28	Polypathar	Satyanand Vihar Garden, Durga Nagar	Meter is found	3589870	5.288	10.6	159855	5518	28465	7800	3037	17628	109
29	Polypathar	Shankar Nagar Corporation	Meter Not Found		0.644	1.3	25000	138	1642		400	1242	242
30	Polypathar	Sidhanath	Meter is found	9803404	0.54	1.1	25000	116	1376		400	976	307
31	Polypathar	Vijaynagar Chhapar	Meter is found	MEZ00876	5.758	11.5	159855	6008	30995	7800	3037	20158	95
32	Polypathar	Jhanda Chowk Gwarighat	Meter is found	MEZ00947	21.084	42.2	181400	22001	113494	7800	3388	102306	21
Total					164.784	329.6	3484410	161481	851085	156000	65408	629676	66

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2. Bilhari Zone

Potential Saving by Providing Street Lighting Control Panel for Existing Load at Bilhari Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Bilhari	Dhobi Ghat Near New Time Telor	Meter not found		1977	7514	2179	8281	1078	4095	3556	3556	5234	27001
2	Bilhari	Govt. Primary School Kajarwara	Meter found	611869	1120	4254	1234	4689	610	2319	2013	2013	2964	15288
3	Bilhari	Janta Medical Hall	Meter not found		5558	21121	6126	23278	3029	11511	9995	9995	14713	75899
4	Bilhari	Khermai Mandir, Dixit Ata Chakki	Meter not found		1086	4128	1197	4550	592	2250	1954	1954	2876	14835
5	Bilhari	Purani Kalahari Ke Piche	Meter not found		2252	8556	2482	9430	1227	4663	4049	4049	5960	30747
6	Bilhari	Temar Bitra Road	Meter not found		711	2702	784	2978	388	1473	1279	1279	1882	9711
7	Bilhari	Post Office Gali Ke Andar Vijay Tailor Ke Pass	Meter not found		3245	12333	3577	13592	1769	6721	5836	5836	8591	44318
8	Bilhari	Shivpuri Kajarwara	Meter not found		736	2798	812	3084	401	1525	1324	1324	1949	10055
9	Bilhari	Gaur Thane Opp	Meter found	611268	1179	4482	1300	4940	643	2443	2121	2121	3122	16106
10	Bilhari	Gupta Tent House, Ekta Market, Gauraiya Ghat	Meter found	611279	388	1474	428	1625	211	803	697	697	1027	5297
11	Bilhari	Durga Mandir Kajarwara	Meter found		891	3385	982	3731	486	1845	1602	1602	2358	12165
Total						19144	72748	21099	80177	10434	39648	34425	50677	261422

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Bilhari Zone															
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark	
1	Bilhari	Dhobi Ghat Near New Time Telor	Meter not found		5.016	10.0	159855	5234	27001	7800	3037	16164	119	No & Low saving due to less connected load at some of the switching points	
2	Bilhari	Govt. Primary School Kajarwara	Meter found	611869	2.84	5.7	132050	2964	15288	7800	2541	4947	320		
3	Bilhari	Janta Medical Hall	Meter not found		14.1	28.2	181400	14713	75899	7800	3388	64711	34		
4	Bilhari	Khermai Mandir, Dixit Ata Chakki	Meter not found		2.756	5.5	132050	2876	14835	7800	2541	4494	353		
5	Bilhari	Purani Kalahari Ke Piche	Meter not found		5.712	11.4	159855	5960	30747	7800	3037	19910	96		
6	Bilhari	Temar Bitra Road	Meter not found		1.804	3.6	25000	1882	9711		400	9311	32		
7	Bilhari	Post Office Gali Ke Andar Vijay Tailor Ke Pass	Meter not found		8.233	16.5	159855	8591	44318	7800	3037	33481	57		
8	Bilhari	Shivpuri Kajarwara	Meter not found		1.868	3.7	25000	1949	10055		400	9655	31		
9	Bilhari	Gaur Thane Opp	Meter found	611268	2.992	6.0	132050	3122	16106	7800	2541	5765	275		
10	Bilhari	Gupta Tent House, Ekta Market, Gauraiya Ghat	Meter found	611279	0.984	2.0	25000	1027	5297		400	4897	61		
11	Bilhari	Durga Mandir Kajarwara	Meter found		2.26	4.5	25000	2358	12165		400	11765	25		
Total						49	97	1157115	50677	261422	54600	21722	185100	75	

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3. Ranjhi Zone

Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Ranjhi	75 H Bhagat Singh Ward	Meter is found	MPE 89973	6871	26108	7572	28774	3744	14229	12354	12354	18187	93819
2	Ranjhi	72-G Infront Of Akansha Silai Center	Meter is not found		6742	25621	7431	28237	3675	13964	12124	12124	17848	92070
3	Ranjhi	Chandan Colony	Meter is found	18421	4805	18257	5295	20121	2618	9950	8639	8639	12718	65607
4	Ranjhi	Gokalpur Marghatai	Meter is found	30880414	1932	7340	2129	8089	1053	4000	3473	3473	5113	26376
5	Ranjhi	Main Road Gokalpur	Meter is found	MEZ 35203	6011	22841	6625	25173	3276	12448	10808	10808	15911	82079
6	Ranjhi	Mastana Chowk Ranjhi	Meter is found	MPE 35205	13177	50074	14523	55187	7182	27290	23695	23695	34882	179941
7	Ranjhi	Major Kirana Store Ganesh Ganj	Meter is found	MPE 35201	4641	17635	5115	19436	2529	9611	8345	8345	12285	63373
8	Ranjhi	Merghatai Road ,Khairmai Mandir	Meter is found	MPB90675	7627	28984	8406	31944	4157	15796	13715	13715	20191	104154
9	Ranjhi	Police Thana	Meter is found	MPE 35202	7791	29606	8587	32629	4246	16135	14009	14009	20624	106388
10 (A)	Ranjhi	Raksha nagar New	Meter is found	18680	1263	4799	1392	5290	688	2616	2271	2271	3343	17247
10 (B)	Ranjhi	Raksha nagar Colony	Meter is not found		1448	5501	1595	6062	789	2998	2603	2603	3832	19766
	Total				2711	10300	2987	11352	1477	5613	4874	4874	7175	37013
11	Ranjhi	Ranghi Bazar Colony	Meter is found	3580076	2723	10348	3001	11405	1484	5640	4897	4897	7208	37185
12	Ranjhi	Ravan Park Ranghi	Meter is found	MEZ 984	3188	12116	3514	13353	1738	6603	5733	5733	8440	43537
13	Ranjhi	Shanti Nagar Ranghi (S-29)	Meter is found	2539833	687	2612	758	2879	375	1424	1236	1236	1820	9388
14	Ranjhi	Sharda Nagar Ranghi (S-1)	Meter is found	17223	1719	6531	1894	7198	937	3559	3091	3091	4550	23470
15	Ranjhi	Neutral Garden Ranghi/Sharda Nagar Park	Meter is not found		2028	7706	2235	8492	1105	4200	3646	3646	5368	27690
16 (A)	Ranjhi	Uday Nagar	Meter is not found		2326	8838	2563	9740	1268	4817	4182	4182	6157	31759

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16 (B)	Ranjhi	Uday Nagar - 3,(E29)	Meter is not found		254	965	280	1063	138	526	456	456	672	3467
	Total				2580	9803	2843	10804	1406	5342	4639	4639	6829	35226
Total					75232	285881	82914	315073	41001	155805	135279	135279	199147	1027317

Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Ranjhi Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Ranjhi	75 H Bhagat Singh Ward	Meter is found	MPE 89973	17.43	34.9	181400.00	18187	93819	7800	3388	82631	26	No & Low saving due to less connected load at some of the switching points
2	Ranjhi	72-G Infront Of Akansha Silai Center	Meter is not found		17.10	34.2	181400.00	17848	92070	7800	3388	80882	27	
3	Ranjhi	Chandan Colony	Meter is found	18421	12.19	24.4	163855.00	12718	65607	7800	3037	54770	36	
4	Ranjhi	Gokalpur Marghatai	Meter is found	30880414	4.90	9.8	132050.00	5113	26376	7800	2541	16035	99	
5	Ranjhi	Main Road Gokalpur	Meter is found	MEZ 35203	15.25	30.5	181400.00	15911	82079	7800	3388	70891	31	
6	Ranjhi	Mastana Chowk Ranjhi	Meter is found	MPE 35205	33.43	66.9	350800.00	34882	179941	7800	6776	165365	25	
7	Ranjhi	Major Kirana Store Ganesh Ganj	Meter is found	MPE 35201	11.77	23.5	163855.00	12285	63373	7800	3037	52536	37	
8	Ranjhi	Merghatai Road ,Khairmai Mandir	Meter is found	MPB90675	19.35	38.7	181400.00	20191	104154	7800	3388	92966	23	
9	Ranjhi	Police Thana	Meter is found	MPE 35202	19.76	39.5	181400.00	20624	106388	7800	3388	95200	23	
10	Ranjhi	Raksha nagar New	Meter is found	18680	3.41	6.8	132050.00	3560	18367	7800	2541	8026	197	
11	Ranjhi	Raksha nagar Colony	Meter is not found		3.32	6.6	132050.00	3464	17871	7800	2541	7530	210	
12	Ranjhi	Ranghi Bazar Colony	Meter is found	3580076	6.91	13.8	159855.00	7208	37185	7800	3037	26348	73	

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Ranjhi Zone													
13	Ranjhi	Ravan Park Ranghi	Meter is found	MEZ 984	8.09	16.2	159855.00	8440	43537	7800	3037	32700	59
14	Ranjhi	Shanti Nagar Ranghi (S-29)	Meter is found	2539833	1.74	3.5	25000.00	1820	9388		400	8988	33
15	Ranjhi	Sharda Nagar Ranghi (S-1)	Meter is found	17223	4.15	8.3	132050.00	4333	22350	7800	2541	12009	132
16	Ranjhi	Neutral Garden Ranghi/Sharda Nagar Park	Meter is not found		5.14	10.3	159855.00	5368	27690	7800	3037	16853	114
17	Ranjhi	Uday Nagar	Meter is not found		5.90	11.8	159855.00	6157	31759	7800	3037	20922	92
18	Ranjhi	Uday Nagar - 3,(E29)	Meter is not found		0.64	1.3	25000.00	672	3467		400	3067	98
Total					190.48	381	2803130	198780	1025422	124800	52903	847720	40

4. Garha Zone

Potential Saving by Providing Street Lighting Control Panel for Existing Load at Garha Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Garha	Amanpur Nursing ward	Meter found	MEZ02561	4604	17496	5074	19283	2509	9535	8279	8279	12188	62873
2	Garha	Bedi Nagar Near Gurudwara Area & Central lighting	Meter Not Found		2761	10492	3043	11563	1505	5718	4965	4965	7309	37702
3	Garha	Bedi nagar	Meter found	MEZ01010	1900	7220	2094	7957	1036	3935	3417	3417	5030	25946
4	Garha	Brajmohan nagar supatal	Meter found	MEZ02700	1230	4674	1355	5151	670	2547	2212	2212	3256	16795
5	Garha	Choti bagariya shree ram mandir ke samne	Meter Not found		5344	20306	5889	22380	2912	11067	9609	9609	14146	72971
6	Garha	Dargah Road	Meter Not found		2014	7652	2219	8433	1097	4170	3621	3621	5330	27496
7	Garha	Devtal Ayodayapuri	Meter found	MEZ00919	2463	9359	2714	10315	1342	5101	4429	4429	6520	33633
8	Garha	Ekta chowk	Meter found	MEZ201021	1373	5219	1514	5752	748	2844	2470	2470	3636	18754
9	Garha	Ganga Sagar	Meter found	MEZ02734	2097	7969	2311	8783	1143	4343	3771	3771	5551	28637
10	Garha	Garha Bazar masjid ke pass	Meter found	MPB90341	9585	36424	10564	40144	5224	19851	17236	17236	25374	130891
11	Garha	Near of Gullah Chouraha	Meter found	MEZ00932	3985	15144	4392	16691	2172	8254	7166	7166	10550	54421
12	Garha	Gupteshwar Near Babbu Vidhayak House			885	3361	975	3705	482	1832	1591	1591	2342	12079
13	Garha	HP Petrol Pump Sharda Chowk	Meter found	MEZ01084	3891	14785	4288	16295			7399	7399	8179	45878

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Potential Saving by Providing Street Lighting Control Panel for Existing Load at Garha Zone														
14	Garha	Indira nagar	Meter Not found		2806	10662	3092	11751	1529	5811	5045	5045	7428	38316
15	Garha	In Front Of Dr. Loth Hospital	Meter found	MEZ01005	3446	13095	3798	14432			6553	6553	7244	40634
16	Garha	In front of Triveni Complex LIC Chowk	Meter found	MEZ00950	3113	11828	3430	13036			5919	5919	6543	36702
17	Garha	Kachpura Overbridge	Meter found	MEZ00084	2779	10561	3063	11639	1515	5756	4997	4997	7357	37950
18	Garha	Khudabaksh Garha Bazar	Meter Not found		1851	7034	2040	7753	1009	3834	3329	3329	4900	25278
19	Garha	Kripal Chowk	Meter found	MEZ01148	7026	26700	7744	29426	3829	14551	12634	12634	18599	95945
20	Garha	LIC Office	Meter found	MEZ00970	4995	18979	5505	20917	2722	10344	8981	8981	13221	68202
21	Garha	Main Road Ratan Nagar	Meter found	3077106	1441	5477	1588	6036	785	2985	2591	2591	3815	19680
22	Garha	Near Bank Of Maharastra Gautam Madhia	Meter Not Found		8676	32967	9561	36333	4728	17967	15600	15600	22965	118468
23	Garha	Near Geological Survey Of India	Meter found	MEZ01043	6422	24405	7078	26897	3500	13301	11548	11548	17001	87699
24	Garha	Near H.K. Engg. Work	Meter found	MEZ00916	3518	13368	3877	14733	1917	7285	6326	6326	9312	48037
25	Garha	Near Supatal Sulabh Complex	Meter found	MEZ01106	1366	5189	1505	5719	744	2828	2455	2455	3615	18646
26	Garha	Panday Vyas Chowk	Meter found	16462	1851	7034	2040	7753	1009	3834	3329	3329	4900	25278
27	Garha	Pishanhari Ki Madiya	Meter found	954855	3789	14398	4176	15869	2065	7847	6813	6813	10030	51741
28	Garha	Ranidurgavati	Meter found	MEZ01051	3532	13422	3893	14792	1925	7315	6351	6351	9350	48231
29	Garha	Ratan Nagar Gupteshwar	Meter Not Found		3303	12553	3641	13835	1800	6841	5940	5940	8744	45109
30	Garha	Sanjivani Nagar Beside Rly Track	Meter Not Found		3135	11912	3455	13128	1708	6492	5637	5637	8298	42805
31	Garha	Sainik Society	Meter found	MEZ00926	4631	17598	5104	19395	2524	9591	8327	8327	12259	63239

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Potential Saving by Providing Street Lighting Control Panel for Existing Load at Garha Zone														
32	Garha	Shakti Nagar Chowk	Meter found	MEZ02721	3994	15177	4402	16727	2177	8272	7182	7182	10573	54540
33	Garha	Shakti Nagar Shree Sai Palace Barat Ghar	Meter found	MEZ01054	4313	16388	4753	18061	2350	8931	7755	7755	11416	58889
34	Garha	Sharda Mandir Road	Meter Not found		2764	10504	3046	11576	1506	5725	4970	4970	7317	37745
35	Garha	Shukla Nagar	Meter found	3238628	4877	18533	5375	20425	2658	10100	8770	8770	12910	66598
36	Garha	Subhash Chowk Shakti Nagar	Meter found	MEZ01022	8384	31859	9240	35112	4569	17363	15075	15075	22193	114484
37	Garha	Supatal Talab	Meter found	MEZ01030	5002	19009	5513	20950	2726	10360	8995	8995	13242	68309
Total					139146	528753	153354	582744	70139	266530	251288	251288	362639	1880603

Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Garha Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel & Metering Arrangement for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Total Saving Potential by Installation of Street Lighting Panel & Metering Arrangement for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Garha	Amanpur Nursing ward	Meter found	MEZ02561	11.68	23.4	163855	12188	62873	7800	3037	52036	38	No & Low saving due to less connected load at some of the switching points
2	Garha	Bedi nagar near Gurudwara area lighting	Meter Not Found		7.00	14.0	159855	7309	37702	7800	3037	26865	71	
3	Garha	Bedi nagar	Meter found	MEZ01010	4.82	9.6	132050	5030	25946	7800	2541	15605	102	
4	Garha	Brajmohan nagar supatal	Meter found	MEZ02700	3.12	6.2	132050	3256	16795	7800	2541	6454	246	
5	Garha	Choti bagariya shree ram mandir ke samne	Meter Not found		13.56	27.1	181400	14146	72971	7800	3388	61783	35	

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Garha Zone													
6	Garha	Dargah Road	Meter Not found		5.11	10.2	159855	5330	27496	7800	3037	16659	115
7	Garha	Devtal Ayodayapuri	Meter found	MEZ00919	6.25	12.5	159855	6520	33633	7800	3037	22795	84
8	Garha	Ekta chowk	Meter found	MEZ201021	3.48	7.0	132050	3636	18754	7800	2541	8413	188
9	Garha	Ganga Sagar	Meter found	MEZ02734	5.32	10.6	159855	5551	28637	7800	3037	17800	108
10	Garha	Garha Bazar masjid ke pass	Meter found	MPB90341	24.32	48.6	181400	25374	130891	7800	3388	119703	18
11	Garha	Near of Gullah Chouraha	Meter found	MEZ00932	10.11	20.2	163855	10550	54421	7800	3037	43584	45
12	Garha	Gupteshwar Near Babbu Vidhayak House			2.24	4.5	25000	2342	12079		400	11679	26
13	Garha	HP Petrol Pump Sharda Chowk	Meter found	MEZ01084	9.87	19.7	159855	8179	45878	7800	3037	35041	55
14	Garha	Indira nagar	Meter Not found		7.12	14.2	159855	7428	38316	7800	3037	27479	70
15	Garha	In Front Of Dr. Loth Hospital	Meter found	MEZ01005	8.74	17.5	159855	7244	40634	7800	3037	29797	64
16	Garha	In front of Triveni Complex LIC Chowk	Meter found	MEZ00950	7.90	15.8	159855	6543	36702	7800	3037	25865	74
17	Garha	Kachpura Overbridge	Meter found	MEZ00084	7.05	14.1	159855	7357	37950	7800	3037	27113	71
18	Garha	Khudabaksh Garha Bazar	Meter Not found		4.70	9.4	132050	4900	25278	7800	2541	14937	106
19	Garha	Kripal Chowk	Meter found	MEZ01148	17.82	35.6	181400	18599	95945	7800	3388	84757	26
20	Garha	LIC Office	Meter found	MEZ00970	12.67	25.3	181400	13221	68202	7800	3388	57014	38
21	Garha	Main Road Ratan Nagar	Meter found	3077106	3.66	7.3	132050	3815	19680	7800	2541	9339	170
22	Garha	Near Bank Of Maharashtra Gautam Madhia	Meter Not Found		22.01	44.0	181400	22965	118468	7800	3388	107280	20
23	Garha	Near Geological Survey Of India	Meter found	MEZ01043	16.29	32.6	181400	17001	87699	7800	3388	76511	28

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Garha Zone															
24	Garha	Near H.K. Engg. Work	Meter found	MEZ00916	8.92	17.8	159855	9312	48037	7800	3037	37200	52		
25	Garha	Near Supatal Sulabh Complex	Meter found	MEZ01106	3.46	6.9	132050	3615	18646	7800	2541	8305	191		
26	Garha	Panday Vyas Chowk	Meter found	16462	4.70	9.4	132050	4900	25278	7800	2541	14937	106		
27	Garha	Pishanhari Ki Madiya	Meter found	954855	9.61	19.2	159855	10030	51741	7800	3037	40904	47		
28	Garha	Ranidurgavati	Meter found	MEZ01051	8.96	17.9	159855	9350	48231	7800	3037	37394	51		
29	Garha	Ratan Nagar Gupteshwar	Meter Not Found		8.38	16.8	159855	8744	45109	7800	3037	34272	56		
30	Garha	Sanjivani Nagar Beside Rly Track	Meter Not Found		11.75	23.5	163855	8298	42805	7800	3037	31968	62		
31	Garha	Sainik Society	Meter found	MEZ00926	7.95	15.9	159855	12259	63239	7800	3037	52402	37		
32	Garha	Shakti Nagar Chowk	Meter found	MEZ02721	10.13	20.3	163855	10573	54540	7800	3037	43703	45		
33	Garha	Shakti Nagar Shree Sai Palace Barat Ghar	Meter found	MEZ01054	10.94	21.9	163855	11416	58889	7800	3037	48052	41		
34	Garha	Sharda Mandir Road	Meter Not found		7.01	14.0	159855	7317	37745	7800	3037	26908	71		
35	Garha	Shukla Nagar	Meter found	3238628	12.37	24.7	163855	12910	66598	7800	3037	55761	35		
36	Garha	Subhash Chowk Shakti Nagar	Meter found	MEZ01022	21.27	42.5	181400	22193	114484	7800	3388	103296	21		
37	Garha	Supatal Talab	Meter found	MEZ01030	12.69	25.4	181400	13242	68309	7800	3388	57121	38		
Total							352.98	706.0	5781505	362639	1880603	280800	109068	1490733	47

5. Indramarket Zone

Potential Saving by Providing Street Lighting Control Panel for Existing Load at Indramarket Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Indramarket	Adarsh Nursing Home	Meter is Found	MPB90044	3001	11405	3308	12570	1636	6216	5397	5397	7945	40986
2	Indramarket	Allahabad Bank Chowk	Meter is Found	MPB90345	8437	32062	9299	35336	4598	17474	15172	15172	22335	115216
3	Indramarket	Bai Ka Bagicha Nandani Foundation	Meter is Found	MPB90403	21094	80156	23248	88341	11496	43685	37930	37930	55837	288041
4	Indramarket	Baldi Kori Ki Dafai	Meter is Found	MPB90685	5974	22700	6584	25018	3256	12372	10742	10742	15813	81573
5	Indramarket	Besides Kotawali	Meter is Found	MPB90045	6632	25202	7309	27775	3614	13735	11925	11925	17556	90563
6	Indramarket	Bhawani Chowk Sidh Baba Road	Meter is Found	MPB90623	12901	49025	14219	54031	7031	26719	23199	23199	34151	176173
7	Indramarket	Bohara Bag Chowk	Meter is Found	90622	9148	34762	10082	38311	4986	18945	16449	16449	24215	124916
8	Indramarket	Chandmari Talaiya Near Durga Mandir	Meter is Found	MPB90217	5683	21595	6263	23800	3097	11769	10219	10219	15043	77600
9	Indramarket	CharKhabha	Meter is Found	MPB89972	8991	34167	9909	37656	4900	18621	16168	16168	23801	122779
10	Indramarket	Choti Madar Tekari	Meter is Not Found		3792	14410	4179	15882	2067	7854	6819	6819	10038	51784
11	Indramarket	Chui Khadan	Meter is Found	9139260	1994	7577	2197	8350	1087	4129	3585	3585	5278	27227
12	Indramarket	Civil Line, Near police station	Meter is Not Found		4024	15291	4435	16853	2193	8334	7236	7236	10652	54949

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Potential Saving by Providing Street Lighting Control Panel for Existing Load at Indramarket Zone														
13	Indramarket	Civil Lines Thana	Meter is Not Found		1858	7060	2048	7781	1013	3848	3341	3341	4918	25370
14	Indramarket	Deepak dairy sidbaba road,hanuman hotel.	Meter is Found	MPB90581	11148	42362	12286	46688	6076	23087	20046	20046	29510	152229
15	Indramarket	Ekta Transport Services, Sanjivani Hospital	Meter is Found	MPB90029	572	2175	631	2397	312	1185	1029	1029	1515	7816
16	Indramarket	Ghamapur Chowk , Arvind ward	Meter is Found	MPB90598	9270	35226	10217	38823	5052	19198	16669	16669	24539	126585
17	Indramarket	Gopal Hotel	Meter is Found	MPB90060	13460	51149	14835	56372	7336	27876	24204	24204	35631	183806
18	Indramarket	Haddi Godam	Meter is Found	MPB90385	3387	12870	3733	14185	1846	7014	6090	6090	8966	46250
19	Indramarket	Hanumantal Thana Ke Pass	Meter is Found	MPE58441	20008	76029	22051	83792	10904	41436	35977	35977	52962	273211
20	Indramarket	In Front of Agrawal Traders	Meter is Found	3855388	7559	28725	8331	31658			14375	14375	15890	89134
21	Indramarket	Inside Galagala Shiv mandir	Meter is Found	MEZ00001	8412	31966	9271	35231	4585	17422	15127	15127	22268	114872
22	Indramarket	Kachghar Chowk	Meter is Found	MEZ01425	10453	39720	11520	43776	5697	21647	18795	18795	27669	142734
23	Indramarket	Futhatal Mazar Ke Samne , L/148	Meter is Found	MPB90353	9492	36071	10462	39754	5173	19659	17069	17069	25127	129621
24	Indramarket	Lohia Pool	Meter is Found		10651	40475	11739	44608	5805	22059	19153	19153	28195	145447
25	Indramarket	Lohia Ward	Meter is Found	18462	4216	16022	4647	17658	2298	8732	7582	7582	11161	57576
26	Indramarket	Mominpura Talaiya	Meter is Found	MPE37496	2936	11157	3236	12296	1600	6080	5279	5279	7772	40092
27	Indramarket	Mothi Nalla	Meter is Found	MPB90638	5397	20510	5949	22604	2942	11178	9705	9705	14287	73703
28	Indramarket	Near Bridge No 1	Meter is Found	3847473	6526	24800	7193	27333	3557	13516	11735	11735	17276	89120
29	Indramarket	Near Empire Talkies	Meter is Found	MEZ00014	5481	20826	6040	22953	2987	11350	9855	9855	14508	74839
30	Indramarket	Near IPS Office	Meter is Not Found		1526	5800	1682	6392	832	3161	2745	2745	4040	20843

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Potential Saving by Providing Street Lighting Control Panel for Existing Load at Indramarket Zone															
31	Indramarket	Near Kharmai Gate	Meter is Found	MPB90384	5664	21523	6242	23720	3087	11730	10185	10185	14993	77342	
32	Indramarket	Near Maulana Abdul Kalam Ward Gate, Rajja Chowk	Meter is Found	MPB90097	11094	42156	12226	46460	6046	22975	19948	19948	29366	151487	
33	Indramarket	Near RTO Office	Meter is Found	3238094	5412	20564	5964	22664			10291	10291	11376	63810	
34	Indramarket	16 Quarter Thkkargram	Meter is Found	MPB90086	4593	17454	5062	19237	2503	9513	8259	8259	12159	62722	
35	Indramarket	Sathiya Kuva	Meter is Found	MEZ00123	8107	30807	8935	33953	4418	16790	14578	14578	21460	110705	
36	Indramarket	Science College	Meter is Found	9139000	2928	11127	3227	12263	1596	6064	5265	5265	7751	39984	
37	Indramarket	Shiv Mandir, Kadam Taliya	Meter is Found	MPB90682	15024	57090	16558	62920	8188	31114	27015	27015	39770	205154	
38	Indramarket	Tahasil Chowk	Meter is Not Found		13222	50245	14572	55375	7206	27383	23776	23776	35001	180554	
39	Indramarket	Thakur Electronic Kachghar Colony	Meter is Found	MPB90047	12938	49163	14259	54183	7051	26794	23264	23264	34247	176668	
40	Indramarket	Vyoharbagh Central Lighting	Meter is Not Found		5892	22389	6493	24675	3211	12202	10594	10594	15596	80453	
Total						308898	1173813	340440	1293673	161280	612866	556792	556792	810619	4193935

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Indramarket Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Indramarket	Adarsh Nursing Home	Meter is Found	MPB90044	7.61	15.2	159855.00	7945	40986	7800	3037	30149	64	No & Low saving due to less connected load at some of the switching points
2	Indramarket	Allahabad Bank Chowk	Meter is Found	MPB90345	21.40	42.8	181400.00	22335	115216	7800	3388	104028	21	
3	Indramarket	Bai Ka Bagicha Nandani Foundation	Meter is Found	MPB90403	53.51	107.0	350800.00	55837	288041	7800	6776	273465	15	
4	Indramarket	Baldi Kori Ki Dafai	Meter is Found	MPB90685	15.15	30.3	181400.00	15813	81573	7800	3388	70385	31	
5	Indramarket	Besides Kotawali	Meter is Found	MPB90045	16.82	33.6	181400.00	17556	90563	7800	3388	79375	27	
6	Indramarket	Bhawani Chowk Sidh Baba Road	Meter is Found	MPB90623	32.73	65.5	350800.00	34151	176173	7800	6776	161597	26	
7	Indramarket	Bohara Bag Chowk	Meter is Found	90622	23.21	46.4	181400.00	24215	124916	7800	3388	113728	19	
8	Indramarket	Chandmari Talaiya Near Durga Mandir	Meter is Found	MPB90217	14.42	28.8	181400.00	15043	77600	7800	3388	66412	33	
9	Indramarket	CharKhabha	Meter is Found	MPB89972	22.81	45.6	181400.00	23801	122779	7800	3388	111591	20	
10	Indramarket	Choti Madar Tekari	Meter is Not Found		9.62	19.2	159855.00	10038	51784	7800	3037	40947	47	
11	Indramarket	Chui Khadan	Meter is Found	9139260	5.06	10.1	159855.00	5278	27227	7800	3037	16390	117	
12	Indramarket	Civil Line, Near police station	Meter is Not Found		10.21	20.4	163855.00	10652	54949	7800	3037	44112	45	
13	Indramarket	Civil Lines Thana	Meter is Not Found		4.71	9.4	132050.00	4918	25370	7800	2541	15029	105	
14	Indramarket	Deepak dairy sidbaba road,hanuman hotel.	Meter is Found	MPB90581	28.28	56.6	350800.00	29510	152229	7800	6776	137653	31	

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Indramarket Zone													
15	Indramarket	Ekta Transport Services, Sanjivani Hospital	Meter is Found	MPB90029	1.45	2.9	25000.00	1515	7816		400	7416	40
16	Indramarket	Ghamapur Chowk , Arvind ward	Meter is Found	MPB90598	23.52	47.0	181400.00	24539	126585	7800	3388	115397	19
17	Indramarket	Gopal Hotel	Meter is Found	MPB90060	34.15	68.3	350800.00	35631	183806	7800	6776	169230	25
18	Indramarket	Haddi Godam	Meter is Found	MPB90385	8.59	17.2	159855.00	8966	46250	7800	3037	35413	54
19	Indramarket	Hanumantal Thana Ke Pass	Meter is Found	MPE58441	50.76	101.5	350800.00	52962	273211	7800	6776	258635	16
20	Indramarket	In Front of Agrawal Traders	Meter is Found	3855388	19.18	38.4	181400.00	15890	89134	7800	3388	77946	28
21	Indramarket	Inside Galagala Shiv mandir	Meter is Found	MEZ00001	21.34	42.7	181400.00	22268	114872	7800	3388	103684	21
22	Indramarket	Kachghar Chowk	Meter is Found	MEZ01425	26.52	53.0	350800.00	27669	142734	7800	6776	128158	33
23	Indramarket	Futhatal Mazar Ke Samne , L/148	Meter is Found	MPB90353	24.08	48.2	181400.00	25127	129621	7800	3388	118433	18
24	Indramarket	Lohia Pool	Meter is Found		27.02	54.0	350800.00	28195	145447	7800	6776	130871	32
25	Indramarket	Lohia Ward	Meter is Found	18462	10.70	21.4	163855.00	11161	57576	7800	3037	46739	42
26	Indramarket	Mominpura Talaiya	Meter is Found	MPE37496	7.45	14.9	159855.00	7772	40092	7800	3037	29255	66
27	Indramarket	Mothi Nalla	Meter is Found	MPB90638	13.69	27.4	181400.00	14287	73703	7800	3388	62515	35
28	Indramarket	Near Bridge No 1	Meter is Found	3847473	16.56	33.1	181400.00	17276	89120	7800	3388	77932	28
29	Indramarket	Near Empire Talkies	Meter is Found	MEZ00014	13.90	27.8	181400.00	14508	74839	7800	3388	63651	34
30	Indramarket	Near IPS Office	Meter is Not Found		3.87	7.7	132050.00	4040	20843	7800	2541	10502	151
31	Indramarket	Near Kharmai Gate	Meter is Found	MPB90384	14.37	28.7	181400.00	14993	77342	7800	3388	66154	33
32	Indramarket	Near Maulana Abdul Kalam Ward Gate,Rajja Chowk	Meter is Found	MPB90097	28.14	56.3	350800.00	29366	151487	7800	6776	136911	31

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Indramarket Zone													
33	Indramarket	Near RTO Office	Meter is Found	3238094	13.73	27.5	181400.00	11376	63810	7800	3388	52622	41
34	Indramarket	16 Quarter Thkkargram	Meter is Found	MPB90086	11.65	23.3	163855.00	12159	62722	7800	3037	51885	38
35	Indramarket	Sathiya Kuva	Meter is Found	MEZ00123	20.57	41.1	181400.00	21460	110705	7800	3388	99517	22
36	Indramarket	Science College	Meter is Found	9139000	7.43	14.9	159855.00	7751	39984	7800	3037	29147	66
37	Indramarket	Shiv Mandir, Kadam Taliya	Meter is Found	MPB90682	38.11	76.2	350800.00	39770	205154	7800	6776	190578	22
38	Indramarket	Tahasil Chowk	Meter is Not Found		33.54	67.1	350800.00	35001	180554	7800	6776	165978	25
39	Indramarket	Thakur Electronic Kachghar Colony	Meter is Found	MPB90047	32.82	65.6	350800.00	34247	176668	7800	6776	162092	26
40	Indramarket	Vyoharbagh Central Lighting	Meter is Not Found		14.95	29.9	181400.00	15596	80453	7800	3388	69265	31
Total					783.61	1567	8682395	810619	4193935	304200	164948	3724788	28

6. Mission Compound Zone

Potential Saving by Providing Street Lighting Control Panel for Existing Load at Mission Compound Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Mission Compound	Bada Fuhara	Meter is found	MPB90683	26269	99824	28952	110017	14317	54404	47237	47237	69538	358719
2	Mission Compound	Baldev Bag Agrawal Petrol Pump Ke Samne	Meter is found	MPB90141	18705	71078	20615	78336	10194	38738	33634	33634	49514	255420
3	Mission Compound	Golbazar Near Ranital Chowk	Meter is found	MPB90644	20826	79140	22953	87221	11350	43131	37449	37449	55130	284391
4	Mission Compound	Gopal Vihar Colony	Meter is found	MPB34913	8015	30457	8833	33566	4368	16599	14412	14412	21216	109446
5	Mission Compound	Gurunanak School & College Karamchand Chowk	Meter is found	30726976	4335	16475	4778	18157			8245	8245	9114	51121
6	Mission Compound	Karamchand Chowk Near Baglai Culb	Meter is found	MEZ00201	11994	45577	13219	50231	6537	24839	21567	21567	31749	163781
7	Mission Compound	Kotwali Thana	Meter is found	MEZ01579	16952	64417	18683	70994	9239	35107	30482	30482	44873	231482
8	Mission Compound	Madhaval Yatayat Thana	Meter is found	MPE34964	11284	42878	12436	47256	6150	23368	20290	20290	29869	154081
9	Mission Compound	Milauniganj Chowk			9178	34876	10115	38437	5002	19007	16503	16503	24295	125326
10	Mission Compound	Mission Compound Chouraha	Meter is found	MEZ00172	12895	49001	14212	54005	7028	26706	23187	23187	34135	176087
11	Mission Compound	Near Gohalpur Thana	Meter is found	MEZ01090	11075	42084	12206	46381	6036	22936	19914	19914	29316	151228
12	Mission Compound	Near Kachyaana Chowk	Meter is found	MPZ01829	4596	17466	5066	19250	2505	9519	8265	8265	12167	62765

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Potential Saving by Providing Street Lighting Control Panel for Existing Load at Mission Compound Zone															
13	Mission Compound	Russel Chowk Near State Bank of Patiala	Meter is found	MEZ01080	7056	26813	7777	29551	3846	14613	12688	12688	18678	96355	
14	Mission Compound	Russel Chowk Opposite Anmol Auto Mobiles		15971	1325	5033	1460	5547			2519	2519	2784	15618	
15	Mission Compound	Shastri Bridge ICICI Bank	Meter is found	MEZ00041	6511	24740	7175	27267	3548	13483	11707	11707	17234	88905	
16	Mission Compound	Telegraph gate no.2	Meter is found	MEZ01196	10912	41467	12027	45701	5947	22599	19622	19622	28886	149010	
Total						181928	691325	200504	761917	96066	365050	327721	327721	478498	2473735

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Mission Compound Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Mission Compound	Bada Fuhara	Meter is found	MPB90683	66.64	133.28	520200	69538	358719	7800	10164	340755	18	No & Low saving due to less connected load at some of the switching points
2	Mission Compound	Baldev Bag Agrawal Petrol Pump Ke Samne	Meter is found	MPB90141	47.45	94.90	350800	49514	255420	7800	6776	240844	17	
3	Mission Compound	Golbazar Near Ranital Chowk	Meter is found	MPB90644	52.83	105.66	350800	55130	284391	7800	6776	269815	16	
4	Mission Compound	Gopal Vihar Colony	Meter is found	MPB34913	20.33	40.66	181400	21216	109446	7800	3388	98258	22	
5	Mission Compound	Gurunanak School & College Karamchand Chowk	Meter is found	30726976	11.00	22.00	163855	9114	51121	7800	3037	40284	49	
6	Mission Compound	Karamchand Chowk Near Baglai Culb	Meter is found	MEZ00201	30.43	60.85	350800	31749	163781	7800	6776	149205	28	
7	Mission Compound	Kotwali Thana	Meter is found	MEZ01579	43.00	86.01	350800	44873	231482	7800	6776	216906	19	
8	Mission Compound	Madhatal Yatayat Thana	Meter is found	MPE34964	28.62	57.25	350800	29869	154081	7800	6776	139505	30	
9	Mission Compound	Milauniganj Chowk			23.28	46.56	181400	24295	125326	7800	3388	114138	19	
10	Mission Compound	Mission Compound Choraha	Meter is found	MEZ00172	32.71	65.42	350800	34135	176087	7800	6776	161511	26	
11	Mission Compound	Near Gohalpur Thana	Meter is found	MEZ01090	28.09	56.19	350800	29316	151228	7800	6776	136652	31	
12	Mission Compound	Near Kachyaana Chowk	Meter is found	MPZ01829	11.66	23.32	163855	12167	62765	7800	3037	51928	38	
13	Mission Compound	Russel Chowk Near State Bank of Patiala	Meter is found	MEZ01080	17.90	35.80	181400	18678	96355	7800	3388	85167	26	
14	Mission Compound	Russel Chowk Opposite Anmol Auto Mobiles		15971	3.36	6.72	132050	2784	15618	7800	2541	5277	300	
15	Mission Compound	Shastri Bridge ICICI Bank	Meter is found	MEZ00041	16.52	33.03	181400	17234	88905	7800	3388	77717	28	
16	Mission Compound	Telegraph gate no2	Meter is found	MEZ01196	27.68	55.36	350800	28886	149010	7800	6776	134434	31	

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Mission Compound Zone												
Total			462	923	4511960	478498	2473735	124800	86539	2262395	24	

7. Gorakhpur Zone

Potential Saving by Providing Street Lighting Control Panel for Existing Load at Gorakhpur Zone														
Sr. No.	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Gorakhpur	Ambey Traders Shethi Nagar	Meter is found	3588487	5219	19833	5752	21858	2844	10809	9385	9385	13816	71270
2	Gorakhpur	Anand Enterprises Choti Lines Fatak	Meter is not found				821	3120	406	1543	1481	1481	1227	7626
3	Gorakhpur	Madan Mahal BSNL Office Ke Pass	Meter is found	MPB90693	3772	14335	4158	15799	2056	7813	6784	6784	9986	51515
4	Gorakhpur	Esai Mohalla Chowk	Meter is found	MPB90637	6300	23940	6943	26385	3434	13048	11329	11329	16677	86030
5	Gorakhpur	Employment Office	Meter is found	MPB90307	15315	58199	16879	64141	8347	31718	27540	27540	40542	209138
6	Gorakhpur	Ghantaghar Omati Thana Ke Samne	Meter is found	MPB90701	9966	37871	10984	41739	5432	20640	17921	17921	26382	136091
7	Gorakhpur	J.K.Complex Gorakhpur	Meter is found	MPB90071	15391	58486	16963	64458	8388	31875	27676	27676	40742	210171
8	Gorakhpur	Katanga Tiraha	Meter is found	MPB90584	9623	36568	10606	40302	5245	19930	17304	17304	25474	131408
9	Gorakhpur	Madan Mahal Thana	Meter is found	MEZ02729	7207	27386	7943	30182	3928	14925	12959	12959	19077	98411
10	Gorakhpur	Navbhrat Press(Near of santnavent motor mitra)	Meter is found	MEZ01111			836	3176	413	1571	1508	1508	1249	7763
11	Gorakhpur	Near BPCL Petrol Pump Medical Road,Main Bus Stand	Meter is found	14910	4780	18164	5268	20019	2605	9900	8595	8595	12653	65273
12	Gorakhpur	Near Narmada Traders	Meter is found	MPB90091	13352	50736	14715	55917	7277	27651	24008	24008	35343	182320
13	Gorakhpur	Near Shri Guru Tegh Bahadur Khalsa College	Meter is found	MPB90018	4224	16052	4656	17691			8033	8033	8880	49810

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Potential Saving by Providing Street Lighting Control Panel for Existing Load at Gorakhpur Zone														
14	Gorakhpur	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	Meter is found	MPB90020	11468	43579	12639	48029	6250	23750	20621	20621	30357	156600
15	Gorakhpur	Rishi Vihar Colony	Meter is found	MPB90218	3732	14181	4113	15629	2034	7729	6711	6711	9879	50960
16	Gorakhpur	Saluja Tyres Madhotal Road	Meter is found	MPB90078	5779	21960	6369	24202	3150	11968	10392	10392	15298	78914
17	Gorakhpur	Santosh Garage	Meter is found	MPB90661	4182	15890	4609	17513	2279	8660	7519	7519	11069	57102
18	Gorakhpur	Teenpatti Chauraha	Meter is found	MPB90011	5592	21250	6163	23420	3048	11581	10056	10056	14803	76362
19	Gorakhpur	Wright Town Pankaj Palace	Meter is found	MPE35164	7685	29201	8469	32183	4188	15915	13818	13818	20342	104935
Total					133588	507633	148885	565765	71322	271025	243639	243639	353796	1831701

Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Gorakhpur Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel & Metering Arrangement for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel & Metering Arrangement for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Gorakhpur	Ambey Traders Shethi Nagar	Meter is found	3588487	13.24	26.5	181400	13816	71270	7800	3388	60082	36	No & Low saving due to less connected load at some of the switching points
2	Gorakhpur	Anand Enterprises Choti Lines Fatak	Meter is not found		1.89	3.8	25000	1227	7626		400	7226	42	
3	Gorakhpur	Madan Mahal BSNL Office Ke Pass	Meter is found	MPB90693	9.57	19.1	159855	9986	51515	7800	3037	40678	47	
4	Gorakhpur	Esai Mohalla Chowk	Meter is found	MPB90637	15.98	32.0	181400	16677	86030	7800	3388	74842	29	
5	Gorakhpur	Employment Office	Meter is found	MPB90307	38.85	77.7	350800	40542	209138	7800	6776	194562	22	

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Gorakhpur Zone													
6	Gorakhpur	Ghantaghar Omati Thana Ke Samne	Meter is found	MPB90701	25.28	50.6	181400	26382	136091	7800	3388	124903	17
7	Gorakhpur	J.K.Complex Gorakhpur	Meter is found	MPB90071	39.04	78.1	350800	40742	210171	7800	6776	195595	22
8	Gorakhpur	Katanga Tiraha	Meter is found	MPB90584	24.41	48.8	181400	25474	131408	7800	3388	120220	18
9	Gorakhpur	Madan Mahal Thana	Meter is found	MEZ02729	18.28	36.6	181400	19077	98411	7800	3388	87223	25
10	Gorakhpur	Navbhrat Press	Meter is found	MEZ01111	1.92	3.8	25000	1249	7763		400	7363	41
11	Gorakhpur	Near BPCL Petrol Pump Medical Road,Main Bus Stand	Meter is found	14910	12.13	24.3	163855	12653	65273	7800	3037	54436	36
12	Gorakhpur	Near Narmada Traders	Meter is found	MPB90091	33.87	67.7	350800	35343	182320	7800	6776	167744	25
13	Gorakhpur	Near Shri Guru Tegh Bahadur Khalsa College	Meter is found	MPB90018	10.72	21.4	163855	8880	49810	7800	3037	38973	50
14	Gorakhpur	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	Meter is found	MPB90020	29.09	58.2	350800	30357	156600	7800	6776	142024	30
15	Gorakhpur	Rishi Vihar Colony	Meter is found	MPB90218	9.47	18.9	159855	9879	50960	7800	3037	40123	48
16	Gorakhpur	Saluja Tyres Madhotal Road	Meter is found	MPB90078	14.66	29.3	181400	15298	78914	7800	3388	67726	32
17	Gorakhpur	Santosh Garage	Meter is found	MPB90661	10.61	21.2	163855	11069	57102	7800	3037	46265	42
18	Gorakhpur	Teenpatti Chauraha	Meter is found	MPB90011	14.19	28.4	181400	14803	76362	7800	3388	65174	33
19	Gorakhpur	Wright Town Pankaj Palace	Meter is found	MPE35164	19.49	39.0	181400	20342	104935	7800	3388	93747	23
Total					343	685	3715675	353796	1831701	132600	70194	1628907	27

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8. Purva Zone

Sr.No	Zone Name	Switching Point Name	Meter Number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Purva	Baznamath Mandir Road	5042053	2047	7777	2256	8572	1115	4239	3680	3680	5418	27948
2	Purva	Bhairav Baba Road		1810	6879	1995	7581	987	3749	3255	3255	4792	24718
3	Purva	Shastri Nagar Sai Mandir Ke Samne/Bhairav Nagar Bada Pathar	3708988	6003	22811	6616	25140	3272	12432	10794	10794	15890	81971
4A)	Purva	Bhairav Nagar Near Sub Station MPEB Purva		719	2732	792	3011	392	1489	1293	1293	1903	9818
4B)	Purva	Neharu Nagar Near Apex Hospital	3589123	1913	7268	2108	8010	1042	3961	3439	3439	5063	26118
4	Purva	Bhairav Nagar Near Sub Station MPEB Purva & Neharu Nagar Near Apex Hospital	3589123	2632	10000	2900	11022	1434	5450	4732	4732	6966	35936
5	Purva	Bhukamp Colony	3236859	2070	7867	2282	8671	1128	4288	3723	3723	5480	28271
6	Purva	Devtal Main Road, Sharn Park	5810350	1255	4770	1383	5257	684	2599	2257	2257	3322	17139
7	Purva	Dr.Colony-I, Type Medical Quarter Ke Samne		1183	4494	1303	4953	645	2449	2127	2127	3130	16149
8A)	Purva	Ganga Nagar Road	MPE98121	7400	28120	8156	30991	4033	15325	13306	13306	19588	101048

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8B)	Purva	Rajul City		1279	4859	1409	5356	697	2648	2299	2299	3385	17462
8	Purva	Ganga Nagar Road & Rajul City		8679	32979	9565	36347	4730	17974	15606	15606	22974	118511
9	Purva	Garha Thana , Near Medical College	3588178	5668	21537	6246	23737	3089	11738	10191	10191	15003	77395
10A)	Purva	Gupta Nagar		585	2223	645	2450	319	1212	1052	1052	1549	7988
10B)	Purva	Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra		6670	25345	7351	27934	3635	13813	11993	11993	17656	91079
10	Purva	Gupta Nagar & Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra		7255	27568	7996	30384	3954	15025	13045	13045	19204	99068
11	Purva	LIG Colony, Near Akarshan Beauty parlor		2701	10264	2977	11312	1472	5594	4857	4857	7150	36884
12	Purva	Lodhi Mohalla Shastri Nagar		1780	6765	1962	7456	970	3687	3201	3201	4712	24309
13	Purva	Medical Colony (Dr.Colony)	16729	2282	8670	2515	9556	1243	4725	4103	4103	6040	31156
14	Purva	Near Gyanganga College	3708987	6225	23656	6861	26071	0	0	11839	11839	13086	73404
15	Purva	Near Hotel Maruti Mandapam		4335	16475	4778	18157	0	0	8245	8245	9114	51121
16	Purva	Near Jain Mandir	3588180	5038	19144	5552	21099	2746	10434	9059	9059	13336	68795
17	Purva	Near of Jasuja City	3580222	5892	22389	6493	24675	3211	12202	10594	10594	15596	80453
18	Purva	Near Kangi House (Chungi Naka)		3777	14353	4163	15819	2059	7823	6792	6792	9999	51579
19	Purva	Near Shahi Naka	MPB90440	3173	12056	3496	13287	1729	6570	5705	5705	8398	43322

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20	Purva	Near Samudayak Bhawan	992757	5929	22531	6535	24831	3231	12279	10662	10662	15695	80965
21	Purva	Near Water Tank Tripura Chowk	3587943	719	2732	792	3011	392	1489	1293	1293	1903	9818
22	Purva	Paraswada Colony	3589123	1865	7088	2056	7812	1017	3863	3354	3354	4938	25472
23	Purva	Ram Nagar - 1		741	2816	817	3104	404	1535	1333	1333	1962	10120
24	Purva	Ram Nagar-2	16729	246	935	271	1030	134	509	442	442	651	3359
25	Purva	Sagda Sai Mandir		978	3715	1077	4094	533	2025	1758	1758	2588	13350
26	Purva	Sagar Colony	9922651	806	3062	888	3374	439	1669	1449	1449	2133	11003
27	Purva	Sai Colony	182676	520	1977	573	2179	284	1078	936	936	1377	7105
28	Purva	Shahnala	517465	344	1306	379	1440	187	712	618	618	910	4694
29A)	Purva	Shastri Nagar Chouraha I		1705	6477	1879	7139	929	3530	3065	3065	4512	23276
29B)	Purva	Shastri Nagar-2		2903	11031	3199	12157	1582	6012	5220	5220	7684	39640
29	Purva	Shastri Nagar Chouraha I & Shastri Nagar-2		4607	17508	5078	19296	2511	9542	8285	8285	12196	62916
30	Purva	Tilwara Ghat Road	3388173	4126	15681	4548	17282	2249	8546	7420	7420	10923	56349
31	Purva	Tripuri Chowk		1247	4740	1375	5224	680	2583	2243	2243	3302	17032
		Total		95933	364545	105729	401769	46528	176806	173596	173596	248190	1290313

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Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Purva Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Purva	Baznamath Mandir Road	Meter is found	5042053	5.19	10.384	159855	5418	27948	7800	3037.1	17111	112.11	No & Low saving due to less connected load at some of the switching points
2	Purva	Bhairav Baba Road			4.59	9.184	132050	4792	24718	7800	2541	14377	110.21	
3	Purva	Shastri Nagar Sai Mandir Ke Samne/Bhairav Nagar Bada Pathar	Meter is found	3708988	15.23	30.456	181400	15890	81971	7800	3388	70783	30.75	
4A)	Purva	Bhairav Nagar Near Sub Station MPEB Purva	Meter is not found		1.82	3.648	25000	1903	9818		400	9418	31.85	
4B)	Purva	Neharu Nagar Near Apex Hospital	Meter is found	3589123	4.85	9.704	132050	5063	26118	7800	2541	15777	100.44	
4	Purva	Bhairav Nagar Near Sub Station MPEB Purva & Neharu Nagar Near Apex Hospital		3589123	6.68	13.352	157050	6966	35936	7800	2941	25195	74.80	
5	Purva	Bhukamp Colony	Meter is found	3236859	5.25	10.504	159855	5480	28271	7800	3037.1	17434	110.03	
6	Purva	Devtal Main Road, Sham Park	Meter is found	5810350	3.18	6.368	132050	3322	17139	7800	2541	6798	233.09	
7	Purva	Dr.Colony-I, Type Medical Quarter Ke Samne	Meter is not found		3.00	6	132050	3130	16149	7800	2541	5808	272.84	

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8A)	Purva	Ganga Nagar Road	Meter is found	MPE98121	18.77	37.544	181400	19588	101048	7800	3388	89860	24.22
8B)	Purva	Rajul City	Meter is not found		3.24	6.488	132050	3385	17462	7800	2541	7121	222.52
8	Purva	Ganga Nagar Road & Rajul City			22.02	44.032	313450	22974	118511	15600	5929	96982	38.78
9	Purva	Garha Thana , Near Medical College	Meter found	3588178	15.23	30.456	181400	15003	77395	7800	3388	66207	32.88
10A)	Purva	Gupta Nagar	Meter is not found		1.48	2.968	25000	1549	7988		400	7588	39.53
10B)	Purva	Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra	Meter is found		16.92	33.84	181400	17656	91079	7800	3388	79891	27.25
10	Purva	Gupta Nagar & Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra			18.40	36.808	206400	19204	99068	7800	3788	87480	28.31
11	Purva	LIG Colony, Near Akarshan Beauty parlor	Meter is not found		6.85	13.704	159855	7150	36884	7800	3037.1	26047	73.65
12	Purva	Lodhi Mohalla Shastri Nagar	Meter Not found		4.52	9.032	132050	4712	24309	7800	2541	13968	113.44
13	Purva	Medical Colony (Dr.Colony)	Meter is found	16729	5.79	11.576	159855	6040	31156	7800	3037.1	20319	94.41
14	Purva	Near Gyanganga College	Meter is found	3708987	15.79	31.584	181400	13086	73404	7800	3388	62216	34.99
15	Purva	Near Hotel Maruti Mandapam	Meter is not found		11.00	21.996	163855	9114	51121	7800	3037.1	40284	48.81
16	Purva	Near Jain Mandir	Meter found	3588180	13.54	27.072	181400	13336	68795	7800	3388	57607	37.79

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17	Purva	Near of Jasuja City	Meter is found	3580222	14.95	29.892	181400	15596	80453	7800	3388	69265	31.43
18	Purva	Near Kangi House (Chungi Naka)	Meter is not found		9.58	19.164	159855	9999	51579	7800	3037.1	40742	47.08
19	Purva	Near Shahi Naka	Meter is found	MPB90440	8.05	16.096	159855	8398	43322	7800	3037.1	32485	59.05
20	Purva	Near Samudayak Bhawan	Meter is found	992757	15.04	30.082	181400	15695	80965	7800	3388	69777	31.20
21	Purva	Near Water Tank Tripura Chowk	Meter is found	3587943	1.82	3.648	25000	1903	9818		400	9418	31.85
22	Purva	Paraswada Colony	Meter is found	3589123	4.73	9.464	132050	4938	25472	7800	2541	15131	104.73
23	Purva	Ram Nagar - 1	Meter is not found		1.88	3.76	25000	1962	10120		400	9720	30.86
24	Purva	Ram Nagar-2	Meter is found	16729	0.62	1.248	25000	651	3359		400	2959	101.39
25	Purva	Sagda Sai Mandir	Meter is not found		2.48	4.96	25000	2588	13350		400	12950	23.17
26	Purva	Sagar Colony	Meter is found	9922651	2.04	4.088	25000	2133	11003		400	10603	28.29
27	Purva	Sai Colony	Meter is found	182676	1.32	2.64	25000	1377	7105		400	6705	44.74
28	Purva	Shahnala	Meter is found	517465	0.87	1.744	25000	910	4694		400	4294	69.87
29A)	Purva	Shastri Nagar Chouraha I	Meter is not found		4.32	8.648	132050	4512	23276	7800	2541	12935	122.51
29B)	Purva	Shastri Nagar-2	Meter is not found		7.36	14.728	159855	7684	39640	7800	3037.1	28803	66.60

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29	Purva	Shastri Nagar Chouraha I & Shastri Nagar-2			11.69	23.376	291905	12196	62916	15600	5578	41738	83.93
30	Purva	Tilwara Ghat Road	Meter is found	3388173	10.47	20.936	163855	10923	56349	7800	3037.1	45511	43.20
31	Purva	Tripuri Chowk	Meter is not found		3.16	6.328	132050	3302	17032	7800	2541	6691	236.84
		Total			244.97	489.93	4311345	248190	1290313	202800	80907	1006606	51.40

9. Adhartal Zone

Potential Saving by Providing Street Lighting Control Panel for Existing Load at Adhartal Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Adhartal Zone	Adhartal Tiraha	Meter Not Found		8682	32991	9568	36360	4732	17980	15611	15611	22982	118554
2	Adhartal Zone	Gaji Nagar	Meter Not Found		6156	23392	6784	25781	3355	12749	11069	11069	16295	84060
3	Adhartal Zone	Chokse Hotel (New Kanchanpur)	Meter Not Found		1974	7502	2176	8268	1076	4088	3550	3550	5226	26958
4	Adhartal Zone	Ram Nagar (New R-11)	Meter Not Found		6400	24321	7054	26804	3488	13255	11509	11509	16942	87397
5	Adhartal Zone	Afak Bekari Makka Nagar Gali no-3	Meter Not Found		1736	6597	1913	7271	946	3595	3122	3122	4596	23706
6	Adhartal Zone	Agrawal Kirana Store Shankar Chowk	Meter Found	MPB90708	1442	5480	1589	6039	786	2986	2593	2593	3817	19691
7	Adhartal Zone	Anand Nagar,Near Dr Ansari Clinic	Meter Found	3077277	3113	11828	3430	13036	1696	6446	5597	5597	8239	42504
8	Adhartal Zone	Dr Ambedkar Colony	Meter Not Found		4721	17940	5203	19771	2573	9777	8489	8489	12497	64466
9	Adhartal Zone	G. C. F. Colony	Meter Not Found		6236	23698	6873	26118	3399	12915	11214	11214	16508	85158
10	Adhartal Zone	Gandhi Chowk Katra, Near Vishwkarma Electric	Meter Not Found		867	3296	956	3632	473	1796	1559	1559	2296	11842
11	Adhartal Zone	Gayatri Nagar	Meter Not Found		1031	3919	1137	4319	562	2136	1854	1854	2730	14082
12	Adhartal Zone	Hussainiya masjid , Rajja chowk	Meter Not Found		438	1666	483	1836	239	908	788	788	1160	5986

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13	Adhartal Zone	Housing Board in Pump House	Meter Not Found		2695	10240	2970	11286	1469	5581	4846	4846	7133	36798
14	Adhartal Zone	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass	Meter Found	6979048	547	2079	603	2291	298	1133	984	984	1448	7472
15	Adhartal Zone	Industrial Area Near Power House	Meter Not Found		2032	7723	2240	8512	1108	4209	3655	3655	5380	27754
16	Adhartal Zone	Jawahar Nagar , Hussain Masjid	Direct Poles		1861	7070	2051	7792	1014	3853	3346	3346	4925	25407
17	Adhartal Zone	Katra Sabji Mandi	Meter Found	MPB90534	1728	6567	1905	7238	942	3579	3108	3108	4575	23599
18	Adhartal Zone	Main Road Adhartal Near Nilesh Computer	Meter Found	3077282	3113	11828	3430	13036	1696	6446	5597	5597	8239	42504
19 (A)	Adhartal Zone	Shankar Mandir Neharu Nagar	Meter Not Found		416	1582	459	1743	227	862	749	749	1102	5684
19 (B)	Adhartal Zone	Vivek Colony	Meter Found	5048235	372	1414	410	1558	203	771	669	669	985	5081
20	Adhartal Zone	New Ramnagar NR5	Meter Not Found		1826	6939	2012	7647	995	3782	3283	3283	4833	24934
21	Adhartal Zone	New Ram Nagar NR/10/5	Meter Not Found		1038	3944	1144	4347	566	2150	1866	1866	2748	14173
22	Adhartal Zone	Old Kanchanpur Samudayik Bhavan	Meter Not Found		885	3361	975	3705	482	1832	1591	1591	2342	12079
23	Adhartal Zone	Pandey Gas Agency	Meter Not Found		552	2097	608	2311	301	1143	992	992	1461	7536
24	Adhartal Zone	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	Meter Not Found		2920	11097	3218	12230	1592	6048	5251	5251	7730	39877
25	Adhartal Zone	Rain Baysara, Anand Nagar	Meter Not Found		4259	16184	4694	17837	2321	8820	7658	7658	11274	58157
26	Adhartal Zone	Sanjay Nagar Industrial Arya Chand Mari Road	Meter Not Found		483	1834	532	2021	263	999	868	868	1277	6589
27	Adhartal Zone	Sanjay Nagar	Meter Found	MPB89977	1154	4386	1272	4834	629	2390	2075	2075	3055	15761
28	Adhartal Zone	SBI ATM New Kanchanpur	Meter Found	MPB90443	4354	16543	4798	18233	2373	9016	7828	7828	11524	59449
29	Adhartal Zone	Sharda Colony New Kanchanpur	Meter Found	90510	1446	5495	1594	6056	788	2995	2600	2600	3828	19745
30	Adhartal Zone	Shobapur Railway Fatak	Meter Found	MPE00231	4070	15465	4485	17044	2218	8428	7318	7318	10773	55573

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31	Adhartal Zone	Xlean Bharat Gas Agency	Meter Found	3077087	3113	11828	3430	13036			5919	5919	6543	36702
32	Adhartal Zone	Zenda Chowk J.P. Nagar	Meter Not Found		1271	4829	1401	5323	693	2632	2285	2285	3364	17355
Total					82930	315133	91398	347312	43500	165301	149443	149443	217828	1126634

Investment & Saving for Providing Street Lighting Control Panel for Existing Load at Adhartal Zone

Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Adhartal zone	Adhartal Tiraha	Meter Not Found		22.024	44.0	181400.00	22982	118554	7800	3388	107366	20	No & Low saving due to less connected load at some of the switching points
2	Adhartal zone	Gaji Nagar	Meter Not Found		15.616	31.2	181400.00	16295	84060	7800	3388	72872	30	
3	Adhartal zone	Chokse Hotel (New Kanchanpur)	Meter Not Found		5.008	10.0	159855.00	5226	26958	7800	3037	16121	119	
4	Adhartal zone	Ram Nagar (New)	Meter Not Found		16.236	32.5	181400.00	16942	87397	7800	3388	76209	29	
5	Adhartal zone	Afak Bekari Makka Nagar Gali no-3	Meter Not Found		4.404	8.8	132050.00	4596	23706	7800	2541	13365	119	
6	Adhartal zone	Agrawal Kirana Store Shankar Chowk	Meter Found	MPB90708	3.658	7.3	132050.00	3817	19691	7800	2541	9350	169	
7	Adhartal zone	Anand Nagar, Near Dr Ansari Clinic	Meter Found	3077277	7.896	15.8	159855.00	8239	42504	7800	3037	31667	61	
8	Adhartal zone	Dr Ambedkar Colony	Meter Not Found		11.976	24.0	163855.00	12497	64466	7800	3037	53629	37	
9	Adhartal zone	G. C. F. Colony	Meter Not Found		15.82	31.6	181400.00	16508	85158	7800	3388	73970	29	
10	Adhartal zone	Gandhi Chowk Katra, Near Vishwkarma Electric	Meter Not Found		2.2	4.4	25000.00	2296	11842		400	11442	26	

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11	Adhartal zone	Gayatri Nagar	Meter Not Found		2.616	5.2	132050.00	2730	14082	7800	2541	3741	424
12	Adhartal zone	Hotel, Near Sulemani masjid , Rajja chowk	Meter Not Found		1.112	2.2	25000.00	1160	5986		400	5586	54
13	Adhartal zone	Housing Board in Pump House	Meter Not Found		6.836	13.7	159855.00	7133	36798	7800	3037	25961	74
14	Adhartal zone	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass	Meter Found	6979048	1.388	2.8	25000.00	1448	7472		400	7072	42
15	Adhartal zone	Industrial Area Near Power House	Meter Not Found		5.156	10.3	159855.00	5380	27754	7800	3037	16917	113
16	Adhartal zone	Jawahar Nagar , Hussain Masjid	Direct Poles		4.72	9.4	132050.00	4925	25407	7800	2541	15066	105
17	Adhartal zone	Katra Sabji Mandi	Meter Found	MPB90534	4.384	8.8	132050.00	4575	23599	7800	2541	13258	120
18	Adhartal zone	Main Road Adhartal Near Nilesh Computer	Meter Found	3077282	7.896	15.8	159855.00	8239	42504	7800	3037	31667	61
19 (A)	Adhartal zone	Shankar Mandir Neharu Nagar	Meter Not Found		1.056	2.1	25000.00	1102	5684		400	5284	57
19 (B)	Adhartal zone	Vivek Colony	Meter Found	5048235	0.944	1.9	25000.00	985	5081		400	4681	64
20	Adhartal zone	New Ramnagar NR5	Meter Not Found		4.632	9.3	132050.00	4833	24934	7800	2541	14593	109
21	Adhartal zone	New Ram Nagar	Meter Not Found		2.633	5.3	132050.00	2748	14173	7800	2541	3832	413
22	Adhartal zone	Old Kanchanpur Samudayik Bhavan	Meter Not Found		2.244	4.5	25000.00	2342	12079		400	11679	26
23	Adhartal zone	Pandey Gas Agency	Meter Not Found		1.4	2.8	25000.00	1461	7536		400	7136	42
24	Adhartal zone	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	Meter Not Found		7.408	14.8	159855.00	7730	39877	7800	3037	29040	66
25	Adhartal zone	Rain Baysara, Anand Nagar	Meter Not Found		10.804	21.6	163855.00	11274	58157	7800	3037	47320	42
26	Adhartal zone	Sanjay Nagar Industrial Arya Chand Mari Road	Meter Not Found		1.224	2.4	25000.00	1277	6589		400	6189	48
27	Adhartal zone	Sanjay Nagar	Meter Found	MPB89977	2.928	5.9	132050.00	3055	15761	7800	2541	5420	292
28	Adhartal zone	SBI ATM New Kanchanpur	Meter Found	MPB90443	11.044	22.1	163855.00	11524	59449	7800	3037	48612	40

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29	Adhartal zone	Sharda Colony New Kanchanpur	Meter Found	90510	3.668	7.3	132050.00	3828	19745	7800	2541	9404	169
30	Adhartal zone	Shobapur Railway Fatak	Meter Found	MPE00231	10.324	20.6	163855.00	10773	55573	7800	3037	44736	44
31	Adhartal zone	Xlean Bharat Gas Agency	Meter Found	3077087	7.896	15.8	159855.00	6543	36702	7800	3037	25865	74
32	Adhartal zone	Zenda Chowk J.P. Nagar	Meter Not Found		3.224	6.4	132050.00	3364	17355	7800	2541	7014	226
Total					210.38	420.75	4020505	217828	1126634	195000	75570	856063	56

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10. Vijay Nagar Zone

Potential Saving by Providing Street Lighting Control Panel for Existing Load at Vijay Nagar Zone														
Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Annual Potential Saving Due to Installation of Street Lighting Panel in kWh (Due to Automatic On & Off)	Annual Potential Saving Due to Installation of Street Lighting Panel in Rs. (Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Vijay Nagar	Agrawal Madpump	Meter not found		3717	14126	4097	15568	2026	7699	6684	6684	9840	50761
2	Vijay Nagar	Amkhera Sanjay Telecom	Meter found	MPZ00983	4849	18425	5344	20306	2643	10042	8719	8719	12835	66210
3	Vijay Nagar	Basti No-1 Amarkhera Gohalapur	Meter found	MPZ00954	2540	9653	2800	10639	1384	5261	4568	4568	6724	34688
4	Vijay Nagar	Central Lighting Works,Kamla Nehru Nagar,Near Mobile Shoppee	Meter found	9199249	6892	26190	7596	28865			13107	13107	14488	81269
5	Vijay Nagar	Central Street Light Ranital	Meter found	3713648	6003	22811	6616	25140			11416	11416	12619	70783
6	Vijay Nagar	Damuh Naka Chowk Z33 & Near Damoh Naka Chowk	Meter found	78756	16747	63639	18457	70138	9127	34683	30114	30114	44332	228689
7	Vijay Nagar	Dindayal Chowk	Meter found	LEZ00961	4215	16016	4645	17652	2297	8729	7579	7579	11157	57554
8	Vijay Nagar	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha	Meter found		2712	10306	2989	11358	1478	5617	4877	4877	7179	37035
9	Vijay Nagar	Dr.Atul Sharma	Meter not found		4471	16991	4928	18726	2437	9260	8040	8040	11836	61059
10	Vijay Nagar	Global Hospital Ukhaari	Meter found	MEZ00922	6501	24703	7165	27225	3543	13463	11689	11689	17208	88770
11	Vijay Nagar	Hat Bajar	Meter found	MP472135	1044	3967	1150	4372	569	2162	1877	1877	2763	14254
12	Vijay Nagar	ITI Near Swastik Hospital	Meter found	16521	6892	26190	7596	28865			13107	13107	14488	81269

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Potential Saving by Providing Street Lighting Control Panel for Existing Load at Vijay Nagar Zone														
13	Vijay Nagar	Jain Mandir Mother Teresa	Meter found	8989265	1930	7336	2128	8085	1052	3998	3471	3471	5110	26360
14	Vijay Nagar	Jankey Nagar	Meter found	MEZ008811	3309	12574	3647	13858	1803	6853	5950	5950	8759	45184
15	Vijay Nagar	Kasodhan Colony Green City	Meter not found		1675	6365	1846	7015	913	3469	3012	3012	4434	22872
16	Vijay Nagar	Labour Chowk	Meter not found		3748	14243	4131	15697	2043	7762	6740	6740	9922	51181
17	Vijay Nagar	Mandi Area In Front of Baba Sai Clinic	Meter found	16662	5781	21966	6371	24209			10993	10993	12151	68161
18	Vijay Nagar	Near Rose Beauty salon Ekta Tilhara	Meter not found		5757	21876	6345	24110	3138	11923	10352	10352	15239	78612
19	Vijay Nagar	Om Enterprises	Meter not found		984	3739	1084	4121	536	2038	1769	1769	2605	13436
20	Vijay Nagar	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk	Meter not found		1230	4674	1355	5151	670	2547	2212	2212	3256	16795
21	Vijay Nagar	Pili Building Ke Samne Near Deligh Marriage.Com	Meter found	9138464	8226	31259	9066	34451			15644	15644	17292	96998
22	Vijay Nagar	BH/08 Pushp Nagar	Meter not found		818	3110	902	3427	446	1695	1472	1472	2166	11175
23	Vijay Nagar	Sarvaday Nagar	Meter found	17209	3888	14773	4285	16281	2119	8051	6991	6991	10291	53087
24	Vijay Nagar	Shanti Nagar	Meter found	MPE34815	8355	31748	9208	34990	4553	17303	15023	15023	22116	114086
25	Vijay Nagar	Sneha Nagar Jayaswal Treders	Meter not found		8228	31265	9068	34458	4484	17040	14795	14795	21780	112353
26	Vijay Nagar	Trimurti Nagar Madhotal	Meter found	MEZ1197	6552	24896	7221	27438	3571	13568	11781	11781	17343	89464
27	Vijay Nagar	Varsa Kirana Store	Meter not found		2014	7652	2219	8433	1097	4170	3621	3621	5330	27496
28	Vijay Nagar	Shiv Nagar Near APT Machine	Meter not found		5475	20807	6035	22931	2984	11340	9846	9846	14494	74769
29	Vijay Nagar	Damoha Naka Road	Meter found	MPB90695	8385	31865	9242	35118	4570	17366	15078	15078	22197	114506

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Potential Saving by Providing Street Lighting Control Panel for Existing Load at Vijay Nagar Zone																
30	Vijay Nagar	Chota Fuhara Chowk	Meter not found		8632	32802	9514	36152	4705	17877	15522	15522	22850	117876		
31	Vijay Nagar	DR.Vijay Jain	Meter found	MEZ00948	2626	9979	2894	10998	1431	5439	4722	4722	6952	35861		
32	Vijay Nagar	Hat Bazar	Meter not found		4278	16257	4715	17917	2332	8860	7693	7693	11325	58421		
33	Vijay Nagar	Namdav Brother Ke Pass S.B.I. Colony	Meter found	MEZ01178	6242	23719	6879	26141	3402	12927	11224	11224	16523	85233		
34	Vijay Nagar	Rameshvaram Colony	Meter not found		4461	16951	4916	18682	2431	9238	8021	8021	11808	60913		
35	Vijay Nagar	ITI Madital	Meter not found		2358	8961	2599	9876	1285	4884	4240	4240	6242	32201		
36	Vijay Nagar	Sagam Colony	Meter not found		4115	15636	4535	17232	2242	8521	7399	7399	10892	56187		
37	Vijay Nagar	Thana Vijay Nagar	Meter not found		892	3388	983	3734	486	1847	1603	1603	2360	12176		
38	Vijay Nagar	P.No.66 Tulsi Nagar	Meter found	MPE35120	5255	19969	5792	22008	2864	10883	9449	9449	13911	71760		
39	Vijay Nagar	Union Bank Ke Pass	Meter found	3848590	2600	9881	2866	10889	1417	5385	4675	4675	6883	35506		
40	Vijay Nagar	Yadav Colony	Meter found	MPB 90602	6521	24779	7187	27309	3554	13505	11726	11726	17261	89045		
41	Vijay Nagar	Yadav Colony	Meter found	MPB 90702	9956	37832	10973	41696	5426	20619	17902	17902	26354	135951		
42	Vijay Nagar	Disha Sanchi Corner	Meter found		4509	17134	4969	18883	2457	9338	8108	8108	11935	61570		
43	Vijay Nagar	Lal bahadur Shastri Colony	Meter not found		957	3637	1055	4008	522	1982	1721	1721	2534	13070		
Total							207339	787888	228511	868340	94582	359412	376328	376328	530432	2768296

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Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Vijay Nagar	Agrawal Madpump	Meter not found		9.43	18.9	159855.00	9840	50761	7800	3037	39924	48	No & Low saving due to less connected load at some of the switching points
2	Vijay Nagar	Amkhera Sanjay Telecom	Meter found	MPZ00983	12.3	24.6	163855.00	12835	66210	7800	3037	55373	36	
3	Vijay Nagar	Basti No-1 Amarkhera Gohalapur	Meter found	MPZ00954	6.444	12.9	159855.00	6724	34688	7800	3037	23851	80	
4	Vijay Nagar	Central Lighting Works,Kamla Nehru Nagar,Near Mobile Shoppe	Meter found	9199249	17.484	35.0	181400.00	14488	81269	7800	3388	70081	31	
5	Vijay Nagar	Central Street Light Ranital	Meter found	3713648	15.228	30.5	181400.00	12619	70783	7800	3388	59595	37	
6	Vijay Nagar	Damuh Naka Chowk Z33	Meter found	78756	42.484	85.0	350800.00	44332	228689	7800	6776	214113	20	
7	Vijay Nagar	Dindayal Chowk	Meter found	LEZ00961	10.692	21.4	163855.00	11157	57554	7800	3037	46717	42	
8	Vijay Nagar	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha	Meter found		6.88	13.8	159855.00	7179	37035	7800	3037	26197	73	
9	Vijay Nagar	Dr.Atul Sharma	Meter not found		11.343	22.7	163855.00	11836	61059	7800	3037	50222	39	
10	Vijay Nagar	Global Hospital Ukhaari	Meter found	MEZ00922	16.491	33.0	181400.00	17208	88770	7800	3388	77582	28	
11	Vijay Nagar	Green City	Meter found	MPB-308534	2.536	5.1	132050.00	2646	13651	7800	2541	3310	479	
12	Vijay Nagar	Hat Bajar	Meter found	MP472135	2.648	5.3	132050.00	2763	14254	7800	2541	3913	405	
13	Vijay Nagar	ITI Near Swastik Hospital	Meter found	16521	17.484	35.0	181400.00	14488	81269	7800	3388	70081	31	

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14	Vijay Nagar	Jain Mandir Mather Theresa	Meter found	8989265	4.897	9.8	132050.00	5110	26360	7800	2541	16019	99
15	Vijay Nagar	Jankey Nagar	Meter found	MEZ008811	8.394	16.8	159855.00	8759	45184	7800	3037	34347	56
16	Vijay Nagar	Kasodhan Colony Green City	Meter not found		4.249	8.5	132050.00	4434	22872	7800	2541	12531	126
17	Vijay Nagar	Labour Chowk	Meter found	16662	9.508	19.0	159855.00	9922	51181	7800	3037	40344	48
18	Vijay Nagar	Mandi Area In Front of Baba Sai Clinic	Meter not found		14.664	29.3	181400.00	12151	68161	7800	3388	56973	38
19	Vijay Nagar	Near Rose Beauty salon Ekta Tilhara	Meter not found		14.604	29.2	181400.00	15239	78612	7800	3388	67424	32
20	Vijay Nagar	Om Enterprises	Meter not found		2.496	5.0	25000.00	2605	13436		400	13036	23
21	Vijay Nagar	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk	Meter found	9138464	3.12	6.2	132050.00	3256	16795	7800	2541	6454	246
22	Vijay Nagar	Pili Building Ke Samne Near Deligh Mariage.Com	Meter not found		20.868	41.7	181400.00	17292	96998	7800	3388	85810	25
23	Vijay Nagar	BH/08 Pushp Nagar	Meter found	17209	2.076	4.2	25000.00	2166	11175		400	10775	28
24	Vijay Nagar	Sarvaday Nagar	Meter found	MPE34815	9.862	19.7	159855.00	10291	53087	7800	3037	42249	45
25	Vijay Nagar	Shanti Nagar	Meter not found		21.194	42.4	181400.00	22116	114086	7800	3388	102898	21
26	Vijay Nagar	Sneha Nagar Jayaswal Treders	Meter found	MEZ1197	20.872	41.7	181400.00	21780	112353	7800	3388	101165	22
27	Vijay Nagar	Trimurti Nagar Madhotal	Meter not found		16.62	33.2	181400.00	17343	89464	7800	3388	78276	28
28	Vijay Nagar	Varsa Kirana Store	Meter not found		5.108	10.2	159855.00	5330	27496	7800	3037	16659	115
29	Vijay Nagar	Shiv Nagar Near APT Machine	Meter found	MPB90695	13.89	27.8	181400.00	14494	74769	7800	3388	63581	34
30	Vijay Nagar	Damoha Nake Road	Meter not found		21.272	42.5	181400.00	22197	114506	7800	3388	103318	21
31	Vijay Nagar	Chota Fuhara Chowk	Meter found	MEZ00948	21.898	43.8	181400.00	22850	117876	7800	3388	106688	20

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32	Vijay Nagar	DR.Vijay Jain	Meter not found		6.662	13.3	159855.00	6952	35861	7800	3037	25024	77
33	Vijay Nagar	Hat Bazar	Meter found	MEZ01178	10.853	21.7	163855.00	11325	58421	7800	3037	47584	41
34	Vijay Nagar	Namdav Brother Ke Pass S.B.I. Colony	Meter not found		15.834	31.7	181400.00	16523	85233	7800	3388	74045	29
35	Vijay Nagar	Rameshvaram Colony	Meter not found		11.316	22.6	163855.00	11808	60913	7800	3037	50076	39
36	Vijay Nagar	ITI Madital	Meter not found		5.982	12.0	159855.00	6242	32201	7800	3037	21364	90
37	Vijay Nagar	Sagam Colony	Meter not found		10.438	20.9	163855.00	10892	56187	7800	3037	45350	43
38	Vijay Nagar	Thana Vijay Nagar	Meter found	MPE35120	2.262	4.5	25000.00	2360	12176		400	11776	25
39	Vijay Nagar	P.No.66 Tulsi Nagar	Meter found	3848590	13.331	26.7	181400.00	13911	71760	7800	3388	60572	36
40	Vijay Nagar	Union Bank Ke Pass	Meter found	MPB 90602	6.596	13.2	159855.00	6883	35506	7800	3037	24669	78
41	Vijay Nagar	Yadav Colony	Meter found	MPB 90702	16.542	33.1	181400.00	17261	89045	7800	3388	77857	28
42	Vijay Nagar	Yadav Colony	Meter found		25.256	50.5	181400.00	26354	135951	7800	3388	124763	17
43	Vijay Nagar	Disha Sanchi Corner	Meter not found		11.438	22.9	163855.00	11935	61570	7800	3037	50733	39
44	Vijay Nagar	Lal bahadur Shastri Colony			2.428	4.9	25000.00	2534	13070		400	12670	24
Total					526.0	1052	6940385	530432	2768296	312000	130308	2325988	36

11. Highmast

Potential Saving by Providing Street Lighting Control Panel for Existing Load

Sr. No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to improvement in PF to 0.95 in Rs.	Total Saving Potential in kWh	Total Saving Potential in Rs.
1	Ranjhi	Adarsh Market Ranjhi	Meter is found	3580238	1334	5069	1470	5587	2537	2537	2804	15729
2	Ranjhi	Ranjhi Badapathar	Meter is not found		2091	7945	2304	8756	3976	3976	4395	24654
3	Ranjhi	Ranjhi Near Bappa Swaets	Meter is not found		1334	5069	1470	5587	2537	2537	2804	15729
4	Ranjhi	Vehicle Mode Ranjhi	Meter is found	3580237	1334	5069			2816	2816	1334	10701
5	Ranjhi	Sharda Nagar Park	Meter is found	3772550	3136	11918	3457	13135	5964	5964	6593	36981
6	Ranjhi	Near Saraswati School Rajhi	Meter is not found	3772551	2091	7945			4414	4414	2091	16773
7	Gorakhpur	Katanga Tiraha Near Kundan Jewellers	Meter is found	9199217	1334	5069	1470	5587	2537	2537	2804	15729
8	Gorakhpur	Main Bus Stand	Meter is found	13789	3136	11918	3457	13135	5964	5964	6593	36981
9	Gorakhpur	Rajiv Gandhi chowk	Meter is found	9199109	1334	5069	1470	5587	2537	2537	2804	15729
10	Gorakhpur	Chothi Lines Fathak Gorakhpur	Meter is not found		1334	5069	1470	5587	2537	2537	2804	15729
11	Gorakhpur	Madan Mahal	Meter is not found		2001	7604	2205	8380	3805	3805	4206	23594
12	Gorakhpur	Welfare Association & Tow bhaisasur Road	Meter is not found		1334	5069	1470	5587	2537	2537	2804	15729

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Potential Saving by Providing Street Lighting Control Panel for Existing Load

13	Mission Compound	Baburao Paranjpe Near Ranital Gate No.2	Meter is found	3235837	2091	7945	2304	8756	3976	3976	4395	24654
14	Mission Compound	Pa.Kunjilal Dube Marg Nepiar Town	Meter is not found	9199010	1334	5069	1470	5587	2537	2537	2804	15729
15	Mission Compound	Malviya Chowk	Meter is found	MPE54097	3136	11918	3457	13135	5964	5964	6593	36981
16	Mission Compound	Russel Chowk	Meter is found	9199138	3136	11918	3457	13135	5964	5964	6593	36981
17	Mission Compound	Nagrath Chowk	Meter is found	3843068	1334	5069	1470	5587	2537	2537	2804	15729
18	Mission Compound	Omati Thana	Meter is found	1103421	1334	5069	1470	5587	2537	2537	2804	15729
19	Mission Compound	Bada Fuhara	Meter is found	3235045	1334	5069	1470	5587	2537	2537	2804	15729
20	Mission Compound	Lardganj Tiraha	Meter is found	3708696	1334	5069	1470	5587	2537	2537	2804	15729
21	Indramarket	Mal Godam Railway station	Meter is found	3238804	3136	11918	3457	13135	5964	5964	6593	36981
22	Indramarket	Allahabad Bank Chowk	Meter is found		3136	11918	3457	13135	5964	5964	6593	36981
23	Indramarket	Kanchghar Chowk	Meter is not found	9233872	2091	7945	2304	8756	3976	3976	4395	24654
24	Indramarket	Tahasil Chowk /Ambedkar Chowk	Meter is not found	3589644	1334	5069	1470	5587	2537	2537	2804	15729
25	Indramarket	Ghamapur Chowk	Meter is not found		1334	5069	1470	5587	2537	2537	2804	15729
26	Indramarket	Raddi Chowki	Meter is not found		3136	11918	3457	13135	5964	5964	6593	36981
27	Indramarket	Collectorate Chowk High Court	Meter is not found		2091	7945		0	4414	4414	2091	16773
28	Indramarket	GCF CJ Building	Meter is found	3708623	1334	5069	1470	5587	2537	2537	2804	15729
29	Polipathar	Gwarighat-1	Meter is found	3588502	10773	40936	11873	45116	20487	20487	22645	127026

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Potential Saving by Providing Street Lighting Control Panel for Existing Load

	Polipathar	Gwarighat-2									0	0
	Polipathar	Gwarighat-3									0	0
	Polipathar	Gwarighat -4									0	0
30	Polipathar	Gwarighat-5 Near Daroga Ghat	Meter is found		3425	13014	3775	14343	6513	6513	7199	40383
31	Polipathar	Jilahari Ghat Ke Pass	Meter is not found		2788	10594	3072	11675	5302	5302	5860	32872
32	Polipathar	Rampur Chowk	Meter is found	3712830	2091	7945	2304	8756	3976	3976	4395	24654
33	Purva	Medical Colony	Meter is found	967999	3136	11918	3457	13135	5964	5964	6593	36981
34	Purva	Tilwara Ghat	Meter is found	3772426	3232	12283	3563	13538	6147	6147	6795	38115
35	Purva	Tripuri Chowk Near gahara thana pass	Meter is found	3587858	1334	5069	1470	5587	2537	2537	2804	15729
36	Purva	Dhanatwari Nagar Chowk	Meter is found	3587945	1334	5069	1470	5587	2537	2537	2804	15729
37	Purva	Andhamukh School Ke pass	Meter is found	3581400	2758	10480	3039	11550	5245	5245	5797	32519
38	Garha	Gullaua Chowk	Meter is found	30291246	1334	5069	1470	5587	2537	2537	2804	15729
39	Vijay Nagar	Transport Nagar-1	Meter is not found		2001	7604	2205	8380	3805	3805	4206	23594
40	Vijay Nagar	Transport nagar - 2	Meter is not found		1334	5069	1470	5587	2537	2537	2804	15729
41	Vijay Nagar	Transport Nagar -3	Meter is not found		1334	5069	1470	5587	2537	2537	2804	15729
42	Vijay Nagar	Dindayal Chowk	Meter is found	3239058	3136	11918	3457	13135	5964	5964	6593	36981
43	Vijay Nagar	Samata Colony Shanti Nagar	Meter is found	17717	1334	5069	1470	5587	2537	2537	2804	15729
44	Vijay Nagar	Bus Stand Z38	Meter is not found		3136	11918	3457	13135			6593	25052

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Potential Saving by Providing Street Lighting Control Panel for Existing Load

45	Bilhari	Kattiyaghat Mini High Mast	Meter is not found		445	1690	490	1862			935	3552
46	Aadhartal	Aadhartal Tiraha High mast	Meter is found		3136	11918	3457	13135	5964	5964	6593	36981
					102479	389422	106865	406086	189231	189231	209344	1173970

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Sr.No	Zone Name	Switching Point Name	Metering Status	Meter Number as per field data	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Ranjhi	Adarsh Market Ranjhi	Meter is found	3580238	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294	No & Low saving due to less connected load at some of the switching points
2	Ranjhi	Ranjhi Badapathar	Meter is not found		5.304	10.608	159855.00	4395	24654	7800	3037	13817	139	
3	Ranjhi	Vehicle Mode Ranjhi	Meter is found	3580237	3.384	6.768	132050.00	1334	10701	7800	2541	360	4396	
4	Ranjhi	Sharda Nagar Park	Meter is found	3772550	7.956	15.912	159855.00	6593	36981	7800	3037	26144	73	
5	Ranjhi	Near Saraswati School Rajhi	Meter is not found	3772551	5.304	10.608	159855.00	2091	16773	7800	3037	5936	323	
6	Gorakhpur	Katanga Tiraha Near Kundan Jewellers	Meter is found	9199217	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294	
7	Gorakhpur	Main Bus Stand	Meter is found	13789	7.956	15.912	159855.00	6593	36981	7800	3037	26144	73	
8	Gorakhpur	Rajiv Gandhi chowk	Meter is found	9199109	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294	
9	Gorakhpur	Chothi Lines Fathak Gorakhpur	Meter is not found		3.384	6.768	132050.00	2804	15729	7800	2541	5388	294	
10	Gorakhpur	Madan Mahal	Meter is not found		5.076	10.152	159855.00	4206	23594	7800	3037	12757	150	
11	Gorakhpur	Welfare Association & Tow bhaisasur	Meter is not found		3.38	6.76	132050.00	2804	15729	7800	2541	5388	294	

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		Road											
12	Gorakhpur	Madan Mahal Chowk Station Road	Meter is not found		3.38	6.76	132050.00	2804	15729	7800	2541	5388	294
13	Mission Compound	Baburao Paranjpe Near Ranital Gate No.2	Meter is found	3235837	5.304	10.608	159855.00	4395	24654	7800	3037	13817	139
14	Mission Compound	Pa.Kunjilal Dube Marg Nepiar Town	Meter is not found	9199010	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
15	Mission Compound	Malviya Chowk	Meter is found	MPE54097	7.956	15.912	159855.00	6593	36981	7800	3037	26144	73
16	Mission Compound	Russel Chowk	Meter is found	9199138	7.956	15.912	159855.00	6593	36981	7800	3037	26144	73
17	Mission Compound	Nagrath Chowk	Meter is found	3843068	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
18	Mission Compound	Omati Thana	Meter is found	1103421	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
19	Mission Compound	Bada Fuhara	Meter is found	3235045	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
20	Mission Compound	Lardganj Tiraha	Meter is found	3708696	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
21	Indramarket	Mal Godam Railway station	Meter is found	3238804	7.956	15.912	159855.00	6593	36981	7800	3037	26144	73
22	Indramarket	Allahabad Bank Chowk	Meter is found		7.956	15.912	159855.00	6593	36981	7800	3037	26144	73
23	Indramarket	Kanchghar Chowk	Meter is not found	9233872	5.304	10.608	159855.00	4395	24654	7800	3037	13817	139
24	Indramarket	Tahasil Chowk /Ambedkar Chowk	Meter is not found	3589644	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
25	Indramarket	Ghamapur Chowk	Meter is not found		3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
26	Indramarket	Raddi Chowki	Meter is not found		7.956	15.912	159855.00	6593	36981	7800	3037	26144	73

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			found										
27	Indramarket	Collectorate Chowk High Court	Meter is not found		5.304	10.608	159855.00	2091	16773	7800	3037	5936	323
28	Indramarket	GCF CJ Building	Meter is found	3708623	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
29	Polipathar	Gwarighat-1	Meter is found	3588502	27.328	54.656	181400.00	22645	127026	7800	3388	115838	19
	Polipathar	Gwarighat-2											
	Polipathar	Gwarighat-3											
	Polipathar	Gwarighat -4											
30	Polipathar	Gwarighat-5 Near Daroga Ghat	Meter is found		8.688	17.376	159855.00	7199	40383	7800	3037	29546	65
31	Polipathar	Jilahari Ghat Ke Pass	Meter is not found		7.072	14.144	159855.00	5860	32872	7800	3037	22035	87
32	Polipathar	Rampur Chowk	Meter is found	3712830	5.304	10.608	159855.00	4395	24654	7800	3037	13817	139
33	Purva	Medical Colony	Meter is found	967999	7.956	15.912	159855.00	6593	36981	7800	3037	26144	73
34	Purva	Tilwara Ghat	Meter is found	3772426	8.2	16.4	159855.00	6795	38115	7800	3037	27278	70
35	Purva	Tripuri Chowk Near gahara thana pass	Meter is found	3587858	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
36	Purva	Dhanatwari Nagar Chowk	Meter is found	3587945	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
37	Purva	Andhamukh School Ke pass	Meter is found	3581400	6.996	13.992	159855.00	5797	32519	7800	3037	21682	88
38	Garha	Gullaua Chowk	Meter is found	30291246	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
39	Vijay Nagar	Transport Nagar-1	Meter is not found		5.076	10.152	159855.00	4206	23594	7800	3037	12757	150

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40	Vijay Nagar	Transport nagar - 2	Meter is not found		3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
41	Vijay Nagar	Transport Nagar -3	Meter is not found		3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
42	Vijay Nagar	Dindayal Chowk	Meter is found	3239058	7.956	15.912	159855.00	6593	36981	7800	3037	26144	73
43	Vijay Nagar	Samata Colony Shanti Nagar	Meter is found	17717	3.384	6.768	132050.00	2804	15729	7800	2541	5388	294
44	Vijay Nagar	Bus Stand Z38	Meter is not found		7.956	15.912	159855.00	6593	25052	7800	3037	14215	135
45	Bilhari	Kattiyaghat Mini High Mast	Meter is not found		1.128	2.256	25000.00	935	3552	7800	400	-4648	-65
46	Aadhartal	Aadhartal Tiraha High mast	Meter is found		7.956	15.912	159855.00	6593	36981	7800	3037	26144	73
Total					260	520	6656115	209344	1173970	358800	127002	688168	116

Annexure-VII, Potential Saving Corresponding to Excess Energy Charges

1. Polypathar Zone

Potential Saving Corresponding to Excess Energy Charges at Polypathar Zone										
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Adarsh Nagar Near Dr. Kumar	44470311-34-91-341824	Bill Received	72043	60313	72043	142397	70354	98	267346
2	Adarsh Nagar	44470305-29-91-341940	Bill Received	42490	46428	46428	127633	81205	175	308579
3	Ashok Vihar Near Lodhi Samudayak Bhavan	1444700349227	Bill Received	27729	28146	28146	13248	-14898	-53	-56612
4	Awanti Vihar	144470058154	Bill Received	5844	6263	6263	94957	88694	1416	337036
5	Bital Gaeneral Store Ke Pass	44470313-36-92-463036	Bill Received	24845	24572	24845	127633	102788	414	390595
6	Brajmohan Nagar Sociey	44470306-21-91-281645	Bill Received	3819	1840	3819	18247	14428	378	54825
7	Chote Hanuman	44470305-29-91-341563	Bill Received	46711	50352	50352	171057	120705	240	458677
8	Chungi Naka Rampur, Near Sule Nursing Home	44470305-29-91-441077	Bill Received	9109	6763	9109	98509	89400	981	339719
9	Daroga Ghat	44470312-35-91-341903	Bill Received	54082	72140	72140	140838	68698	95	261053
10	Durga Nagar Sent Alayasis School	1444700341710.00	Bill Received	4163	6228	6228	82762	76534	1229	290828
11	Tagore Nagar, Forest Gate	44470311-34-91-341850	Bill Received	11554	16294	16294	97315	81021	497	307881

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Potential Saving Corresponding to Excess Energy Charges at Polypathar Zone										
12	Jai Bheem Nagar Society	44470306-21-91-548455	Bill Received	17034	13254	17034	44234	27200	160	103359
13	Jihari Ghat Station	44470312-35-91-463048	Bill Received	18982	30231	30231	104659	74428	246	282827
14	Jalahrigaon Narmada Road	44470313-36-92-401511	Bill Received	3323	3333	3333	155585	152252	4568	578557
15	Jogney Nagar Chui Khadan	1444700341812.00	Bill Received	3667	3355	3667	84544	80877	2206	307334
16	Kalariwala Polipathar	44470312-35-91-341885	Bill Received	23661	26560	26560	116207	89647	338	340657
17	Lalpur	1444700341680.00	Bill Received	5767	3084	5767	102077	96310	1670	365977
18	Polipathar Near Homiopathic Aaushadhalaya/MPHBPP Colony	44470312-35-91-9067644	Bill Received	16194	14034	16194	155338	139144	859	528747
19	Murddaya Ghat	44470312-35-91-341915	Bill Received	21513	19211	21513	110811	89298	415	339334
20	Near Chhappar of Ganesh Yadav	44470305-29-91-341939	Bill Received	30679	50361	50361	165990	115629	230	439389
21	Patel Mohalla, Rampur	44470305-29-91-464235	Bill Received	52001	65034	65034	100062	35028	54	133105
22	Polipathar Gwarighat Bigbazar	44470311-34-91-341666	Bill Received	33553	51684	51684	114076	62392	121	237090
23	PWD Colony	1444700349215.00	Bill Received	37659	32938	37659	20735	-16924	-45	-64311
24	Ravidas Nagar	44470311-34-91-341794	Bill Received	44572	41207	44572	84153	39581	89	150408
25	Rewa Colony	44470306-21-91-341836	Bill Received	36399	42556	42556	91848	49292	116	187309
26	Sant Shiromani Ashram	44470312-35-91-600763	Bill Received	14762	30432	30432	121371	90939	299	345567
27	Satyanand Vihar Garden,Durga Nagar	44470305-29-91-341733	Bill Received	25246	41391	41391	95115	53724	130	204151

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Potential Saving Corresponding to Excess Energy Charges at Polypathar Zone										
28	Shankar Nagar Corporation	44470305-29-91-349239	Bill Received	3075	3697	3697	33799	30102	814	114389
29	Sidhanath	44470306-21-91-341952	Bill Received	2578	2497	2578	58417	55839	2166	212188
30	Vijaynagar Chhapar	44470305-29-91-342257	Bill Received	27490	29915	29915	136317	106402	356	404326
31	Jhanda Chowk Gwarighat	44470312-35-91-341551	Bill Received	100659	137348	137348	126151	-11197	-8	-42549
Total				821200	961459	997195	3136085	2138890	214	8127784

2. Bilhari Zone

Potential Saving Corresponding to Excess Energy Charges at Bilhari Zone										
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Dhobi Ghat Near New Time Telor	342075	Bill Received	23947	25597	25597	86541	60944	238	231588
2	Govt. Primary School Kajarwara	342105	Bill Received	13559	10153	13559	68126	54567	402	207356
3	Janta Medical Hall	342130	Bill Received	67316	68214	68214	103493	35279	52	134060
4	Khermai Mandir, Dixit Ata Chakki	341988	Bill Received	13158	10249	13158	47548	34390	261	130683
5	Purani Kalahari Ke Piche	342166	Bill Received	27270	24169	27270	52799	25529	94	97009
6	Temar Bita Road	342154	Bill Received	8613	6862	8613	50155	41542	482	157861
7	Post Office Gali Ke Andar Vijay Tailor Ke Pass	342129	Bill Received	39306	37484	39306	74213	34907	89	132647
8	Shivpuri Kajarwara	342117	Bill Received	8918	10144	10144	53704	43560	429	165528
9	Gaur Thane Opp	342002	Bill Received	14284	8515	14284	90492	76208	534	289589
10	Gupta Tent House, Ekta Market, Gauraiya Ghat	342014	Bill Received	4698	4538	4698	96895	92197	1963	350349
Total				221069	205924	224842	723966	499124	222	1896670

3. Ranjhi Zone

Potential Saving Corresponding to Excess Energy Charges at Ranjhi Zone											
Sr. No.	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Ranjhi	75 H Bhagat Singh Ward	44420301-2-98-53752	Bill Received	83210	59318	83210	274688	191478	230	727618
2	Ranjhi	72-G Infront Of Akansha Silai Center	44420301-2-98-53740	Bill Received	81658	79751	81658	202501	120843	148	459204
3	Ranjhi	Chandan Colony	44420302-3-98-339209	Bill Received	58188	58333	58333	176467	118134	203	448908
4	Ranjhi	Gokalpur Marghatai	44420303-1-98-73623	Bill Received	23394	16548	23394	151824	128430	549	488036
5	Ranjhi	Main Road Gokalpur	44420303-1-98-51780	Bill Received	72797	69003	72797	252187	179390	246	681682
6	Ranjhi	Mastana Chowk Ranjhi	44420302-3-98-51860	Bill Received	159592	139904	159592	207346	47754	30	181465
7	Ranjhi	Major Kirana Store Ganesh Ganj	2198/123638	Bill Received	56207	61189	61189	132624	71435	117	271455
8	Ranjhi	Merghatai Road ,Khairmai Mandir	44420301-2-98-54252	Bill Received	92376	11151	92376	197400	105024	114	399091
9	Ranjhi	Police Thana	44420302-3-98-129112	Bill Received	94357	81039	94357	292603	198246	210	753334
10 (A)	Ranjhi	Raksha nagar New		Bill Received	15297	20113	20113	0	-20113	-100	-76429
10 (B)	Ranjhi	Raksha nagar Colony	44420301-2-98-80639	Bill Received	17531	16311	17531	53868	36337	207	138081

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Potential Saving Corresponding to Excess Energy Charges at Ranjhi Zone											
	Total				32827	36424	37644	53868	16224	43	61652
11	Ranjhi	Ranghi Bazar Colony	44420302-3-98-272310	Bill Received	32980	31370	32980	46420	13440	41	51071
12	Ranjhi	Ravan Park Ranghi	44420302-3-98-51895	Bill Received	38614	33008	38614	201259	162645	421	618052
13	Ranjhi	Shanti Nagar Ranghi (S-29)	44420301-2-98-152870	Bill Received	8326	1682	8326	151368	143042	1718	543559
14	Ranjhi	Sharda Nagar Ranghi (S-1)	44420301-2-98-53739	Bill Received	20816	20936	20936	259200	238264	1138	905402
15	Ranjhi	Neutral Garden Ranghi/Sharda Nagar Park	44420301-2-98-336750	Bill Received	62542	35679	35679	15659	-20020	-56	-76078
16 (A)	Ranjhi	Uday Nagar	44420303-1-98-51792	Bill Received	28168	24432	28168	198000	169832	603	645362
16 (B)	Ranjhi	Uday Nagar - 3,(E29)		Bill Received	3075	1454	3075		-3075	-100	-11683
	Total				31242	25886	31242	198000	166758	534	633679
Total					949126	761220	932327	2813414	1881087	202	7148129

4. Garha Zone

Potential Saving Corresponding to Excess Energy Charges at Garha Zone											
Sr.No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Garha	Amanpur Nursing ward	344679	Bill Received	55763	63326	63326	173527	110201	174	418764
2	Garha	Bedi Nagar Near Gurudwara Area & Central lighting	44470201-17-93-544668	Bill Received	33438	10713	33438	51876	18438	55	70063
3	Garha	Bedi nagar	44470214-33-93-462329	Bill Received	23012	26087	26087	95572	69485	266	264042
4	Garha	Brajmohan nagar supatal	344473	Bill Received	14896	18046	18046	109930	91884	509	349161
5	Garha	Choti bagariya shree ram mandir ke samne	144470504-20-92-0936261365	Bill Received	64719	72638	72638	65556	-7082	-10	-26911
6	Garha	Devtal Ayodayapuri	469518	Bill Received	29829	32868	32868	87210	54342	165	206501
7	Garha	Ekta chowk	48255	Bill Received	16633	44001	44001	58764	14763	34	56098
8	Garha	Ganga Sagar	39-93-344539	Bill Received	25399	27007	27007	132050	105043	389	399163
9	Garha	Garha Bazar maszid ke pass	44470201-17-93-344461	Bill Received	116089	134475	134475	90639	-43836	-33	-166576
10	Garha	Near of Gullah Chouraha	344655	Bill Received	48267	49144	49144	119391	70247	143	266940
11	Garha	Gupteshwar Near Babbu Vidhayak House	402217	Bill Received	10713	9978	10713	81928	71215	665	270616

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Potential Saving Corresponding to Excess Energy Charges at Garha Zone											
12	Garha	HP Petrol Pump Sharda Chowk	44470201-17-93-544530	Bill Received	47121	31667	47121	76210	29089	62	110537
13	Garha	In Front Of Dr. Loth Hospital	44470214-33-93-469520	Bill Received	41736	39709	41736	88127	46391	111	176286
14	Garha	In front of Triveni Complex LIC Chowk	44470214-33-93-469531	Bill Received	37697	33531	37697	75431	37734	100	143389
15	Garha	Kachpura Overbridge	344618	Bill Received	33658	7411	33658	107896	74238	221	282104
16	Garha	Khudabaksh Garha Bazar	544681	Bill Received	22420	25194	25194	101622	76428	303	290427
17	Garha	Kripal Chowk	344540	Bill Received	85095	91008	91008	147977	56969	63	216484
18	Garha	LIC Office	544670	Bill Received	60489	61119	61119	57241	-3878	-6	-14735
19	Garha	Main Road Ratan Nagar	44470206-23-93-384460	Bill Received	17454	20157	20157	43827	23670	117	89947
20	Garha	Near Bank Of Maharastra Gautam Madhia	4470204-20-92-344515	Bill Received	105071	102895	105071	138249	33178	32	126078
21	Garha	Near Geological Survey Of India	344576	Bill Received	77781	73304	77781	112286	34505	44	131118
22	Garha	Near H.K. Engg. Work	344552	Bill Received	42605	41838	42605	95178	52573	123	199778
23	Garha	Near Supatal Sulabh Complex	344448	Bill Received	16538	11879	16538	103606	87068	526	330859
24	Garha	Panday Vyas Chowk	402205	Bill Received	22420	33419	33419	93400	59981	179	227926
25	Garha	Pishanhari Ki Madiya	44470211-31-92-368702	Bill Received	45890	38640	45890	42450	-3440	-7	-13071
26	Garha	Ranidurgavati	44470214-33-93-488306	Bill Received	42777	49406	49406	79900	30494	62	115876

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Potential Saving Corresponding to Excess Energy Charges at Garha Zone											
27	Garha	Ratan Nagar Gupteshwar	44470206-23-93- 344485	Bill Received	40008	46612	46612	122707	76095	163	289161
28	Garha	Sanjivani Nagar Beside Rly Track	44470204-20-92- 344588	Bill Received	37964	56046	56046	236933	180887	323	687369
29	Garha	Sainik Society	44470218-40-93- 344527	Bill Received	56087	52341	56087	86802	30715	55	116716
30	Garha	Shakti Nagar Chowk	344680	Bill Received	48372	42906	48372	120210	71838	149	272984
31	Garha	Shakti Nagar Shree Sai Palace Barat Ghar	384458	Bill Received	52230	96430	96430	84958	-11472	-12	-43594
32	Garha	Sharda Mandir Road	4470214-33-93- 344643	Bill Received	33477	25833	33477	110606	77129	230	293091
33	Garha	Shukla Nagar	144470517-39-93- 8045623876	Bill Received	59066	62634	62634	172716	110082	176	418312
34	Garha	Subhash Chowk Shakti Nagar	344692	Bill Received	101538	97446	101538	125782	24244	24	92128
35	Garha	Supatal Talab	436902	Bill Received	60585	44606	60585	91741	31156	51	118394
Total					1626837	1674313	1801923	3582298	1780375	99	6765423

5. Indramarket Zone

Potential Saving Corresponding to Excess Energy Charges at Indramarket Zone										
Sr.No	Switching Point Name	Service Connection No.	Remark on Billing Status	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Adarsh Nursing Home	44420208-21-94-70440	Bill Received	36351	43161	43161	32574	-10587	-25	-40229
2	Allahabad Bank Chowk	44420105-9-98-70816	Bill Received	102187	96277	102187	106634	4447	4	16899
3	Bai Ka Bagicha Nandani Foundation	44420104-8-94-71377	Bill Received	255467	221777	255467	183718	-71749	-28	-272648
4	Baldi Kori Ki Dafai	44420107-12-94-70725	Bill Received	72348	100971	100971	84509	-16462	-16	-62557
5	Besides Kotawali	44420201-13-94-71122	Bill Received	80321	72831	80321	63538	-16783	-21	-63775
6	Bhawani Chowk Sidh Baba Road	44420203-17-94-70385	Bill Received	156250	119644	156250	128210	-28040	-18	-106552
7	Bohara Bag Chowk	44420205-19-94-70439	Bill Received	110790	107949	110790	174956	64166	58	243830
8	Chandmari Talaiya Near Durga Mandir	44420107-12-94-70713	Bill Received	68825	60497	68825	64167	-4658	-7	-17700
9	CharKhabha	44420208-21-94-70452	Bill Received	108895	104021	108895	32391	-76504	-70	-290714
10	Choti Madar Tekari	44420205-19-94-70464	Bill Received	45928	38579	45928	66073	20145	44	76552
11	Chui Khadan	44420106-10-94-71353	Bill Received	24148	26184	26184	118117	91933	351	349347

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Potential Saving Corresponding to Excess Energy Charges at Indramarket Zone										
12	Deepak dairy sidbaba road,hanuman hotel.	44420203-17-94-70373	Bill Received	135014	113276	135014	136242	1228	1	4665
13	Ekta Transport Services, Sanjivani Hospital	44420205-19-94-70488	Bill Received	6932	10267	10267	48029	37762	368	143497
14	Ghamapur Chowk , Arvind ward	44420201-13-94-71092	Bill Received	112270	119898	119898	186327	66429	55	252430
15	Gopal Hotel	44420107-12-94-70701	Bill Received	163020	184248	184248	175158	-9090	-5	-34541
16	Haddi Godam	70415	Bill Received	41020	37922	41020	71131	30111	73	114422
17	Hanumantal Thana Ke Pass	44420202-16-94-71080	Bill Received	242315	165866	242315	185889	-56426	-23	-214417
18	In Front of Agrawal Traders	44420102-6-94-358228	Bill Received	91550	75441	91550	54813	-36737	-40	-139602
19	Inside Galagala Shiv mandir	44420206-20-94-70658	Bill Received	101881	113156	113156	108498	-4658	-4	-17700
20	Kachghar Chowk	44420107-12-94-70683	Bill Received	126593	105786	126593	188679	62086	49	235928
21	Futhatal Mazar Ke Samne , L/148	44420201-13-94-71110	Bill Received	114963	120765	120765	112928	-7837	-6	-29782
22	Lohia Pool	44420102-6-94-159487	Bill Received	128999	124970	128999	30953	-98046	-76	-372574
23	Lohia Ward	44420102-7-0841	Bill Received	51065	60339	60339	70603	10264	17	39004
24	Mominpura Talaiya	44420208-21-94-310724	Bill Received	35558	30423	35558	70386	34828	98	132345
25	Mothi Nalla	44420208-21-94-70476	Bill Received	65368	61031	65368	207530	142162	217	540214
26	Near Bridge No 1	44420209-26-94-70646	Bill Received	79042	78437	79042	62557	-16485	-21	-62642
27	Near Empire Talkies	44420105-9-94-70853	Bill Received	66376	56852	66376	61194	-5182	-8	-19690

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Potential Saving Corresponding to Excess Energy Charges at Indramarket Zone										
28	Near Kharmai Gate	44420202-16-94-71079	Bill Received	68596	91341	91341	90218	-1123	-1	-4266
29	Near Maulana Abdul Kalam Ward Gate,Rajja Chowk	44420207-15-94-70348	Bill Received	134356	121641	134356	179504	45148	34	171564
30	Near RTO Office	44420109-23-98-190317	Bill Received	65540	35653	65540	39141	-26399	-40	-100317
31	16 Quarter Thkkargram	70324	Bill Received	55629	49757	55629	45083	-10546	-19	-40075
32	Sathiya Kuva	44420201-13-94-71109	Bill Received	98186	103683	103683	118552	14869	14	56501
33	Science College	44420111-25-94-71043	Bill Received	35463	36862	36862	30200	-6662	-18	-25316
34	Shiv Mandir, Kadam Taliya	44420206-20-94-70671	Bill Received	181954	193053	193053	154807	-38246	-20	-145334
35	Tahasil Chowk	44420209-26-94-70634	Bill Received	160136	139503	160136	139229	-20907	-13	-79447
36	Thakur Electronic Kachghar Colony	44420107-12-94-71389	Bill Received	156689	111839	156689	159878	3189	2	12117
Total				3580025	3333899	3716775	3782416	65641	2	249436

6. Mission Compound Zone

Potential Saving Corresponding to Excess Energy Charges at Mission Compound Zone											
Sr. No.	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Mission Compound	Bada Fuhara	44505106-1-97-100171	Bill Received	318153	253821	318153	230898	-87255	-27	-331568
2	Mission Compound	Baldev Bag Agrawal Petrol Pump Ke Samne	44505103-61-97-100183	Bill Received	226536	213989	226536	161143	-65393	-29	-248493
3	Mission Compound	Golbazar Near Ranital Chowk	44505107-18-97-100237	Bill Received	252231	159686	252231	145312	-106919	-42	-406290
4	Mission Compound	Gopal Vihar Colony	44505101-6-99-150022	Bill Received	97069	84709	97069	148841	51772	53	196733
5	Mission Compound	Gurunanak School & College Karamchand Chowk	44505204-14-98-242720	Bill Received	52507	52122	52507	34574	-17933	-34	-68144
6	Mission Compound	Karamchand Chowk Near Baglai Culb	44505301-10-99-100468	Bill Received	145260	119530	145260	123132	-22128	-15	-84086
7	Mission Compound	Kotwali Thana	44505309-23-99-100481	Bill Received	205305	226810	226810	218976	-7834	-3	-29767
8	Mission Compound	Madhavtal Yatayat Thana	44505301-10-98-179279	Bill Received	136657	104770	136657	106794	-29863	-22	-113478
9	Mission Compound	Mission Compound Chouraha	44505302-13-98-100407	Bill Received	156174	96456	156174	77410	-78764	-50	-299302
10	Mission Compound	Near Gohalpur Thana	44505304-12-99-100493	Bill Received	134126	96023	134126	59997	-74129	-55	-281692
11	Mission Compound	Near Kachyaana Chowk	44505107-18-97-150769	Bill Received	55667	53681	55667	120491	64824	116	246331

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Potential Saving Corresponding to Excess Energy Charges at Mission Compound Zone											
12	Mission Compound	Russel Chowk Near State Bank of Patiala	44505307-20-98-100286	Bill Received	85458	44369	85458	64202	-21256	-25	-80773
13	Mission Compound	Russel Chowk Opposite Anmol Auto Mobiles	44505307-20-98-483909200	Bill Received	16041	15461	16041	13200	-2841	-18	-10797
14	Mission Compound	Shastri Bridge ICICI Bank	44505307-20-98-100420	Bill Received	78851	63755	78851	45099	-33752	-43	-128256
15	Mission Compound	Telegraph gate no.2	44505102-4-99-100262	Bill Received	132159	117761	132159	99305	-32854	-25	-124847
Total					2092193	1702944	2113698	1649374	-464324	-22	-1764429

7. Gorakhpur Zone

Potential Saving Corresponding to Excess Energy Charges at Gorakhpur Zone											
Sr.No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Gorakhpur	Ambey Traders Shethi Nagar	44505203-9-28-309783	Bill Received	63210	61381	63210	52524	-10686	-17	-40608
2	Gorakhpur	Anand Enterprises Choti Lines Fatak	44505203-9-99-323688	Bill Received	9023	7192	9023	6474	-2549	-28	-9687
3	Gorakhpur	Madan Mahal BSNL Office Ke Pass	44505202-7-99-292436	Bill Received	45689	35294	45689	29414	-16275	-36	-61845
4	Gorakhpur	Esai Mohalla Chowk	44505202-7-99-100614	Bill Received	76301	68722	76301	47165	-29136	-38	-110718
5	Gorakhpur	Employment Office	44505203-9-25-100699	Bill Received	185487	156314	185487	136420	-49067	-26	-186455
6	Gorakhpur	Ghantaghar Omati Thana Ke Samne	44505206-24-99-100559	Bill Received	120701	101562	120701	84760	-35941	-30	-136577
7	Gorakhpur	J.K.Complex Gorakhpur	44505205-17-99-100640	Bill Received	186404	216784	216784	118881	-97903	-45	-372030
8	Gorakhpur	Katanga Tiraha	44505205-17-99-418079	Bill Received	116548	89869	116548	101895	-14653	-13	-55681
9	Gorakhpur	Madan Mahal Thana	44505201100584.00	Bill Received	87282	90044	90044	77819	-12225	-14	-46455
10	Gorakhpur	Navbhrat Press(Near of santnavent motor mitra)	44505307-20-98-100419	Bill Received	9186	771	9186	26890	17704	193	67277
11	Gorakhpur	Near BPCL Petrol Pump Medical Road,Main Bus Stand	44505201-16-98-408852	Bill Received	57892	46240	57892	44853	-13039	-23	-49548

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12	Gorakhpur	Near Narmada Traders	44505203-9-25-100729	Bill Received	161702	113679	161702	102374	-59328	-37	-225447
13	Gorakhpur	Near Shri Guru Tegh Bahadur Khalsa College	44505202-7-99-227547	Bill Received	51160	33525	51160	32850	-18310	-36	-69579
14	Gorakhpur	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	44505202-7-99-100602	Bill Received	138891	101958	138891	73550	-65341	-47	-248296
15	Gorakhpur	Rishi Vihar Colony	44505207-21-98-169018	Bill Received	45197	39341	45197	38864	-6333	-14	-24067
16	Gorakhpur	Saluja Tyres Madhotal Road	44505201-16-99-100560	Bill Received	69990	51509	69990	52189	-17801	-25	-67643
17	Gorakhpur	Santosh Garage	44505202-7-99-100596	Bill Received	50645	46297	50645	42987	-7658	-15	-29099
18	Gorakhpur	Teenpatti Chauraha	44505204-14-99-100547	Bill Received	67727	78066	78066	66001	-12065	-15	-45849
19	Gorakhpur	Wright Town Pankaj Palace	44505201-16-99-183519	Bill Received	93068	96826	96826	47360	-49466	-51	-187973
Total					1636104	1435374	1683344	1183270	-500074	-30	-1900281

8. Purva Zone

Potential Saving Corresponding to Excess Energy Charges at Purva Zone											
Sr.No	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Purva	Baznamath Mandir Road	44470208-25-91-368696	Bill Received	24788	24506	24788	38687	13899	56	52818
2	Purva	Bhairav Baba Road	44470316-50-96-342142	Bill Received	21923	16959	21923	18161	-3762	-17	-14296
3	Purva	Shastri Nagar Sai Mandir Ke Samne/Bhairav Nagar Bada Pathar	44470208-25-91-744750	Bill Received	72702	50808	72702	73243	541	1	2058
4A)	Purva	Bhairav Nagar Near Sub Station MPEB Purva		Bill Received	8708	6272	8708	0	0	0	0
4B)	Purva	Neharu Nagar Near Apex Hospital		Bill Received	23164	40392	40392	64400	0	0	0
4	Purva	Bhairav Nagar Near Sub Station MPEB Purva & Neharu Nagar Near Apex Hospital	44470211-31-92-272462	Bill Received	31873	46665	49101	64400	15299	31	58138
5	Purva	Bhukamp Colony	44470216-38-91-368660	Bill Received	25074	28032	28032	59000	30968	110	117678
6	Purva	Devtal Main Road, Sharn Park	44470212-32-91-344564	Bill Received	15201	14261	15201	83040	67839	446	257788
7A)	Purva	Ganga Nagar Road		Bill Received	89621	100985	100985	81451	0	0	0
7B)	Purva	Rajul City		Bill Received	15488	8944	15488	0	0	0	0
7	Purva	Ganga Nagar Road & Rajul City	44470207-24-91-368593	Bill Received	105109	109929	116473	81451	-35022	-30	-133083

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Potential Saving Corresponding to Excess Energy Charges at Purva Zone											
8	Purva	Garha Thana , Near Medical College	44470212-32-91-793050	Bill Received	68642	57979	68642	41039	-27603	-40	-104893
9A)	Purva	Gupta Nagar		Bill Received	7085	6342	7085	0	0	0	0
9B)	Purva	Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra		Bill Received	80779	92374	92374	89927	0	0	0
9	Purva	Gupta Nagar & Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra	44470208-25-91-742880	Bill Received	87864	98716	99459	89927	-9532	-10	-36222
10	Purva	LIG Colony, Near Akarshan Beauty parlor	44470201-17-93-469581	Bill Received	32713	31273	32713	87210	54497	167	207089
11	Purva	Lodhi Mohalla Shastri Nagar	44470214-33-93-344503	Bill Received	21560	21182	21560	79890	58330	271	221653
12	Purva	Medical Colony (Dr.Colony)	44470207-24-91-520834	Bill Received	27633	34453	34453	42387	7934	23	30150
13	Purva	Near Gyanganga College	44470208-25-91-742867	Bill Received	75394	56887	75394	36790	-38604	-51	-146696
14	Purva	Near Hotel Maruti Mandapam	44470212-32-91-584873	Bill Received	52507	41636	52507	58552	6045	12	22972
15	Purva	Near Jain Mandir	44470201-17-93-436938	Bill Received	61015	55431	61015	53746	-7269	-12	-27624
16	Purva	Near of Jasuja City	44470215-37-92-725171	Bill Received	71355	53235	71355	50875	-20480	-29	-77825
17	Purva	Near Shahi Naka	44470205-22-93-344590	Bill Received	38423	51833	51833	39104	-12729	-25	-48370
18	Purva	Near Samudayak Bhawan	44470215--37-91-368570	Bill Received	71809	71438	71809	40211	-31598	-44	-120071
19	Purva	Near Water Tank Tripura Chowk	44470211-31-92-549721	Bill Received	8708	7665	8708	13700	4992	57	18969
20	Purva	Paraswada Colony	44470216-38-91-368660	Bill Received	22592	16486	22592	42183	19591	87	74448
21	Purva	Sagda Sai Mandir	44470314-41-96-584204	Bill Received	11840	10486	11840	58494	46654	394	177285

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Potential Saving Corresponding to Excess Energy Charges at Purva Zone											
22	Purva	Sai Colony	44470036872	Bill Received	6302	7481	7481	4704	-2777	-37	-10553
23	Purva	Shahnala	44470208-25-91-368684	Bill Received	4163	10845	10845	24000	13155	121	49989
24A)	Purva	Shastri Nagar Chouraha I		Bill Received	20644	47409	47409	90460	0	0	0
24B)	Purva	Shastri Nagar-2		Bill Received	35157	91638	91638	0	0	0	0
24	Purva	Shastri Nagar Chouraha I & Shastri Nagar-2	44470208-25-91-368635	Bill Received	55801	139047	139047	90460	-48587	-35	-184632
25	Purva	Tilwara Ghat Road	444-70208-25-91-368532	Bill Received	49976	59664	59664	37391	-22273	-37	-84639
26	Purva	Tripuri Chowk	44470211-31-92-368714	Bill Received	15106	12667	15106	59880	44774	296	170143
					1080072	1129565	1244242	1368525	124283	10	472275

9. Adhartal Zone

Potential Saving Corresponding to Excess Energy Charges at Adhartal Zone											
Sr. No.	Zone Name	Switching Point Name	Service Connection No.	Remark on Billing Status	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Corrected Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Adhartal Zone	Adhartal Tiraha	44470101-6-91-352147 & 44470101-6-91-352305	Bill Received	105147	97709	105147	156765	51618	49	196148
2	Adhartal Zone	Gaji Nagar	44470111-47-91-352111	Bill Received	74554	46279	74554	149113	74559	100	283325
3	Adhartal Zone	Chokse Hotel (New Kanchanpur)	44470102-7-93-665836	Bill Received	23909	18501	23909	79632	55723	233	211747
4	Adhartal Zone	Ram Nagar (New R-11)	44470111-47-91-825372	Bill Received	77514	69484	77514	74038	-3476	-4	-13209
5	Adhartal Zone	Afak Bekari Makka Nagar Gali no-3	44470102-7-93-663451	Bill Received	21026	19798	21026	89844	68818	327	261510
6	Adhartal Zone	Agrawal Kirana Store Shankar Chowk	44470102-7-93-352159	Bill Received	17464	2602	17464	117611	100147	573	380559
7	Adhartal Zone	Anand Nagar, Near Dr Ansari Clinic	44470101-6-91-505535	Bill Received	37697	32605	37697	139826	102129	271	388090
8	Adhartal Zone	Dr Ambedkar Colony	44470102-7-93-663463	Bill Received	57176	41479	57176	87620	30444	53	115688
9	Adhartal Zone	G. C. F. Colony	44470111-47-91-352330	Bill Received	75528	63387	75528	127529	52001	69	197604
10	Adhartal Zone	Gandhi Chowk Katra, Near Vishwkarma Electric	44470101-6-91-673651	Bill Received	10503	10705	10705	117598	106893	1018	406194
11	Adhartal Zone	Gayatri Nagar	44470111-47-91-352135	Bill Received	12489	13131	13131	138502	125371	1004	476409

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Potential Saving Corresponding to Excess Energy Charges at Adhartal Zone											
12	Adhartal Zone	Hussainiya masjid , Rajja chowk	44470101-6-91-665812	Bill Received	5309	3119	5309	150426	145117	2733	551445
13	Adhartal Zone	Housing Board in Pump House	44470102-7-93-352329	Bill Received	32636	4730	32636	18546	-14090	-43	-53544
14	Adhartal Zone	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass	44470103-8-90-352160	Bill Received	6627	6185	6627	77500	70873	1070	269319
15	Adhartal Zone	Industrial Area Near Power House	44470110-16-90-352226	Bill Received	24616	22347	24616	147693	123077	500	467693
16	Adhartal Zone	Jawahar Nagar , Hussain Masjid	44470102-7-93-663554	Bill Received	22534	3854	22534	92578	70044	311	266166
17	Adhartal Zone	Katra Sabji Mandi	44470101-6-91-352100	Bill Received	20930	21392	21392	141701	120309	575	457175
18	Adhartal Zone	Main Road Adhartal Near Nilesh Computer	44470101-6-91-505547	Bill Received	37697	28225	37697	118663	80966	215	307670
19 (A)	Adhartal Zone	Shankar Mandir Neharu Nagar		Bill Received	5042	456	5042				
19 (B)	Adhartal Zone	Vivek Colony	44470110-16-90-352238	Bill Received	4507	5457	5457	87907			
	Total				9548	5913	10499	87907	77408	811	294150
20	Adhartal Zone	New Ramnagar NR5	44470111-47-91-448485	Bill Received	22114	17555	22114	144042	121928	551	463326
21	Adhartal Zone	New Ram Nagar NR/10/5	44470111-47-91-805257	Bill Received	12570	4301	12570	75131	62560	498	237729
22	Adhartal Zone	Pandey Gas Agency	44470110-16-90-352214	Bill Received	6684	4205	6684	127535	120851	1808	459234
23	Adhartal Zone	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	44470102-7-93-352342	Bill Received	35367	24992	35367	108536	73169	207	278041
24	Adhartal Zone	Rain Baysara, Anand Nagar	44470101-6-91-352287	Bill Received	51580	37799	51580	146165	94585	183	359421

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Potential Saving Corresponding to Excess Energy Charges at Adhartal Zone											
25	Adhartal Zone	Sanjay Nagar Industrial Arya Chand Mari Road	44470103-8-90-352093	Bill Received	5844	6325	6325	79619	73294	1254	278518
26	Adhartal Zone	Sanjay Nagar	44470104-9-90-352123	Bill Received	13979	4730	13979	127853	113874	815	432722
27	Adhartal Zone	SBI ATM New Kanchanpur	44470104-9-90-352251	Bill Received	52726	40401	52726	118587	65861	125	250271
28	Adhartal Zone	Shobapur Railway Fatak	44470104-9-90-352263	Bill Received	49289	45088	49289	128719	79430	161	301835
29	Adhartal Zone	Xlean Bharat Gas Agency	44470101-6-91-505523	Bill Received	37697	31641	37697	152066	114369	303	434602
30	Adhartal Zone	Zenda Chowk J.P. Nagar	44470111-47-91-665782	Bill Received	15392	12991	15392	129654	114262	742	434196
					976147	741473	978884	3450999	2394706	245	9099884

10. Vijay Nagar Zone

Potential Saving Corresponding to Excess Energy Charges at Vijay Nagar Zone											
Sr.No	Zone Name	Switching Point Name	Remark on Billing Status	Service Connection No.	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Vijay Nagar	Amkhera Sanjay Telecom	Bill Received	44470109-15-98-352275	58723	51281	58723	176802	118079	201	448701
2	Vijay Nagar	Basti No-1 Amarkhera Gohalapur	Bill Received	44470109-15-98-406089	30765	35750	35750	179886	144136	403	547718
3	Vijay Nagar	Central Lighting Works,Kamla Nehru Nagar,Near Mobile Shopee	Bill Received	44505102-4-99-411565	83472	59130	83472	66891	-16581	-20	-63008
4	Vijay Nagar	Central Street Light Ranital	Bill Received	44505102-4-99-398901	72702	58359	72702	50038	-22664	-31	-86121
5	Vijay Nagar	Damuh Naka Chowk Z33 & Near Damoh Naka Chowk	Bill Received	44505305-15-99-100500	202827	161762	202827	138669	-64158	-32	-243801
6	Vijay Nagar	Dindayal Chowk	Bill Received	921142	51046	68118	68118	60814	-7304	-11	-27754
7	Vijay Nagar	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha	Bill Received	44470114-43-98-840622	32846	34782	34782	63553	28772	83	109333
8	Vijay Nagar	Dr.Atul Sharma	Bill Received	921130	54154	37392	54154	54092	-62	0	-235
9	Vijay Nagar	Global Hospital Ukhaari	Bill Received	921129	78731	52411	78731	55640	-23091	-29	-87747
10	Vijay Nagar	Hat Bajar	Bill received	44470112-45-98-539855	12642	4152	12642	137049	124407	984	472746

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Potential Saving Corresponding to Excess Energy Charges at Vijay Nagar Zone											
11	Vijay Nagar	ITI Near Swastik Hospital	Bill Received	44470112-45-98-894874	83472	65437	83472	31860	-51612	-62	-196126
12	Vijay Nagar	Jain Mandir Mather Theresa	Bill Received	343638	23379	9338	23379	43080	19701		74863
13	Vijay Nagar	Jankey Nagar	Bill Received	44470116-44-98-352299	40075	49424	49424	154731	105307	213	400167
14	Vijay Nagar	Kasodhan Colony Green City	Bill Received	44470113-48-98-581227	20286	1594	20286	167160	146874	724	558123
15	Vijay Nagar	Labour Chowk	Bill Received	44505104-3-99-100274	45393	44895	45393	128941	83548	184	317482
16	Vijay Nagar	Mandi Area In Front of Baba Sai Clinic	Bill Received	44470112894898	70009	55241	70009	36876	-33133	-47	-125905
17	Vijay Nagar	Near Rose Beauty salon Ekta Tilhara	Bill Received	44470116-44-98-352378	69722	46848	69722	59391	-10331	-15	-39259
18	Vijay Nagar	Om Enterprises	Bill Received	539843	11916	9014	11916	10755	-1161		-4413
19	Vijay Nagar	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk	Bill Received	44470114-43-98-539806	14896	20279	20279	166079	145800		554038
20	Vijay Nagar	Pili Building Ke Samne Near Deligh Mariage.Com	Bill Received	44505105-2-99-446786	99628	82148	99628	118875	19247	19	73139
21	Vijay Nagar	BH/08 Pushp Nagar	Bill Received	44505102310372	9911	12413	12413	43200	30787	248	116991
22	Vijay Nagar	Sarvaday Nagar	Bill Received	44505102-4-99-356104	47083	38027	47083	75590	28507	61	108326
23	Vijay Nagar	Shanti Nagar	Bill Received	44505308-22-99-149974	101184	83036	101184	127394	26210	26	99596
24	Vijay Nagar	Sneha Nagar Jayaswal Treders	Bill Received	44505104-3-99-97962	99647	99680	99680	22935	-76745	-77	-291631
25	Vijay Nagar	Trimurti Nagar Madhotal	Bill Received	44470113-48-98-352202	79347	53673	79347	178024	98677	124	374972

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Potential Saving Corresponding to Excess Energy Charges at Vijay Nagar Zone											
26	Vijay Nagar	Varsa Kirana Store	Bill Received	44470116-44-98-352172	24387	17538	24387	153413	129026	529	490300
27	Vijay Nagar	Shiv Nagar Near APT Machine	Bill Received	44505105100225	66314	51053	66314	109837	43523	66	165389
28	Vijay Nagar	Damoha Naka Road	Bill Received	44505105-2-95-100213	101557	80303	101557	127253	25696	25	97646
29	Vijay Nagar	Chota Fuhara Chowk	Bill Received	44505305-15-99-100511	104545	84823	104545	121572	17027	16	64701
30	Vijay Nagar	DR.Vijay Jain	Bill Received	44470114-43-98-352184	31806	34173	34173	152390	118217	346	449226
31	Vijay Nagar	Hat Bazar	Bill Received	680461	51814	53970	53970	114044	60074	111	228280
32	Vijay Nagar	Namdav Brother Ke Pass S.B.I. Colony	Bill Received	44470112-45-98-352240	75595	69826	75595	121342	45747	61	173840
33	Vijay Nagar	ITI Madital	Bill Received	44470112-45-98-352196	28559	15715	28559	152427	123868	434	470697
34	Vijay Nagar	Sagam Colony	Bill Received	921117	49833	49634	49833	36852	-12981	-26	-49328
35	Vijay Nagar	Thana Vijay Nagar	Bill Received	4598539831	10799	14007	14007	130649	116642	833	443238
36	Vijay Nagar	P.No.66 Tulsi Nagar	Bill Received	44505105-2-95-174762	63645	48162	63645	102135	38490	60	146263
37	Vijay Nagar	Union Bank Ke Pass	Bill Received	98859760	31491	25080	31491	30437	-1054	-3	-4005
38	Vijay Nagar	Yadav Colony	Bill Received	44505102-4-97-100250	78975	78621	78975	86389	7414	9	28174
39	Vijay Nagar	Yadav Colony	Bill Received	44505102-4-97-129884	120577	110166	120577	62157	-58420	-48	-221997
40	Vijay Nagar	Lal bahadur Shastri Colony	Bill Received	44470113-48-98-586675	11592	17783	17783	162947	145164	816	551624
Total					2345345	1985039	2400526	4012169	1611643	67	6124242

11. Highmast

Potential Saving Corresponding to Excess Energy Charges at Highmast											
Sr.No	Zone Name	Switching Point Name	Remark on Billing Status	Service Connection No.	Annual Unit Consumption As per Installed Load in kWh	Annual Unit Consumption as per Correted Measured Load Considering Total Fixtures are working in Kwh	Unit Consumption for Estimation of Excess Billing Unit in kWh	Annual Unit Consumption as per MPPKVCL Billing Unit in kWh	Excess Billing Unit in kWh per annum	Percentage Excess Billing Unit	Excess Energy Charges in Rs. Per annum
1	Ranjhi	Adarsh Market Ranjhi	Bill Received	4442030251949	16156	13639	16156	13463	-2693	-17	-10233
2	Ranjhi	Ranjhi Badapathar	Bill Received	4442030153764	25322	13972	25322	12960	-12362	-49	-46977
3	Ranjhi	Vehicle Mode Ranjhi	Bill Received	4442030251901	16156	13946	16156	14831	-1325	-8	-5035
4	Ranjhi	Sharda Nagar Park	Bill Received	44420301-2-98-336750	37984	0	37984				
5	Ranjhi	Near Saraswati School Rajhi	Bill Received	44420301285912	25322	13771	25322	20193	-5129	-20	-19492
6	Gorakhpur	Katanga Tiraha Near Kundan Jewellers	Bill Received	44505205-17-97-100663	16156	0	16156	6240	-9916	-61	-37680
7	Gorakhpur	Main Bus Stand	Bill Received	44505201-16-99-100572	37984	20148	37984	19981	-18003	-47	-68410
8	Gorakhpur	Rajiv Gandhi chowk	Bill Received	44505204-14-97-100523	16156	11090	16156	7643	-8513	-53	-32349
9	Gorakhpur	Chothi Lines Fathak Gorakhpur	Bill Received	44505203100687	16156	12711	16156	11450	-4706	-29	-17882
10	Gorakhpur	Madan Mahal	Bill Received	44505202100675	24234	29171	20028	14219	-5809	-29	-22073
11	Gorakhpur	Welfare Association & Tow bhaisasur Road	Bill Received	44505205-17-98-392078	16156	2470	16156	15995	-161	-1	-611

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Potential Saving Corresponding to Excess Energy Charges at Highmast											
12	Gorakhpur	Madan Mahal Chowk Station Road	Bill Received	44505201-16-98-453067	16156	27366	13352	31236	17884	134	67960
13	Mission Compound	Baburao Paranjpe Near Ranital Gate No.2	Bill Received	44505306-19-98-290520	25322	18151	25322	11691	-13631	-54	-51799
14	Mission Compound	Pa.Kunjilal Dube Marg Nepiar Town	Bill Received	44505307-20-98-100444	16156	13928	16156	7146	-9010	-56	-34238
15	Mission Compound	Malviya Chowk	Bill Received	44505301-10-99-100470	37984	33481	37984	21675	-16309	-43	-61972
16	Mission Compound	Russel Chowk	Bill Received	44505307-20-98-100432	37984	23310	37984	20482	-17502	-46	-66506
17	Mission Compound	Nagrath Chowk	Bill Received	44505302-13-98-100456	16156	0	16156	24830	8674	54	32962
18	Mission Compound	Omati Thana	Bill Received	44505303-8-98-187616	16156	12176	16156	43820	27664	171	105124
19	Mission Compound	Bada Fuhara	Bill Received	44505106100201	16156	11003	16156	9834	-6322	-39	-24023
20	Mission Compound	Lardganj Tiraha	Bill Received	44505106100195	16156	4146	16156	8565	-7591	-47	-28845
21	Indramarket	Mal Godam Railway station	Bill Received	44420209-26-94-70610	37984	30634	37984	14949	-23035	-61	-87531
22	Indramarket	Allahabad Bank Chowk	Bill Received	44420110-24-94-70828	37984	23880	37984	32391	-5593	-15	-21252
23	Indramarket	Kanchghar Chowk	Bill Received	44420107-12-94-70660	25322	17091	25322	9919	-15403	-61	-58533
24	Indramarket	Tahasil Chowk /Ambedkar Chowk	Bill Received	4442020934617	16156	9084	16156	7724	-8432	-52	-32041
25	Indramarket	Raddi Chowki	Bill Received	4442020573957	37984	20621	37984	8811	-29173	-77	-110856
26	Indramarket	GCF CJ Building	Bill Received	44420070830	16156	0	16156	7212	-8944	-55	-33987
27	Polipathar	Gwarighat-1	Bill Received	44470312-35-91-442628	130469	89991	130469	122797	-7672	-6	-29155

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Potential Saving Corresponding to Excess Energy Charges at Highmast											
	Polipathar	Gwarighat-2									
	Polipathar	Gwarighat-3									
	Polipathar	Gwarighat -4									
28	Polipathar	Gwarighat-5 Near Daroga Ghat	Bill Received	44470312-35-91-341903	41478	15199	41478				
29	Polipathar	Rampur Chowk	Bill Received	44470305-29-91-341964	25322	18527	25322	115144	89822	355	341322
30	Purva	Medical Colony	Bill Received	44470211-31-92-368702	37984	27839	37984	42450	4466	12	16973
31	Purva	Tilwara Ghat	Bill Received	44470208-25-91-789409	39148	94319	32353	28324	-4029	-12	-15312
32	Purva	Tripuri Chowk Near gahara thana pass	Bill Received	44470211-31-92-368714	16156	90447	13352	59880	46528	348	176807
33	Purva	Dhanatwari Nagar Chowk	Bill Received	44470215-37-91-368726	16156	15461	16156	30563	14407	89	54747
34	Purva	Andhamukh School Ke pass	Bill Received	445215-90-5-1328943	33400	27200	33400	1272	-32128	-96	-122088
35	Garha	Gullaua Chowk	Bill Received	44470204-20-92-344606	16156	9207	16156	6947	-9209	-57	-34994
36	Vijay Nagar	Transport Nagar-1	Bill Received	322829	24234	20148	24234	15048	-9186	-38	-34906
37	Vijay Nagar	Transport nagar - 2	Bill Received	322866	16156	0	16156	31222	15066	93	57251
38	Vijay Nagar	Transport Nagar - 3	Bill Received	264702	16156	0	16156	41067	24911	154	94662
39	Vijay Nagar	Dindayal Chowk	Bill Received	4447-0112352317	37984	24055	37984	41069	3085	8	11725
40	Vijay Nagar	Samata Colony Shanti Nagar	Bill Received	2298455143.00	16156	0	16156	7768	-8388	-52	-31874

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Potential Saving Corresponding to Excess Energy Charges at Highmast											
41	Vijay Nagar	Bus Stand Z38	Bill Received	44505305-15-99-100535	37984	0	37984	31022	-6962	-18	-26454
42	Bilhari	Kattiyaghat Mini High Mast	Bill Received	44470308-30-96-342038	5385	0	5385	7768	2383	44	9054
43	Aadhartal	Aadhartal Tiraha High mast	Bill Received	44470101-6-91-660012	37984	0	37984	117697	79713	210	302911
					1165898	808183	1149288	1097298	27471	2	104392

Annexure-VIII, Existing & Proposed Fixtures

1. Polypathar Zone

Existing & Proposed Fixture For Polypathar Zone																		
Sr No	Switching Point Name	Name of Road	Number & Type of Existing Fitting Installed on Road								Proposed Type of Fitting							
			HPSV 250 W	HPSV 150 W	FTL 40 W	CFL 2 x 36 W	85 W CFL	Bulb 100 W	400W MH	HL 500 W	25 W LED	45 W LED	72 W LED	HPSV 250 Already Installed	HPSV 250 Proposed	HPSV 150 Already Installed	HPSV 150 Proposed	
1	Adarsh Nagar Near Dr. Kumar	Gwarighat Main Road		11	0	0	0	0	0	0						11		
		Lane 1	0	2	0	0	0	0	0	0	2							
		Lane 2	0	2	1	0	0	0	0	0	3							
		Lane 3	0	2	1	0	0	0	0	0	3							
		Lane 4	0	4	1	0	0	0	0	0	5							
		Lane 5	0	4	2	0	0	0	0	0	6							
		Lane 6	0	5	2	0	0	0	0	0	7							
		Lane 7	0	2	4	0	0	0	0	0	6							
		Lane 8	0	2	1	0	0	0	0	0	3							
		Lane 9	0	2	6	0	0	0	0	0	8							
		Lane 10	0	1	0	0	0	0	0	0	1							
		Lane 11	0	1	1	0	0	0	0	0	2							
		Main Road	0	5	2	0	0	0	0	0							5	2
		Lane 1	0	4	8	0	0	0	0	2	0	14						
		Lane 2	0	3	5	0	0	0	0	0	0	8						
		Panchsheel Nagar Sub Road	0	3	7	3	0	0	0	0	0	13						
		Lane 1	0	1	22	2	0	0	0	0	0	25						

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Existing & Proposed Fixture For Polypathar Zone																
		Panchsheel Nagar Sub Road	0	0	8	0	0	0	0	0	8					
		Lane 2	0	0	3	0	0	0	0	0	3					
		Sub Road	0	0	1	0	0	0	1	0	2					
2	Adarsh Nagar	Rampur to Gwarighat Main Road	0	12	2	0	0	0	0	0					12	2
		Adarsh Nagar Sub Road	0	1	1	0	0	0	0	0	2					
		Adarsh Nagar Lane	0		4	0	0	0	0	0	4					
		Adarsh Nagar Sub Road	0	4	10	0	0	0	0	0	14					
		Bose Colony Sub Road 1	0	5	8	0	0	0	0	0	13					
		Bose Colony Sub Road 2	0	4	4	0	0	0	0	0	8					
		Sub Road	0	2	4	0	0	0	0	0	6					
		Baim Mohalla Lane	0	1	10	0	0	1	0	0	12					
		Sudha Vihar Rampur Sub Road	0	2	0	1	0	0	0	0	3					
		Sudha Vihar Rampur Lane	0	2	9	3	0	0	0	0	14					
3	Ashok Vihar	Rampur chowk to Shaki Bhawan Main Road	0	33	0	0	0	0	0					33		
4	Awanti Vihar Colony	Awanti Vihar Colony Road	0	0	0	17	0	0	0	17						
5	Bital Gaeneral Store Ke Pass	Lane 1&2	0	3	5	0	0	0	0	8						
		Lane 3&4	0	6	3	0	0	0	0	9						
		Lane 5&6	0	4	2	0	0	0	0	6						
		Lane 7&8	0	5	4	0	0	0	0	9						
		Lane 9,10&11	0	2	11	0	0	0	0	13						
		Lane 12	0	1	1	0	0	0	0	2						
		Lane13	0	0	3	0	0	0	0	3						

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Existing & Proposed Fixture For Polypathar Zone																				
6	Brijmohan	Lane	0	1	12	0	0	0	0	0	13									
7	Chote Hanuman	Gwarighat Main road	0	3	0	0	0	0	0	0						3				
		Chote Hanuman Sub Road	0	5	1	0	0	0	0	0	6									
		Chote Hanuman Sub Road	0	5	7	0	0	0	0	0	12									
		Aditya Colony Sub Road	0	1	2	0	0	0	0	0	3									
		Adarsh Nagar Sub Road	0	6	5	0	0	0	0	0	11									
		Near Hanuman Mandir Sub Road	0	4	1	0	0	0	0	0	5									
		Adarsh Nagar Sub Road 1	0	6	6	0	0	0	0	0	12									
		Adarsh Nagar Sub Road 2	0	5	11	0	0	0	0	0	16									
		Adarsh Nagar Sub Road 3	0	7	13	0	0	0	0	0	20									
8	Chungi Naka Rampur	Chungi Naka Rampur Main Road	0	6	2	0	0	0	0	0		8								
		Chungi Naka Rampur Sub Road	0	1	11	0	0	0	0	0	12									
9	Daroga Ghat	Daroga ghat road	0	15	0	0	0	0	0	0	15									
10	Durga Nagar Sent Alaysis School	Durga Nagar Lane	0	2	10	0	0	0	0	0	12									
11	Forest Gate	Forest Gate Main Road	0	1	2	0	0	0	0	0			3							
		Forest Gate Sub Road	0	0	3	0	0	0	0	0	3									
		Gyan Vihar Colony Lane	0	0	12	0	0	0	0	0	12									
		Sundar Vihar Colony Sub Road	0	0	3	0	0	0	0	0	3									
		Sundar Vihar Colony Lane	0	2	5	0	0	0	0	0	7									
		Tagore Nagar Lane	0	1	3	0	0	0	0	0	4									
		Tagore Nagar Sub Road	0	0	5	0	0	0	0	0	5									

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Existing & Proposed Fixture For Polypathar Zone																
12	Jai Bheem Nagar Society	Jai Bheem nagar Sub Road	0	3	6	0	0	0	0	0	9					
		Lane 1	0	0	2	0	0	0	0	0	2					
		Lane 2	0	0	3	0	0	0	0	0	3					
		Lane 3	0	1	5	0	0	0	0	0	6					
		Lane 4	0	1	2	0	0	0	0	0	3					
		Sub Road	0	1	10	0	0	0	0	0	11					
		Sub Road	0	5	2	1	0	0	0	0	8					
13	Jihori Ghat Station	Gwarighat Station to Gwarighat Main	0	17	2	0	0	0	0	0			19			
		Jilheri Ghat Sub Road	0	3	0	0	0	0	0	0	3					
		Geeta Dham Road	0	2	0	0	0	0	0	0		2				
14	Jila harigaon	Jilaharigaon Main Road		1	10					0	11					
15	Jogney Nagar Choui Kadan	Sub Road	0	2	8	0	0	0	0	0	10					
16	Kalariwala Polipathar	Gwarighat Main Road	0	14	1	0	0	0	0	0					14	1
		Narmada Nagar Lane 1	0	2	4	0	0	0	0	0	6					
		Lane 1	0	0	6	0	0	0	0	0	6					
		Lane 2	0	0	9	0	0	0	0	0	9					
		Lane 4	0	2	6	0	0	0	0	0	8					
		Lane 5	0	1	5	0	0	0	0	0	6					
17	Lalpur	Sub Road	0	1	16	0	0	2	0	0	19					
18	MPB Colony	New M.P Colony Sub Road	0	4	10	0	0	0	0	0	14					
		Narmada Nagar Lane	0	3	6	0	0	0	0	0	9					
		Narmada Nagar Sub Road	0	4	12	0	0	0	0	0	16					
19	Murdhaya Ghat	Murdhaghat Road	1	5	0	0	0	0	0	0	6					
		Geetadham Main Road	0	14	0	0	0	0	0	0	14					

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Existing & Proposed Fixture For Polypathar Zone																	
		Aurveda Medical Sub Road	0	5	0	0	0	0	0	0	0	5					
20	Near Ganesh Yadav House	Yadav Mohall to Ram Nagar Rampur Main Road	0	3	2	0	0	0	0	0	0	5					
		Ram Nagar Rampur Lane	0	3	5	0	0	0	0	0	0	8					
		Ram Nagar Rampur Sub Road	1	0	6	0	0	0	0	0	0	7					
		Ram Nagar Rampur Sub Road	0	1	9	0	0	0	0	0	0	10					
		Ram Nagar Rampur Lane	0	0	11	0	0	0	0	0	0	11					
		Ram Nagar Rampur Sub Road	0	5	3	0	0	0	0	0	0	8					
		Ramnagar Rampur to Jogni Nagar Main Road	0	1	14	0	0	0	0	0	0	15					
		Saraswati Vihar Lane	0	3	14	0	0	0	0	0	0	17					
21	Patel Mohalla Rampur	Rampur Chowk to Yadav Mohlla Rampur Main Road	0	6	6	0	0	0	0	0	0	12					
		Yadav Mohlla Rampur Sub Road	0	4	0	0	0	0	0	0	0	4					
		Yadav Mohlla Rampur Lane	0	0	4	0	0	0	0	0	0	4					
		Durga Nagar Sub Road	0	2	7	0	0	0	0	0	0	9					
		Durga Nagar Road	0	1	2	0	0	0	0	0	0	3					
		Ramnagar Sub Road	0	6	6	0	0	0	0	0	0	12					
		Ramnagar Lane	4	8	8	0	0	0	0	0	0	20					
		Khermai Mandir Sub Road	0	1	9	0	0	0	0	0	0	10					
		Khermai Mandir Lane	0	1	8	0	0	0	0	0	0	9					
Rampur Chowk to Yadav Mohlla Rampur Main Road	4	5	1	0	0	0	0	0	0	10							
22	Polypathar Gwarighat	Narmada Main Road	0	7	1	0	0	0	0	0						7	1
		SAPET KUHAH Sub Road	0	1	25	0	0	0	0	0	0	26					

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Existing & Proposed Fixture For Polypathar Zone																		
	Bigbazar	SAPET KUHAH Sub Road	0	0	9	0	0	0	0	0	9							
		SAPET KUHAH Lane	0	1	6	0	0	0	0	0	7							
		P P COLONY Sub Road	0	0	8	0	0	0	0	0	8							
		P P COLONY Sub Road	0	4	19	0	0	0	0	0	23							
		P P COLONY Lane	0	3	13	0	0	0	0	0	16							
23	PWD Colony	PWD Colony Sub Road	0	18	4	0	0	0	0	0	22							
		Lane 1	0	6	15	0	0	0	0	0	21							
		Lane 2 to 6	0	9	21	0	0	0	0	0	30							
24	Ravidas Nagar	GWARIGHAT MAIN ROAD	0	18	0	0	0	0	0	0							18	
		RAVIDAS NAGAR Sub Road	0	0	3	0	0	0	0	0	3							
		RAVIDAS NAGAR Lane	0	1	3	0	0	0	0	0	4							
		PATEL GALLI Sub Road	0	0	5	0	0	0	0	0	5							
		PARANJPE WARD Sub Road	0	3	1	0	0	0	0	0	4							
		Lane	0	0	2	0	0	0	0	0	2							
		Lane 1	0	0	4	0	0	0	0	0	4							
		Lane 2	0	4	1	0	0	0	0	0	5							
		GEET VIHAR COLONY Sub Road	0	3	7	0	0	0	0	0	10							
		SANJAY NAGAR Lane	0	0	3	0	0	0	0	0	3							
		SANJAY NAGAR Sub Road	0	0	7	0	0	0	0	0	7							
		SANJAY NAGAR Lane	0	0	8	0	0	0	0	0	8							
		SANJAY NAGAR Sub Road	0	0	6	0	0	0	0	0	6							
		SANJAY NAGAR Lane	0	0	1	0	0	0	0	0	1							
		PRABHU KIRANA GALLI Lane	0	1	5	0	0	0	0	0	6							
BEHIND PRABHU KIRANA Lane	0	0	11	0	0	0	0	0	11									

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Existing & Proposed Fixture For Polypathar Zone																	
		GRAHAK SEVA KENDRA GALLI	0	0	11	0	0	0	0	0	11						
25	Reva Colony	Reva Colony Main Road	0	12	12	0	0	0	0	0	24						
		Reva Colony Sub Road	0	2	3	0	0	0	0	0	5						
		Rampur Main Road	0	0	7	0	0	0	0	0	7						
		Lane 1 to 5	0	0	13	0	0	0	0	0	13						
		Lane 6 to 9	0	6	12	0	0	0	0	0	18						
		Lane 10 to 11	0	1	9	0	0	0	0	0	10						
		Lane 12 to 13	0	4	6	0	0	0	0	0	10						
26	Sant Nagri New PP Colony	Gwarighat Road to New PPP Colony Main Road	0	3	18	0	0	0	0	0	21						
27	Sant Shiromani Aashram	Hill Area	0	10	0	6	0	9	0	0	25						
28	Satyanand Vihar Garden	Rampur Azad Chowk Sub Road	0	6	3	0	0	0	0	0	9						
		Saraswati Vihar	0	1	2	0	0	0	0	0	3						
		Saraswati Vihar to Durga Nagar Road	0	0	15	0	0	0	0	0	15						
		Durga Nagar Road	0	5	9	0	0	0	0	0	14						
		Durga Nagar Sub Road	0	8	5	0	0	0	0	0	13						
29	Shanker Nagar	Rampur Chowk to Sahkar Nagar Sub Road	0	1	9	0	0	0	0	0	10						
30	Sidhnath	Reva Colony to Sai Vihar Road	0	1	7	0	0	0	0	0	8						
31	Vijay Nagar Chapper	Vijaynagar Chapper Lane 1	1	0	7	0	0	0	0	0	8						
		Vijaynagar Chapper Lane 2	0	0	6	0	0	0	0	0	6						
		Vijaynagar Chapper to	0	0	10	0	0	0	0	0	10						

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Existing & Proposed Fixture For Polypathar Zone																		
		Saraswati Vihar Sub Road																
		Vijaynagar Chapper Sub Road	0	3	15	0	0	1	0	0	19							
		Vijaynagar Chapper to Reva Colony Sub Road	0	11	18	0	0	0	0	0	29							
32	Zenda Chowk	Zenda Chok To Narmada Main Road	0	17	1	0	0	0	0	0		18						
		Lane	0	8	10	0	0	0	0	0	18							
		Ramzula Sub Road	0	0	3	0	0	0	0	0	3							
		Shani Dev Mandir Road	0	4	3	0	0	0	0	0	7							
		Purani Basti Lane	0	13	9	0	0	0	0	0	22							
		Railway Crossing to Kharighat Road	0	8	0	0	0	0	0	1		9						
		Kharighat Across River Road	0	7	0	0	0	1	0	0	8							
		Towards Sai Dham Lane	0	4	5	0	0	0	0	0	9							
		Towards Sai Dham Sub Road	0	6	3	0	0	1	0	0	10							
		Inside Saheb Township Sub Road	0	0	0	12	0	0	0	0	12							
		Ret Naka Road	0	3	0	0	0	0	0	0	3							
		Bramhashri Colony Road	0	0	2	25	0	0	0	0	27							
		Gawari Ghat Main Road	0	5	2	1	0	0	0	0			8					
		Avasti Area Gawari Ghat Sub Road	0	3	2	0	0	0	0	0	5							
Saket Dham Main, sub Road	0	9	3	0	0	1	0	0		13								
Total			11	593	938	71	0	16	3	1	1444	50	30	0	0	103	6	

2. Bilhari Zone

Existing & Proposed Fixture For Bilhari Zone															
Sr No	Switching Point Name	Name of Road	Number & Type of Existing Fitting Installed on Road						Proposed Type of Fitting						
			HPSV 250 W	HPSV 150 W	FTL 40 W	Bulb 100 W	CFL 2 x 36 W	85 W CFL	25 W LED	45 W LED	72 W LED	150 W HPSV Already Installed	150 W HPSV Proposed	250 W HPSV Already Installed	250 W HPSV Proposed
1	Dhobi Ghat Near New Time Telor	Gora Bazar to Dhobi Ghat Main Road		20	13					33					
		Dhobi Ghat, Rani Laxmi Bai Ward, Sub Road			4				4						
		Dhobi ghat garden Lane & Anuradha Colony Lane		2	5				7						
2	Near Maa Sidheshwari Durga Mandir Kajarwara	Kajarwara to Temar Bita Main Road		2						2					
		Kajarwara Sub Road		2	5					7					
		Kajarwara, Jitesh Kirana Store Lane		5	8				13						
3	Gaur Thane Opp	Gaur Tiraha Se Mandla / Barela Road		17								17			
4	Govt. Primary School Kajarwara	Kajarwara Main Road		6	2					8					
		Kajarwara Manoj Kirana Sub Road		5	5					10					
		Kajarwara Lane		1	4				5						
		Kajarwara Rashi Kirana Store Lane			3				3						
5	Gupta Tent House, Ekta Market, Gauraiya Ghat	Bilhari to Gaur Main Road		5	2							7			

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Existing & Proposed Fixture For Bilhari Zone																
6	Janta Medical Hall	Bilhari Main Road		24	1							24	1			
		A.P.R Colony Sub Road		10		1			11							
		A.P.R Colony Lane 1		5					5							
		A.P.R Colony Lane 2		4					4							
		A.P.R Colony Lane 3		6					6							
		A.P.R Colony Lane 4		4					4							
		A.P.R Colony Lane		6	4				10							
		Bilhari Sub Road1		1	3	1			5							
		Bilhari Sub Road 2		3	5				8							
		Ashok Amporium Sub Road		1	1				2							
		A.P.R Colony Sub Road 1		2	6		2		10							
		A.P.R Colony Sub Road 2			6				6							
		A.P.R Colony Sub Road 3		2	1					3						
		A.P.R Colony Sub Road 4		1	4				5							
7	Khermai Mandir Dixit Ata Chakki	Goraiya Ghat Main Road		6	12					18						
		Goraiya Ghat Sub Road		1	2				3							
		Khermai Mandir Sub Road		1	2	1			4							
		Goraiya Ghat Bara Mohalla Lane			8				8							
8	Post Office Gali Ke Andar	Billhari Main Road		3						3						

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Existing & Proposed Fixture For Bilhari Zone															
Vijay Tailor Ke Pass	Bilhari Nagar Sub Road		1	1		2			4						
	Bilhari Nagar Lane		1	2				3							
	Bilhari Nagar Lane		3	1				4							
	Bilhari Nagar Lane			1				1							
	Bilhari Nagar Lane (MPEB Office)		3					3							
	Narmada Nagar Lane		1	2				3							
	Bilhari Nagar Lane		2	2	1			5							
	Bilhari Nagar Sub Road		8	6		6		20							
	Narmada Nagar Sub Road	1	1	4					6						
	Narmada Nagar Sub Road	1	0	9					10						
	A.P.R Colony Lane			4			9	13							
	Narmada Nagar Sub Road			3				3							
	Narmada Nagar Lane			5	1			6							
	9 Purani Kalahari Ke Piche	Purani Kalahari Awantibai Ward, Bilhari Sub Road		3	4				7						
Purani Kalahri Lane			2	2				4							
Purani Kalahri Lane 1			1	1				2							
Purani Kalahri Lane 2 & 3			1	3				4							
Purani Kalahri Sub Road			2	4				6							

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Existing & Proposed Fixture For Bilhari Zone															
		APR- II Bilhari Sub Road		3	3				6						
		APR- II Bilhari Lane 1		1	4				5						
		APR- II Bilhari Sub Road		2					2						
		Mini Highmast		4						4					
		APR- II Bilhari Lane 2		2	2				4						
		APR- II Bilhari Lane 3		2	9				11						
10	Shivpuri Kajarwara	Shivpuri Kajarwara to Temar Bitra Main Road		1	6					7					
		Shivpuri Lane		2	5				7						
		Shivpuri Kajarwara to Temar Bitra Main Road		2	5					7					
		Shivpuri Lane			3				3						
11	Temar Bitra Road	Temar Bitra Road		3					3						
		Temar Bitra Sub Road		2	2				4						
		Khandari Dam Main Road		2	9				11						
Total			2	200	208	5	10	9	263	115	7	48	1	0	0

3. Ranjhi Zone

Existing & Proposed Fixture For Ranjhi Zone															
Sr No	Switching Point Name	Name of Road	Number & Type of Existing Fitting Installed on Road						Proposed Type of Fitting						
			HPSV 250 W	HPSV 150 W	FTL 40 W	Bulb 100 W	CFL 2 x 36 W	85 W CFL	25 W LED	45 W LED	72 W LED	150 W HPSV Already Installed	150 W HPSV Propos ed	HPSV 250W Already installed	HPSV 250W Propose d
1	75 H Bhagat Singh Ward	Sarra Pipal Road		9					9						
		Mahavir School Lane , Khermai Mandir Lane		11	11		1		23						
		Shankar Mandir Sub Road		4	2				6						
		Shankar Mandir Lane		3	3				6						
		Chandra Mohan Nagar Lane 1		1	2			9	12						
		Chandra Mohan Nagar Lane 2				3		4	7						
		Sadguru Kabir Aashram Lane		2	17	1	1	3	24						
		Sarra Pipal sub Road		10	12	1			23						
		Shree Sai Mandir Tulsi Nagar Sub Road		7	5				12						
		Shree Sai Mandir Tulsi Nagar Sub Road		7	10		1		18						
		Tulsi Nagar Main Road		6	3				9						
		Tulsi Nagar Sub Road		3	9			1	13						
Tulsi Nagar Lane		1	3				4								
2	Aakansha Silai Center	Bada pathar to Bajrang Nagar Main Road		6	11						17				
		Sub Road		6	4				10						
		Sudarshn Ward ,Lane-1		3	6	1			10						

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Existing & Proposed Fixture For Ranjhi Zone															
		Sudarshn Ward ,Lane-2			5				5						
		Sudarshn Ward ,Lane-3		4	4				8						
		Sudarshn Ward ,Lane-4			5				5						
		Shiv Mandir, Lane-1		2	5				7						
		Vishwkarma Mohalla, Lane-2			8				8						
		Amar Nagar,Lane-1		1	7	1			9						
		Lane-2			3				3						
		Lane-3		1	2				3						
		Lane-4			5				5						
		Lane-5		1	2				3						
		Lane-1		2	7				9						
		Lane-1		2	8				10						
		Lane-1			9	1			10						
		Lane-2		2	2				4						
		Sub Road		11	13				24						
		Lane		1	4				5						
		Lane		3	7				10						
		Lane		3	2				5						
		Amar Nagar Basti Lane			3				3						
		Amar Nagar Basti Sub Road			7				7						
		Amar Nagar Basti Sub Road		5	12		1		18						
3	Chandan Colony	Chandar Colony Main Road	1	13	2			2	18						
		Sub Road		9					9						
		Anushree Vihar Sub Road		7	3				10						
		Nrsing Nagar sub Road Road		8	13				21						

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Existing & Proposed Fixture For Ranjhi Zone															
		Chandan Colony Sub Road		5	1				6						
		Chandan Colony		17	7				24						
4	Gokalpur Marghatai	Aazad Nagar Lane		2	4				6						
		Aazad Nagar Sub Road		1	7				8						
		Azad Nagar Gandhi Basti Sub Road				21				21					
		Pump House Sub Road				4				4					
		Azad Nagar Near mata Mandir				4				4					
		Main Road Azad Nagar Sub Road				3				3					
		Uday Nagar-1 Road Sub Road		5	10		1			16					
		UDAY nagar lane		2	6					8					
5	Main Road Gokalpur	Gokulpur Main Road		29	2	1						29	3		
		Shasakiya Balak High School Gokalpur Sub Road		2	6				8						
		Shasakiya Balak High School Gokalpur Sub Road				3				3					
		Lane		2	7					9					
		Lane 1		1	2					3					
		Lane 2		2	2					4					
		Gokalpur Road to Shashtri Ward		2	2					4					
		Gokalpur Road to Musalmani Mohlla Road		2	3					5					
		Lane		4	4					8					
		Shri Hanuman Mandir Road		5	1					6					
		Talab Ward Road		3	4					7					
		Kuai Ke Pass , Sub Road		8	8						16				
Chaidharyi Ward Road		3	6					9							

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Existing & Proposed Fixture For Ranjhi Zone													
		chaidhariy Ward 2			4		4		8				
		chaidhariy Ward 2	4	5				9					
6	Mastana Chowk Ranjhi	Mastana Chowk Main Road	20	1	1				22				
		Bapu Nagar	4	1	0			5					
		Bapu Nagar	10	6	1			17					
		Bapu NagaR Lane		2				2					
		Narsing Nagar Road	22	3		1		26					
		Mane Gaon Sub Road	14	2				16					
		Bada Pathar to Nrsing Nagar Sub Road	15			2		17					
		Bangali Colony Sub Road	9	6				15					
		Bapu Nagar Lane	3	5				8					
		SAF QTRS Sub Road	4	3				7					
		SAF QTRS Lane	2	7				9					
		Bangali Colony Sub Road	8	3				11					
		Darshan singh Chowk to Mastan Chowk	14						14				
		SAF Lane	5	1				6					
		SAF Bataliyan Sub Road	7	1				8					
		SAF Bataliyan Purani Family Line	6	2				8					
		Sai Dham Colony	6	14				20					
		Khalsa High Secondary school	3	2				5					
		Panjabi Mohlla	4	8		1		13					
Sudarshan Bawan	3	6				9							
Mahabali Mandir	6	2				8							
7	Major Kirana Store	Bada Pathar Road to Ganesh Ganj	11						11				

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Existing & Proposed Fixture For Ranjhi Zone															
Ganesh Ganj	Road														
	Sudarsh Ward Ram Nagar		1	3				4							
	Tulsi Nagar Ranjhi Road Main		21	1			5			27					
	Aama Nala Basti Road		2	1				3							
	Aama Nala Basti Lane 1		1	2				3							
	Aama Nala Basti Lane 2			3				3							
	Aama Nala Basti Sub Road		2	4				6							
	Aama Nala Basti Sub Road			6				6							
	Aanad Marg Vidyalay Sub Road		4	2				6							
	Dr. R.K. Hotal Kishan Hotel Se Vhil Road		3	5				8							
	Purani Vasti Zenda Chowk Sub Road			9				9							
	Purani Vasti Zenda Chowk Ward No. 48		4	5				9							
	Purani Vasti Zenda Chowk Lane		1	5				6							
	Paal Bangali Gali Road			3				3							
8	Marghatai Road	Sanjay Nagar Market to Merghatai Road		8	4			1	13						
		Mukti Dham Soni Sub Road		3	1				4						
		Mukti Dham Soni Road lane		1	5				6						
		Ravidas nagar Lane		1	2				3						
		Hanuman mandir Ranjhi New Basti Sub Road		9	8			1		18					
		Choti Khermai Hanuman Nagar Lane			3				3						
		Subhas nagar Bilaspur Sub Road		5	8			3	16						

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Existing & Proposed Fixture For Ranjhi Zone														
		Bada patbhar garden Sub Road		4	7				11					
		Bada Pathar Main Road		2	3					5				
		Bajrang Nagar hanuman Mandir Road		1	2				3					
		Bajranj Nagar Road Sudarshan Ward Lane		3	7					10				
		Bajranj Nagar Road Sudarshan Ward Sub Road	1	3	3				7					
		Ranjhi Purani Basti Ganesh Ganj Sub Road		4	9				13					
		Ranjhi Purani Basti Ganesh Ganj Lane		1	5				6					
		Zenda Chowk Main Road		8	3				11					
		Bada Pathar Lane			3				3					
		Bada Patthar to New ranjhi Road		2	11				13					
		Sanjay Nagar sub Road			3			1	4					
		Sanjay Nagar Lane		2	3				5					
		Sarra Pipal Haniman Mandir Sub Road		19	8			1		28				
9	Police Thana	Ranjhi to Gakalpur Main Raod		34	1	1								36
		Ranjhi Chungi Chauki Lane		2	5				7					
		Bapu Nagar Sub Road		2	1				3					
		Ranjhi to Bapu Nagar Madras Colony Lane		1	3				4					
		Ranjhi Talaiya		2					2					
		Sabji Mandi Sub Road		4	3				7					
		Police Quarter colony Lane			6				6					

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Existing & Proposed Fixture For Ranjhi Zone														
		Ranjhi Raod to Durga Mandir Sub Road	10	9					19					
		Ambedkar Ward Road Lane	1	10					11					
		Police Quarter Sub Road	2	6					8					
		Police Quarter Road Lane	2	5					7					
		Navneet Colony Lane	5	3					8					
		Ranjhi WTP Lane	28	2					30					
		Shanti Nagar lane	1	6					7					
10	Raksha Nagar	Raksha Nagar Main Road	1	5					6					
		Raksha Nagar Sub Road 2		2					2					
		Raksha Nagar Sub Road 3		2					2					
		Raksha Nagar Lane 1		3					3					
		Raksha Nagar Lane 2&3	3	4					7					
		Raksha Nagar Lane 4	1	1					2					
		Raksha Nagar Sub Road 1	2	3					5					
		Raksha Nagar Colony Sub Road	3	2					5					
		Raksha Nagar Colony Sub Road		4					4					
		Raksha Nagar Colony Sub Road	2	2					4					
		Raksha Nagar Colony Sub Road		2				2						
11	Raksha Nagar New	New Raksha Nagar Sub Road	1	3					4					
		Baba Patthar Main Road	2	3					5					
		Baba Patthar Sub Road	1	2		1			4					
		Baba Patthar Lane	1	8					9					
		Raksha Nagar New Lane-1	1	1					2					
		Raksha Nagar New Lane-2		2		1			3					

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Existing & Proposed Fixture For Ranjhi Zone															
		Raksha Nagar New Lane-3		1	1					2					
		Raksha Nagar New Lane-4		1	3					4					
		Raksha Nagar New Lane-5		1	1					2					
		Raksha Nagar New Lane-6		1	1					2					
12	Ranjhi Bazar Colony	Ranjhu Bazar to Nrsing Nagar Sub Road		1	2					3					
		Ranjhu Bazar to Nrsing Nagar Main Road		12	3					15					
		Photon Classes H.No. 3083 Sub Road		3				1		4					
		St. Gabrial SR School Sub Road		3						3					
		Near SBI ATM Nrsing Nagar Sub Road		2	1			1		4					
		Near SBI ATM Nrsing Nagar Sub Road		1	4					5					
		Chandar Shekhar Wade Sub Road		9	8					17					
		Akansha Vihar Sub Road			3			2		5					
13	Ravan Park	Ravan Park Main Road		6	1					7					
		Ravan Park Sub Road		7	1					8					
		Ravan Park Sub Road		1	3					4					
		Sami Picnik Park		1	1					2					
		Ravan Park Road Near Water Tank Sub Road		10	4					14					
		Ravan Park Sub Road		1	4					5					
		Malyali Samajam Ranjhi Sub Road		6	1			3		10					
		Malyali Samajam Ranjhi lane		4						4					
		Ravan Park to Ajad Nagar Sub Road		4	1					5					

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Existing & Proposed Fixture For Ranjhi Zone															
14	Shanti Nagar Ranjhi	Shanti Nagar Sub Road			4				4						
		Shanti Nagar Lane-3			4				4						
		Shanti Nagar Sub Road		1	4				5						
		Shanti Nagar Lane-2			4		1		5						
		Shanti Nagar Sub Road		1	2				3						
		Shanti Nagar Lane 1		1	4				5						
15	Sharda Nagar	Sharda Nagar Sub Road			5				5						
		Sharda Nagar Sub Road		2	3				5						
		Sharda Nagar Lane		3	11				14						
		Sharda Nagar Sub Lane			3				3						
		Ramnagar Sub Road			6				6						
		Ram Nagar Lane 1		1	3				4						
		Ram Nagar Lane 2		2	3				5						
		Ramnagar Lane 3		1	3				4						
		Ramnagr Sub Road		1	9				10						
16	Sharda Nagar Park	Sharda Nagar Park Lane	12	10				22							
17	Uday Nagar New	Uday Nagar Lane		1	9			10							
18	Uday Nagar	Uday Nagar Sub Road		2	4				6						
		Sai Darbar Sub Road		1	10				11						
		Uday Nagar 2 Lane 1		1	7				8						
		Uday Nagar 2 Lane 2		5	6				11						
		Uday Nagar 1 Lane		9	2				11						
		Uday Nagar 1 Lane-1		1	3		2		6						
		Uday Nagar 1 Lane-2			4				4						
		Uday Nagar 1 Lane-3		1	7				8						

Existing & Proposed Fixture For Ranjhi Zone														
	Total	14	775	856	12	25	31	1477	113	55	29	3	0	36

4. Garha Zone

Existing & Proposed Fixture For Garha Zone															
Sr.No	Switching Point Name	Name of Road	Number & Type of Existing Fitting Installed on Road						Proposed Type of Fitting						
			HPSV 250 W	HPSV 150 W	FTL 40 W	Bulb 100 W	CFL 2x36 W	Metal Halide 400 W	25 W LED	45 W LED	72 W LED	HPSV 250 Already Installed	HPSV 250 Proposed	HPSV 150 Already Installed	HPSV 150 Proposed
			1	Amanpur Nursing ward	Amanpur To Madan Mahal Road		8						8		
Sub Road		3			5				5	3					
Lane		2			5				5	2					
Sudama Maholla(Lane)		4			7				7	4					
Garaiya Plot(Lane)		3			13		1		13	4					
Amanpur Colony(Subroad)		18			5		1		6	18					
Near Khir Maai Mandir(Lane)		8			6				6	8					
Sudama Nagar(lane)		3			15				15	3					
2	Bedi Nagar & Near Gurudwara Medical House	Bedi Nagar Road		3	3				3	3					
		Shiv Kadam Lane			4				4						
		Hanuman Mandir Bedi Nagar Sub Road		4	4				4	4					
		Durga Mandir Chowk Lane			10				10						
		Hanuman Mandir Lane		2	2				4						
		Medical Road		24									24		
3	Bedi Nagar RC	Bedi Nagar Road		5	2				2	5					
		Bedi Nagar Lane		5	12				17						
		Bedi Nagar Sub Road		4	3				7						
		Bedi Nagar Lane		6	8				14						

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Existing & Proposed Fixture For Garha Zone													
4	Brij Mohan Nagar Supatal	Dargah road		3	4				4	3			
		Gurudev Colony Lane		8	6				14				
		Supatal Dargah Road		2	6				6	2			
5	Chhote Bajariya Shri Ram Mandir Ke Samne	MR		14	1				1	14			
		Lane		5			2		7				
		Subroad		2	10				12				
		Anjani Colony Indira Gandhi Ward		6	6	1			13				
		Shyam Nagar Colony		8	15				23				
		Perfect Twon Colony			5				5				
		Sanjiv Nagar Road		4	2				6				
		Sinjivani Nagar		4	10				14				
		Gautam Madia Kumar Area		5	9				14				
		Dr. Tiwari Ka Bagicha Area		4	22				26				
6	Dargah Road	Dargah Road		11	1				12				
		Dargah Road lane		11	6				17				
		Baghela Gas Godown Lane		1	4				5				
		Badanpur Lane		1	6				7				
7	Devtal Ayodhyapuri	Devtal Ayodhyapuri to Medical Main Road		17	2				19				
		Devtal Ayodhyapuri Lane		12	20				32				
8	Ekta Chowk	Ekta Chowk To Devtal Road		6	2				2	6			
		Narayan Nagar Lane		1	4				5				
		Lodhi Mohalla Road		6	5				5	6			
		Zari Mohalla			12				12				
9	Gangasagar (Akhuda)	Ganga Sagar To Madhan Mahan		8	5				13				

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Existing & Proposed Fixture For Garha Zone															
Ke Samne)	LIC Colony(Subroad)			1					1						
	Amba Vihar(Subroad)		1	4					5						
	Veer Sawarkar Ward(Subroad)			4					4						
	Ganga Sagar To Madhan Mohan Road(Subroad)		2	7					9						
	Barsana Area(Lane)		1	7					8						
	LIC Colony(Lane)		4	1					5						
	Veer Sawarkar Ward(Lane)		3	9					12						
10	Garha Bajar Maszid ke Pass	Garha Bazar to Anand Kunj Chauraha Main Road		9					9						
		Devtal Road		8	1				1	8					
		Ghada Bazar to Tirputi Chowk		12					12						
		Shiv NCagar Lane		5	8				13						
		Ramlila Maidan Garha		3	6				9						
		Bada Jain Mandir		23	20			2	45						
		Bag Talab		20	18	4			42						
		State Bank Colony Lane		18	14			2	34						
Bijoria Area(Lane)		9	11				20								
11	Near Gullah Chauraha	Gulaua chowk to Choti Bajaria Road		14	2									14	2
		Gulaua Chowk BT Road		4	5					10					
		Narayan Nagar Sub Road		7	6					13					
		Narayan Nagar Sub Road(Lane)		9	7				1	16					
		Gulaua Chowk to Railway Fatak Road		9	8					17					
		Gulaua Chowk to Railway Fatak		1	9					10					

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Existing & Proposed Fixture For Garha Zone																
		Road														
12	Gupteshar (Near Babbu Bidhayak)	Babbu Vidhayak to Kalkatta Sweets Gupteshwar Sub Road		5			6		11							
		Gupteshwar Lane		3	5		2		10							
13	HP Petrol Pump, Sharda Chowk	Medical Road	35									35				
14	Indira Nagar	Madan Mahal To Shakti Nagar Road	4	5					9							
		Indira Nagar Lane-1	2	2				4								
		Indira Nagar Lane-2	3	2				5								
		MPEB Office Lane	3	1				4								
		Indira Nagar Sub Road	4						4							
15	In Front Of Dr. Loth Hospital	Medical Road	31									31				
16	Infront of Triveni Complex, LIC Chowk	Medical Road	28									28				
17	Kach Pura Over Bridge	Kachpura Bridge	25									25				
18	Khudabaksh Garha Bajar	Khudabaksh Garha Bajar Road		9	1									9	1	
		Khudabaksh Garha Bajar Road Lane		1	4				5							
		Khudabaksh Garha Bazar Sub Road		2	3				5							
		Khudabaksha Garha Bazar Lane		4	13				17							
		Bada Talab Lane		3	5				8							
19	Kripal Chowk	Kripal Chowk To Hatilal Colony Main Road		13	7		2		22							

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Existing & Proposed Fixture For Garha Zone														
		Kripal Chowk to Madan Mahal Main Road		10			1		1		10			
		Kripal Chowk To Gupteshwar Main Road		6	1				1		6			
		Kripal Chowk To Gupteshwar Main Road Lane		5	4				9					
		Indira Highschool Gupteshwar Lane		5	3				8					
		Shukla Associates Lane		9	2				11					
		Sahil Commerce Classes Lane		11	5	1			17					
		Gupteshwar Prem Nagar Lane		7	8				15					
		Gupteswar Ganesh Mandir Lane		1	3				4					
		Gupteswar Ganesh Mandir Lane		16	11				27					
		Gupteswar Ganesh Mandir Lane		1	2				3					
		Behind Coal Mines Colony Lane		1	3				4					
20	LIC Office	Bhanot Colony LIC To Ratan Nagar Chowk Road		3					3					
		Kripal Chowk Road to Jaggi Chowk Road		6	2				8					
		LIC to Shimla Hills Colony Road		4	1				5					
		Looks Beauty Parlor Lane		1	1				2					
		Dr.Katiyar Maturnity Hospital Road		3	1		1		5					
		Indira Bharati Nagar		8	4		2		14					
		Maa Durga Mandir Jaggi Chowk		3	8				11					
		Ekta Parisar Lane		7	3			1	11					
		Indira Bharti Nagar lane		1	3				4					
		Behind MPEB Office Lane			5				5					

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Existing & Proposed Fixture For Garha Zone														
		Prem Nagar Lane		1	9				10					
		Infront of Bharat Petroleum Lane		12	8				20					
		Bhagat Singh Colony		3	10				13					
21	Main Road Ratan nagar	Mainn Roade		7						7				
		Lane-1		12	6				18					
22	Bank of Maharashtra	Gautam Madhya Chowk To Sahi Naka Road		23	4								23	4
		Gautam Madhya Chowk To Sahi Naka Sub Road		2	15		1		17					
		Sanjivani Nagar(Lane)		2	3				5					
		Sanjivani Nagar(Sub Road)		1	7				13					
		Sanjivani Nagar(Lane)			5									
		Durga Colony Road		30	43				29		24			
		Durga Colony Road(Sub Road)							5	1				
		P. N. Swarnkar(Sub Road)							7	5				
		Sanjivani Nagar main road		9	2				11					
		Kachpura Bridge Road to Cabin No2		5	12				12	5				
		Gautam Madiya To Aanand Kunj Road		4	6				12					
		Gautam Madiya to Shahi Naka Road		6	9				16					
		Gautam Madiya to Shahi Naka Road		6	18				24					
23	Near Geological Survey of India	Sanjivani Nagar Main Road		6	2				2		6			
		Sanjivani Nagar Main Road(Lane)		10	12		4		16		10			
		Beside Railway Track Sanjivani		5	4				9					

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Existing & Proposed Fixture For Garha Zone																
		Nagar(Lane)														
		Sanjivani Nagar(Lane)		5	7				12							
		Royal Secondary School, Sanjivani Nagar main road		15	8				23							
		Sai Colony(Lane)		5	8				13							
		Laxmikant Memorial School(Lane)		2	28				28		2					
		Sanjivani Nagar(Lane)		1	2				2		1					
		Sai Subeh Parishad(Lane)		7	10				10		7					
		Opposite Sai Subeh Colony(Lane)		2	3				2		3					
		Durga Colony(Lane)		4	12	1			14		3					
24	Near H.K. Engg Works	Mahal To Akhada Road		1	4				5							
		Maheshpur		9	17				26							
		Madan Mahal Station Main Road		10	1				11							
		Prem Nagar(Lane)		18	21				39							
25	Near Supatal Sulabh Complex	Sulabh Complex to Supatal Talab Road		6	5				5		6					
		Suptal Talab to Masjid Road		1	6				7							
		Azad Nagar Lane		3	5				8							
		Shiv Khadan lane		2	10				12							
26	Pandey Vyas Chowk	Gupteshwar Hatital Gurudwara Road		7	1									7	1	
		Shankar PVT ITI Sub Road		4	7				7		4					
		Shankar PVT ITI Road Lane		3	2				5							
		Harbal Beauty Parlor Lane		2	5				7							
		On Hills			3				3							
		Gupteshwar Hatital Lane			3				3							

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Existing & Proposed Fixture For Garha Zone															
		Hanuman Kuti Lane		1	3				4						
		Ambe Vihar Lane			2				2						
		Inside Gurudwara		2					2						
27	Pisanhari ki Madiya	Pisanhari ki Madiya		2	8				8		2				
		Sub road		3	9				9		3				
		Bhole Baba Mandir Road		19	2		2		23						
		New Police Colony Lane		19	12		4		16		19				
28	Rani Durgavati Ward (Chote Bajaria)	Rani Durgavati Ward (Chote Bajaria Subroad)		12	11				11		12				
		Jyoti Nagar(Lane)		5	16				21						
		Kebut Area(Lane)			9				9						
		Chote Bajaria Area(Lane)			5				5						
		Nurani Area		10	10				20						
Kazi Area		5	13				18								
29	Ratan Nagar Gupteswar	Gupteswar Road Main Road		6	3								6	3	
		Jabalpur Vivah BhavanShakti Road		4	1		4		9						
		Jagmohan Das High School Sub Road		6	2				2		6				
		Jagmohan Das High School Lane		4	1				1		4				
		Radha Raman Mandir(Lane 1&2)		14	7				7		14				
		Gupteswar Ganesh Mandir Sub Road		4	13				13		4				
30	Sainik Society	Main Road		6	12				12		6				
		Lane			9				9						
		Main Road			7				7						

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Existing & Proposed Fixture For Garha Zone														
		Lane		33	46				79					
		Sainik Society to Shree Sai Palace		2	2				2		2			
		Shakti Pitha Mandir Aashram		3	1						4			
31	Santeevni Nagar Beside Rly Track	Sanjivani Nagar Beside Rly Tack Main Road		9	5								9	5
		Sanjivani Nagar Sub Road		14	22				22		14			
		Sanjivani Nagar Sub Road Lane		3	9				12					
		Sanjivani Nagar Main Road		3	8								3	8
		Sanjivani Nagar Lane		2	4				6					
32	Shakti Nagar Chowk	Gupteshwar Main Road		13	2				15					
		Gupteshwar Main Road			2				2					
		Gupteshwar Road to Sai Darbar Road			3				3					
		Gupteshwar Sub Road		5	4				4		5			
		134-3 Gupteshwar Nagar		9	4				13					
		Gupteshwar Road to Indira Nagar lane		4	9				13					
		Gopteshwar Road to Kripal Chowk Sub Road		10	4				14					
		Main Road Gupteshwar		8	1								8	1
33	Shakti Nagar Shree Sai Palace Barat Ghar	Subhas Chowk Road(subroad)		9	15				15		9			
		Shahid Gulab Singh Ward(Lane)		7	16				23					
		Shree Sai Palace to Sainik Society(main road)		8	6				6		8			
		Sharda Mandir Road(Lane)		11	15				26					
		Lane		5	23				28					

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Existing & Proposed Fixture For Garha Zone														
34	Sharda Mandir Road	LIC to Sharda Mandir Road		11	1				1		11			
		Anna Nagar Sharda Mandir Lane		9	3				12					
		Sharda Mandir Road		7					7					
		Sharda Mandir Road		5	4				9					
		Anna Maholla Sharda Chowk Lane		4	5				9					
35	Shukla Nagar	Sukla Nagar Main Road		9	9				18					
		Sukla Nagar Sub Road		2	13				15					
		Shri Ram nagar Lane		7	2				9					
		Anjini Vihar Colony Road		5	11				11		5			
		Anjini Vihar Colony Lane		11	10				21					
		Sudama Nagar Lane		6	7				13					
		Shiv lane		3	25				28					
		B T Compound Shukla Nagar		1	12				13					
36	Subhas Chowk to Sharda Colony	Subhas Chowk to Sharda Colony		7	2				9					
		Sharda Colony to Shahid Gulab Singh Ward		5	11				16					
		Sharda Colony(Lane)		11	18				29					
		Sharda Colony(Mainroad)		3	3				6					
		Vandanapur Shakti Nagar		4	6				10					
		Digambar Jain Mandir		7	3				10					
		Shakti Aabhusan		1	2				3					
		Hanuman Vatika		32	29				61					
		Kupal Chowk Road		1	2				3					
		Mukesh Deri		8	1				9					
Manus Mandir Road		6	3			2	11							

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Existing & Proposed Fixture For Garha Zone															
		Mather Deri		3	3				6						
		Gamji Mandir		3	1				4						
37	Supatal Talab	Medical Road	45								45				
		Total	183	1263	1408	7	35	6	2258	135	217	164	24	79	25

5. Indramarket Zone

Existing & Proposed Fixture For Indramarket Zone																	
Sr No	Switching Point Name	Name of Road	Number & Type of Existing Fitting Installed on Road								Proposed Type of Fitting						
			HPSV 250 W	HPSV 150 W	FTL 40 W	Bulb 100 W	MH 400 W	CFL 2 x 36 W	85 W CFL	Halogen 500 W	25 W LED	45 W LED	72 W LED	HPSV 250 Already Installed	HPSV 250 Proposed	HPSV 150 Already Installed	HPSV 150 Proposed
1	Adarsh Nursing Home	Raddi Chowki Road	27	0	0	0	0	0	0								27
2	Allahabad Bank Chowk	Allahabad Bank to Station Main Road		18	0	0	0	0	0						18		
		Allabad Chowk to Marium Chowk Main Road	0	19	0	0	0	0	0						19		
		Civil Line Sub Road	0	18	0	0	0	0	0						18		
		Delight Compound to Allahabad Bank Chowk Main Road	0	14	2	0	0	0	0							14	2
		Allabad Chowk to Marium Chowk Main Road Lane	0	0	2	0	0	0	0		2						
		Allabad Chowk to Mata Mai Chowk Sub Road	0	4	1	0	0	0	0		5						
		Allabad Chowk to Mata Mai Chowk Lanes	0	4	7	0	0		1		12						
		Kasturi Vihar Civil Line Main Road	0	2		0	0	0	0		2						
		Kasturi Vihar Civil Line	0	4	6	0	0	0	0		10						

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Existing & Proposed Fixture For Indramarket Zone																		
		Lanes																
		Inside Commissioner Office Civil Line	0	4		0	0	0	0		4							
		Post Office Civil Line Lanes	0	13	8	0	0	0	3		24							
		Govind Bhavan Colony Civil Line Lanes	0	12		0	0	0			12							
3	Bai ka Bagicha Nandani Foundation	Dhamapur to Kanchghar Main Road		28													28	
		Basor Mahalla Acharya Vinoba Ward Lane		3	6						9							
		Shitlamai Ward,Dhamapur Lane		5	2						7							
		Shitlamai Mandir to Premsagar Sub Road		17									17					
		Sarkari Kuwa to Prem Sagar Road Choidhriy Mohalla Lane		4	13							17						
		Sarkari Kuwa to Marghatai Sub Road		8	3							11						
		Sarkari Kuwa Ghamapur Lane			3							3						
		Prem Sagar Road Lane		1	5							6						
		Sarkari Kuwa Ghamapur Lane		8	17							25						
		Purvi Kariya Patthar Shitalamai Lane		7	12							19						
		Sarkari Kuwa Ghamapur		7	8							15						

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Existing & Proposed Fixture For Indramarket Zone																	
	Lane																
	Prem Sagar to Shitalamai Road Lane			2							2						
	Maha Rana Pratap Chowk Sheetlamai Ward Lane	1	7	5							13						
	Shiv Mandir Colony Lane		3	4							7						
	Shitalamai to Gopal Hotel Lane		3	4							7						
	Shitalamai to Premsagar Amba Devi Lane		5	9					1		15						
	Shitalamai to Ghamapur Road Lane		16	54	1						71						
	Shitalamai Ward No 30 Lane		14	17	1						32						
	Bai Ka Bagicha Gali No.4 lane		11	7							18						
	Bai Ka Bagicha Gali No.3 Lane		10	5							15						
	Bai Ka Bagicha Gali No.2 Lane		2	7							9						
	Krishana Colony Shitalamai Ward Lane		8	4							12						
	Panch Karm Clinic Lane		1	1							2						
	Bai Ka Bagicha to Ghamapur Main Road		14	4									18				
	Bai Ka Bagicha to Ghamapur Main Road		1	3							4						

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Existing & Proposed Fixture For Indramarket Zone																			
		Jain Narayan Mandir Lane		2	1							3							
		Sidha Ganesh Mandir, Ghamapur Ward No. 18 Lanes		9	15							24							
		Khatik Mohalla Lane		1	2							3							
		Tulsi Mohalla Shitalamai Ward Lanes		8	19							27							
		Radhakrishana Colony Lane		3	6							9							
		Tulsi Mohalla Lane		2	2							4							
		Bai Ka Bagicha to Sarkari Kuwa Main Road		13								13							
		Bai Ka Bagicha Lane		3	12							15							
4	Baldi Kori Ki Dafai	Baldi Kori Ki Dafai to Gopal Hotel Main Road		5								5							
		Baldi Kori Ki Dafai to Kachraghar Road		4								4							
		Dwarka Nagar Barau Mohhala Main Road		4	1								5						
		Dwarka Nagar Barau Mohhala Road Lane		3	7								10						
		Sindhi Coloni Main Road Sanjay Gandhi Ward		1	3								4						
		Dafai Chowk Road Sidhbaba Ward Lane		1	9		1							11					
		Dafai Chowk Se Shitala Mai Mandir Sub Road		6	4	1								11					

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Existing & Proposed Fixture For Indramarket Zone																		
		Shitala Mai Road Se Begam Chowrah Vinoba Bhave Ward lane		3	7	1						11						
		Sidhbaba Ward Lane		3	5							8						
		Samudaik Bhavan Road Vinoba Bhave Ward Lane		2	4							6						
		Marghtai Road Sidhbaba Ward Lane		3	9	1						13						
		Gopa Hotel Road Lane		7	17							24						
		Badali Kori Ki Dafai Lane		1	11							12						
		Sidhbaba Ward Sajjan Dairy Lane		2	14							16						
		Badali Kori Ki Dafai Vinoba Ward Lane		5	15	1						21						
5	Besides Kotawali	Kotwali to Darhai Main Road	2	2	0									4				
		Kotwali Fakir Chand Akhada Lane	0	4	2						6							
		Sarafa Raod Motilal Ward Lane	0	11	2						13							
		Darhai Kuchaini Mandir Lane	0	10	4						14							
		Darhai Square Hanuman Mandir Lane	0	5	1						6							
		Darhai to Hanumantal Sub Road	0	5	1							6						
		Darhai Lane	0	21	1						22							

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Existing & Proposed Fixture For Indramarket Zone																			
		Nahne jain Mandir Hanumantal Lane		4	0						4								
		Nahne jain Mandir Hanumantal Lane	0	23	14						37								
6	Bhawani Chowk Siddha Baba Road	Bhawani Chowk to Prem Sagar Chowk Main Road		15	3						18								
		Prem Sagar Chowk to Kariya Patthar Marghatai Main Road		8	3						11								
		Prem Sagar Chowk to Karima Patthar Marghatai Sub Road		7	4						11								
		Prem Sagar Chowk to Kariya Patthar Marghatai Road Lane		6	13						19								
		Marghatai Bhawani Chowk Lane		2	11						13								
		Sahu Mahalla Lane		1	4						5								
		Prem Sagar Chowk to Bhawani Chowk Lane				11					11								
		Zanda Chowk to MarhiMata Chowk Sub Road		5	6						11								
		Zanda Chowk to MarhiMata Chowk Sub Road Lane		1	4						5								
		Zanda Chowk to Bhawani Chowk Lane		1	8						9								

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Existing & Proposed Fixture For Indramarket Zone																
	Bhawani Chowk to Sindhi Camp Main Road		14	1							1		14			
	Sindhi Camp to Baba Tola Lane		8	25							33					
	Kariya Patthar to Govt. School Lane		1	12							13					
	Bhawani Chowk Bhola Nagar Lane		7	22							29					
	Bhawani Chowk to Sidh Baba Main Road		5	2							7					
	Bhawani Chowk to Sidh Baba Sub Road		11	10							10		11			
	Bhawani Chowk to Sidh Baba Road Lane		0	22							22					
	Sidh Baba Zanda Chowk lane		1	6							7					
	Sidh Baba Zanda Chowk Nai Basti lane		0	8							8					
	Hajrat Zirana Wale Baba Lane		1	12							13					
	Hajrat Zirana Wale Baba to Sharda Mandir Road Lane		4	13							17					
	Lodheshwar Mandir Bhawani Chowk to Madar Tekdi Road Rajendra Nagar Lane		5	7	1						13					
	Thakkar Gram Ward		3	13							16					

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Existing & Proposed Fixture For Indramarket Zone																	
		Lane															
		Radhakrishana Ward Durga Mandir Lane		0	6						6						
		Ravidas Ward to Baba Tola Lane		7	19						26						
		Raddi Chowki Main Road	23														23
		Bohara Chowk to Kilkari Garden Lane		9	1						10						
		Bohara Bag to Char Khamba Sub Road		6									6				
		Bohara Bag Chowk to Kilkari Garden Sub Road		5	4			2			11						
		Bohara Bag Lane		3	10	1					14						
		Zakir Husen Ward,Bohara Bag Lane			4						4						
		Rashan Dukan Shashtri Ward Sub Road		6	2						2		6				
		Shashkiya Dukan Pasiyana lane			4						4						
		Khwaja Garib Navaj Madarsa Anjil Gang Lane			5						5						
		Khwaja Garib Navaj Madarsa Anjil Gang Sub Road		6	5						11						
		Rahmini Shifakhana New Anand Nagar Sub Road		4	11						11		4				
		New Anand Nagar Lane		2	11	1		1			15						
		Bohara Bag Sub Road		11									11				

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Existing & Proposed Fixture For Indramarket Zone																			
		KilKari Garden Thakkar Gram Ward Lane		7	9			2			18								
		Wasim Kirana Se Harijan Kalpana Samiti Lane		7	3						10								
		Near Bohara Bag Masjid Sub Road		2	2					1	2		3						
8	Chandmari Talaiya Near Durga Mandir	Chandmari Talaiya Main Road		3	8						11								
		Santoshi Mata Mandir to Sidda Baba Sub Road		3	6						9								
		Santoshi Mata Mandir to Sidda Baba Sub Road Lane		0	8						8								
		Chandmari Talaiya to Zanda Chowk Sub Road		3	4						7								
		Choti Khermai Mandir Road Lane		5	12						17								
		Zanda Chowk Lane		0	17						17								
		Panchshil School Sub Road		7	7						14								
		Panchshil School Sub Road Lane		1	39						40								
		Chandmari Talaiya Charch Area Lane		0	9						9								
		Durga Mandir to Chandmari Talaiya Road Lane		8	5						13								
		Shobhapur Road Lane		2	8						10								

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Existing & Proposed Fixture For Indramarket Zone																		
		Chandmari Talaiya to Aadhartal Road Lane		2	14							16						
		Chandmari Talaiya Lanes		3	15							18						
9	Char Khaba RC	Charkhabha to Bohara Bagh Main Road	0	2	0	0	0							2				
		Charkhabha to Bohara Bagh Sub Road	1	7	1	0	0						9					
		Charkhabha to Bohara Bagh Sub Road Lane	0	1	1	0	0						2					
		Bahora Bagh to Adarsh Nursing Home Sub Road	1	5	2	0	0						8					
		Bahora Bagh to Adarsh Nursing Home Sub Road Lane	0	2	1	0	0						3					
		Bahora Bagh to Madar Gate no.1 Main Road	0	6	0		0		1						7			
		Bahora Bagh to Madar Gate no.1 Sub Road	0	1	4	0								5				
		Charkhamaba to Motinala, KGN General Store Lane	0	7	1	0								8				
		Motinala Sub Road	0	8	1	0								1		8		
		Beside Moti Nala Lane	2	11	1	0								14				
		Govt. Hospital Motinala to Charkhamba Sub Road	0	12	0	0			0							12		
Motinala Rahat Medical	2	12	2	0			4					20						

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Existing & Proposed Fixture For Indramarket Zone																	
		Lane															
		Charkhamba to Badhi Khermai Main Road	0	8	1	0		0			1		8				
		Charkhamba to Badhi Khermai Main Road Kaji Medical Store Lane	0	2	3	0		0			5						
		Charkhamba to Badhi Khermai Sub Road	0	5	4	0		0			9						
		Charkhamba to Gohalpur Sub Road	1	3	5	0		2			11						
		Charkhamba to Gohalpur Sub Road Lane	3	6	13			2			24						
10	Choti Madaar Tekari	Narmada Nagar To Bohara Bag		11	1						1					11	
		Narmada Nagar To Bohara Bag Lane		2	12						14						
		Narmada Nagar To Sarafabad Road		3	2						2		3				
		Sub Road		1	5						6						
		Sub Road		8	31						39						
		Sub Road,Narmada Nagar main road		13	4			1			4		14				
11	Chui khadan RC	Chui Khadan Main Road	0	4	4						8						
		Chui Khadan Sub Road	2	4	12						18						
		Chui Khadan lanes	1	1	29			4			35						
12		Civil Line Police Station to Allahabad Bank		58												58	

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Existing & Proposed Fixture For Indramarket Zone																		
		Chowk																
13	Civil Lines Thana	Civil Line Thane To University City Main Road		4												4		
		Civil Line Thane To University City Sub Road		6	2					2		6						
		Prestige Town Lanes		15	1			1	1		18							
14	Deepak dairy sidbaba road,hanuman hotel.	Kachghar to Sidhbaba main road		6	2					2		6						
		Siddbaba Sub Road		2	4					6								
		Siddbaba Sub Road		1	6						7							
		Gopal Hotel to Siddbaba Mandir Main Road	2	2	6			2			8			4				
		Siddbaba Sub Road	2	5				2			9							
		Kachghar to Sidhbaba main road Lane 1		1	6					1	8							
		Kachghar to Sidhbaba main road Lane 2		1	2						3							
		Kachghar to Sidhbaba main road Lane 3			3						3							
		Kachghar to Sidhbaba main road Lane 4		2	2						4							
		Siddbaba Sub Road Lane 5	1	1	2	1						5						
Siddbaba Sub Road Lane 6	1	2	9							12								
Siddbaba Lane-7		1	4							5								

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Existing & Proposed Fixture For Indramarket Zone																		
		Siddbaba Lane-8			4			2			6							
		Siddbaba Lane-9			3						3							
		Siddbaba Lane-10	6	7	18			4		4	39							
		Above sidbaba mandir	1		3						4							
		Siddbaba Lane-11	2	2	19			3			26							
		Siddbaba Lane-12	2	4	15			2			23							
		Siddbaba Lane-13	2	1	5			2			10							
		Siddbaba Lane 14	1	2	3						6							
		Siddbaba Lane 15	1	2	8						11							
		Siddbaba Lane 16	3	2	13	0	0	0			18							
		Siddbaba Lane-17	0	4	11	0	0	0			15							
		Siddbaba Lane-18	0	1	4		0	2			7							
		Siddbaba Lane-19	0	2	10			2			14							
		15	Ekta Transport Services, Sanjivani Hospital	Raddi Chowki to Sanjivani Hospital Main Road		4	9			1			10		4			
Lane					4						4							
16	Ghamapur Chowk RC	Ghamapur to Belbag Main Road		6									6					
		Bihari Maharaj Ka Bada Lane		4	3						7							
		Narmada Mandir Lane		6	4						10							
		Om durga Sai Mandir		1	3						4							
		Ghamapur Masjid Lane		16	11						27							
		Kishori lal Bada Lane		1	1						2							

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Existing & Proposed Fixture For Indramarket Zone																	
		Behind Dube Sergical Dental Hospital Ghamapur Lane		6	4											10	
		Kashi Wale Baba Ka Darbar Lane		6	6											12	
		Ghamapur to madar tekadi , Bhan tailaiya road Lane		2	1											3	
		Bhantailaiya Lanes		3	4											7	
		Vyohar Bag,Krichan Colony Sub Road		9	1											10	
		Vyohar Bag,Krichan Colony Sub Road Lane		11	5											16	
		Advocate Colony , Vyohar Bag Sub Road		24	1											25	
		Advocate Colony , Vyohar Bag Sub Road Lane		11	14											25	
		Samdadiya Colony Lane		9	5											14	
17	Gopal Hotel	Gopal Hotel to Chandmari Main Road	1	10	6											6	11
		Gopal Hotel to Chandmari Sub Road	1	3	2											6	
		Gopal Hotel to Chandmari Sub Road Dipak Kirana Lane	1	3	5											9	
		Chandmari Seth Govind das Ward Lane	1	7	14											22	

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Existing & Proposed Fixture For Indramarket Zone																	
		Dwarka Nagar Lane		1	11			1			13						
		Behind Shukla Hotal Dwarka nagar	1	1	19	1					22						
		Infront of Nati Halwai Chandmari Raod Lane		2	4						6						
		Hanuman Mandir Chandmari			7			1			8						
		Santoshi Mata Mandir Dwarka Nagar Lane		2	6						8						
		Santoshi Mata Mandir Dwarka Nagar Ke Aage Baba Paan Telers Ke Pichhe	2	11	16			1			30						
		Inside of Badi Shantoshi Mata, Narayan Chowk Lalmati Sub Road	1	2	3						6						
		Gopal Hotel to Kanchghar Main Road	4	16	3						3		20				
		Gopal Hotel to Kanchghar Infront of Nilam Kirana Store Sub Road	1	13	2						16						
		Barau Mohlla Road Lane	1	3	7						11						
		Dwarka Nagar Bajarang Mandir, Chungi Chowk Sub Road	2	4									6				
		Dwarka Nagar Bajarang Mandir, Chungi Chowk			2						2						

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Existing & Proposed Fixture For Indramarket Zone																	
		Sub Road Lane															
		Dwarka Nagar Infront of Anand Traders Lane	2		5						7						
		Gopal Hotel to Chungi Chowki Main Road		5	2						2		5				
		Gopal Hotel to Chungi Chowki Main Road S.B.I. ATM Lane		6	2						8						
		Desi Sharab Ki Dukam Lalmati Lane	1	2	5						8						
		Gopal Hotel to Hanuman Hotel Lane	1	7	4						12						
		Lalmati Dwaraka Nagar Shrunagar Bueaty Parlor Lane	1	3	7						11						
		Sidha Ganesh Mandir Kachiyana Road		2	2						2		2				
		Sidha Ganesh Mandir Kachiyana Road Lane	2	1	7						10						
		Durga Mandir to Kachiyana Sub Road		5	4	1					5		5				
		Durga Mandir to Kachiyana Sub Road Lane			10						10						
18	Haddi Godam	Bada Kabristan to Haddi Godam Sub Road		7								7					
		Haddi Godam Pachkuiya Lane		2	10						12						

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Existing & Proposed Fixture For Indramarket Zone																	
		Bada Madar Challa Lane		1	3						4						
		Bada Madar to Water Tank Dargah Lane No.8		6	3						9						
		Madar Challa Road		3								3					
		Baba Tola Road		2	6				1	1	8						
		Salatar House Road		5	3						8						
		Kasai Mandi to Salatar Road Lane		2	2						4						
		Inside Kabristan & Inside		10							10						
19	Hanumantal Thana Ke Pass	Hanumantal thana to Millonigunj Main Road		6								6					
		Millonigunj to Narmada Nursury school Main Road		7								7					
		Narmada Nursury to Hanuman Mandir Main Road		14			1						15				
		Shree Radha Jewellery to Jain Mandir Main Road		5			1						6				
		Hanuman Mandir to Hunumantal Thana Main Road		26									26				
		Hanuman Mandir to Hunumantal Thana Main Road		8	1											8	1
		Hanumantal Thana to Khermai Main Road	1	9				1						11			

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Existing & Proposed Fixture For Indramarket Zone																
	Inside Khermai Mandir	1	2							3						
	Hanumantal Thana to Khermai Sub Road		10	2				1			13					
	Hanumantal Thana to Khermai Main & Sub Road Lane		28	16						44						
	Futatal Sub Road		2	2						4						
	Futatal Lane		8	2						10						
	Masjid to Futatal Road Lane		15				2			17						
	Futatal Khermai Ward Lane		7	6						13						
	Hanumantal Jain Dharamshala Sub Road		3								3					
	Hanumantal Behind Jain Mandir Lane		16	1				1		18						
	Narmada Nursury to Raja Rusgula Sub Road		9								9					
	Bam Batukaya Namy Lane		3	1			2			6						
	Hanumantal to Miloini Ganj Main Road		5								5					
	Hanumantal to Masjid Sub Road		7							7						
	Hanumantal Govind Vallabh Pant Ward Lane		4	9						13						
	Masjid to Charkhamba Sub Road		3				2			5						

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Existing & Proposed Fixture For Indramarket Zone																	
		Charkhamba Moulana Azad Ward Lane		13	6							19					
		Govind Vallabh Pant Ward Lane		2	2							4					
		Near Hanumantal Thana Lane		6	4							10					
		Abdul Kalam Ward, Near Hanumantal Thana Lane		5	1							6					
		Hanumantal Near Durga Mandir Lane		8	4							12					
		Hanumantal Manish Kirana Store Lane		3	2			2				7					
		Baisasur Mandir Lane		2	3							5					
		Hanumantal Behind Masjid Lane		4	1							5					
		Behind Hanumantal Thane Lane		9	2				1			12					
20	In Front of Agrawal Traders	Lohia Bridge to University Gate	68														68
21	Inside Galagala Shiv Mandir	Galgala to Omati Main Road		19	1							1		19			
		Tilak Ward Bharatipur Main Road		5	1							1		5			
		Tilak Ward Bharatipur Sub Road		14	1							15					
		Galgala Sub Road		8	2			4				14					
		Malwiya Ward Bharatipur Sub Road		6								6					

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Existing & Proposed Fixture For Indramarket Zone																		
		Shiv Mandir to Mukadam Ganj Market Sub Road		10	1			2			13							
		Pooja Bakers to Gurardi Bazar Bharatipur Lane		3							3							
		Malwiya Ward Bharatipur Lanes		33	9						42							
		Galgala Lanes		14	8						8		14					
22	Kachghar Chowk	Kachghar Se Gopal Hotel Road		6												6		
		Kachghar Se Gopal Hotel Road Lane		9							9							
		Narsury Teacher Treaning Cource Lane		1	5			1				7						
		Behind Ghamapur Thana Lane	1	4	6							11						
		Kanchghar to Ghamapur Main Road	7	7										7	7			
		Kanchghar to Ghamapur Main Road Dilip Kirana Store Lane		9	2								11					
		Kanchghar to Ghamapur Main Road Lane		9	18								27					
		Kanchghar to Ghamapur Main Road Bhagavan Das Kirana Lane		3	6								9					
		Kanchghar to Ghamapur Main Road Lane		5									5					
		Kanchghar Chowk to	6	5													5	6

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Existing & Proposed Fixture For Indramarket Zone																		
		Ranjhi Road																
		Kanchghar Chowk to Gopal Hotel		7				1						8				
		Durga Mandir Lane		1	3							4						
		Nalanda Complex Sub Road		6	2							8						
		Sulabh Complex Dwarka Prasad Ward		2	14							16						
		Vikas Kirana Lane		2	2							4						
		Chitragupt Mandir Road		3				1						4				
		Kanchghar Sanjay Gandhi Ward Lane	6	15	17			3				41						
23	L 148, Futhatal Majar Me Rc	Futatal Mazar to Durga Mandir Main Road		15									15					
		Futatal Sub Road		5	1						6							
		Futatal Sub Road		6							6							
		Futatal to Belbag Road Main Road		13										13				
		Futatal to Galgala Sub Road		12							12							
		Futatal to Durga Mandir Lane		15	3						18							
		Dhimar Mohalla Futatal Lane		1	1						2							
		Futatal to Durga Chowk Lane		7	11						18							
		Futatal Kashyap Mohalla		7	9						16							

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Existing & Proposed Fixture For Indramarket Zone																		
		Lane																
		New Belbag Lane		10	2						12							
		Futatal to Belbag Road Lane		8	2						10							
		Futatal to Galgala Road Lane		7	6						13							
		Sarafa Lakadganj Sub Road		12	0						12							
		Sarafa Lakadganj Sub Road Lane		7	5						12							
24	Lohia pool RC	Lohia Pool to Cantonment Main Road		1												1		
		Lohia Pool to Rotery Club Sub Road		2	3						5							
		Rotery Club to Home Guard Karyalaya Sub Road		8	1						1		8					
		Pachpedi Kailash Puri Lane		4							4							
		Home Guard to Contonment Sub Road		7	6						6		7					
		Lohiya Pool to Rijroad Chowk		5	1						1		5					
		Pachpedi Gulmohar Appartment Lane		3							3							
		UGC Guest House Lane		12	6			2			20							
		Subhash Chandra Sub Road		3	1						1		3					

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Existing & Proposed Fixture For Indramarket Zone																
		Homeguard to GCF Gate Road Classic House Lane	5	4						9						
		Krishnan Villa Apartment Lane	8							8						
		Police Adhikshak Officer Colony Lane	22	9						31						
		Science College to Contonment Main Road	2									2				
		Sonia Appartment Lane	7	4						11						
		Civil Line Lane	3	4						7						
		Science College to Indramarket Main Road	5	1						1					5	
		Opposite Science College Lane	6	2			1			9						
		GCF to Contonment road	18	3						3					18	
		Lohiya Pool to Cantonment Lane	17	2			1			20						
25	LOHIA WARD RIJ ROAD RC	Lohia Poul Pachpedi Sub Road	11						11							
		Lohia Poul Pachpedi Lucky Provision lane	8	1					9							
		Sai Mandir to Lohia Pool Sub Road	10		1				11							
		Sai Mandir to Sadar	19	2	1					3	19					
		Pachpedi Lane	4	5	2				11							
		Pachpedi Lane-2	3		2				5							

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Existing & Proposed Fixture For Indramarket Zone																			
26	Mominpura Talaiya	Mominpura Talaiya to Gohlpur road Sub Road		3	5			3			11								
		Momim tailaya to charkhamba Main road		2									2						
		Mominpura Talaiya to Nagina masjid Lane		3	1						4								
		Mominpura Talaiya to Nagina masjid Sub road		5	1						6								
		Nagina masjid Lane		1	4						5								
		Gohalpur Nai basti to gaji masjid Sub Road		11	2						13								
		Gohalpur Nai basti to gaji masjid Lane		5	7						12								
		gaji Masjid Lane		4	4						8								
27	MOTHI NALLA RC	Motinala to Chandni Chowk		11									11						
		Dr.Inayat Ali Lane		5						5									
		Raza Mobile Store Lane		3						3									
		Dr. Jayakyat Ali Lane		2	4					6									
		Lucky T.V.Repairing Center Lane			3					3									
		Nur Medical Sub Road		2	3					5									
		Raj Bhawan Lane		1	2					3									
		Nur Medical Lane Infront of Masjid		14	5					19									
		MSK Tent House Lane		8	5			2		15									
		Saumaik Traders Lane		5	1					6									

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Existing & Proposed Fixture For Indramarket Zone																		
		Raza Higher Secondary School Lane		10	3							13						
		Mubarak Kirana Lane		8	1							9						
28	Near Bridge No.1 RC	Bridge No.1 to Railway Station Chowk	34														34	
		Jagmohandas to Railway Station Sub Road		4													4	
		Neta Subhash Chandra Central Jail Sub Road		5	4							4		5				
		Inside Sulabh Complex		3	1							4						
		Bridge No. 1 to Kanchghar Road	4	7	1												7	5
		Inside Power House Sub Road	4	6								6		4				
29	Near Empire Talkij	Empire talkies to Railway Station Road		15													15	
		Empire Talkies to Bareli Main Road	1	7	1				1								7	3
		Sub Road		3	7							10						
		Sub Road		3	5							8						
		Neharu Nagar Lane	2	3	6				21			11		21				
		Sub Road		7	1				1			9						
		Empire Talkies to Mata Mariyam Chowk Main Road	1	14										15				
		Lok Nirman Vibhag Lane		3		1						4						
30	Near IPS Office	Civil Line,Lohiya Bridge		22									22					

Existing & Proposed Fixture For Indramarket Zone																			
31	Near Kharmai Gate	Kharemai Gate to Hanumantal Road		6			3		2		5		6						
		Inside Khermain Temple		5	2						7								
		Shri Kharemai Traders Lane		5	2						7								
		Shera Panjabi Dhol Lane		5	1						6								
		Khermai Gate to Sarswati School Bhan Tailaya Sub Road		5	5						10								
		Kalyanti Mata Temple Lane		4							4								
		Vishvakarma Temple ,Footatal Lane		4	1						5								
		Mohan Kuti Footatal Lane		1	4						5								
		Behind Mohan Kuti lane		3	6						9								
		Shiv Ganesh Temple to Pani Tanki Sub Road		5	3						8								
		Shiv Ganesh Temple to Pani Tanki Sub Road Lane			8						8								
		Mazi Prathmik Shala lane		2	3						5								
		Shanker Temple Lane		4	5						9								
		Ma Bhadrakali Temple Sub road		4	1						5								
Radhakrishna Ward Hanuman Mandir Lane			7						7										

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Existing & Proposed Fixture For Indramarket Zone																			
		Bhadrakali Mandir Lane			7						7								
		Prajapati Dharmsala Lane		1	1						2								
		Durga Temple Lane		1	1						2								
		Marahi Mata Mandir		1	1						2								
32	Near Maulana Abdul Kalam Ward Gate,Rajja Chowk	From Maulana Abdul Kalam Ward gate to Hanumantal Main Road		10							10								
		From Maulana Abdul Kalam Ward gate to Hanumantal Main Road Lane		1	3						4								
		Maulana Abdul Kalam Ward		3	1						4								
		Badi Madar tekadi maidan to Sindhi Camp Road Lane		3	1	0	0	0			4								
		Madar tekadi maidan Hanumantal road Lane		3							3								
		Beside Badshah Fashion Tailors Lane		3	10						13								
		Maulana Abdul Kalam Ward Sayed Light Lane		4	1						5								
		Khermai Ward Behind Madar Tekari Sub Road		12							12								
		Khermai Ward Behind Madar Tekari Sub Road Lane		7	11						18								

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Existing & Proposed Fixture For Indramarket Zone																	
		Behind Hanumantal Thana Sidharthi Mandir Lane		12	11	2					25						
		Marhi mata mandir Radhakrushna ward,Sub Road		2	5						7						
		Marhimata mandir road, Radhakrushna ward		2	3						5						
		Sindhi Camp Main Road		5	1						6						
		Lane Opp. Abdul Kalam ward main gate		9	3						12						
		Madar Tekadi Maidan Chowk		2	1						3						
		Raddi Chowki Road	41														41
33	Near RTO Office	Allahabad Bank Chowk to RTO Office Main Road		78												78	
34	16 no Quarter.Thakkargram	Shashtri Ward Solah No Quarter Main Road		6							6						
		Solah Number Quarter Se Sonabai Road		3	7	1					11						
		Shashtri Ward to Tedinim Sub Road		2	3						5						
		Baba Tola Lane			3						3						
		Tedhi Nim Road Lane		2	25						27						
		Behind Solah Number Quarter, Garib Khwaja Sub Road		2	2						4						
		Behind Solah Number			7						7						

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Existing & Proposed Fixture For Indramarket Zone																	
		Quarter, Garib Khwaja Road Lane															
		Subbas Road Lane			3					3							
		Kalkala Mulla Lane			8				1	9							
		Jigi Mohhalla Solah Number Quarter Lane		1	6					7							
		Inside Sunnat Shah Majar Ground		6						6							
		Thakkargram Ward Se Haddi Godam Sub Road		3					1	4							
		Pachkuniya Lane		2	8					10							
		Gasima Colony Lane		2	4					6							
		Pachkuniya Raja Chowk Se Thakkar Gram Main Road		3	1					4							
		Thakkar Gram Ward Lane			8					1	9						
		35	Sathiya Kuva	Sathiya Kuwa Se Sarafa Road		6				1	7						
Pandit Motilal Ward Sathiya Kuwa Lane				30	3				33								
Sarafa Bazar Main Road	1			16	1				1		17						
Sarafa Bazar Lane				9	1				10								
Shankar Mandir Sathiya Kuva Lane				18	3				21								
Sathiya Kuwa Hanumantal Ward Lane				27	3				30								

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Existing & Proposed Fixture For Indramarket Zone																
		Sathiya Kuwa Sub Road		5	2	0					2		5			
36	Science College	M.M.Hospital to Pachpedi Sub Road		2	14							16				
		Keshav Mandir Lane		5	10						15					
		NCC Headquarter to Shaskia Vidyalaya		1	6							7				
		PHE Karyapalan Yantri Office Lane		3								3				
		Sai Mandir to Science College Road		12	3							15				
		Inside Police Maha Adhishak Banglow		5	3	1						9				
		Science College to Officer Colony Sub Road		3							3					
37	Shiv Mandir Kadam talaiya	Shiv Mandir Kadam Talaiya to Galgala Mandir Main Road		7	1										7	1
		Shiv Mandir Kadam Talaiya to Galgala Mandir Main Road		9								9				
		Main Road Gurandi Bazar Kadam Talaiya		27	3						3		27			
		Main Road Gurandi Bazar Kadam Talaiya Lane		3							3					
		Galgala Police Chowki Lane		3							3					
		GalGala No-4 Govt.		12				1					13			

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Existing & Proposed Fixture For Indramarket Zone																
	Primary School Road															
	Choti Khermai Se Omati		9	12						21						
	Shree Mankameswar Shiv Mandir Bharatipur Lane		13	2						15						
	Bharatipur Sub Road		6	1						1		6				
	Ramanohar Lohiya Ward Bharatipur		6							6						
	Bhartipur Sub Road		5									5				
	Bharatipur Sub Road Lane		8				1			9						
	Galgala No-4 Bharatipur Sub Road		4							4						
	Kavad Khana Lane		7	2						9						
	Gurandi Kirana Lane		8	4						12						
	Gurandi Bazar Kadam Talaiya Darshan Chowk Lane		6	2					1	9						
	Kadam Talaiya Shiv Mandir to Belbag Tiraha		4				1								4	1
	Kadam Talaiya Shiv Mandir to Belbag Tiraha		4	1						5						
	Belbag Tiraha to Belbag Thana Main Road		10	3											10	3
	Belbag Tiraha to Belbag Thana Main Road		6	18						24						
	Maharshi Arvind Ward		33							33						

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Existing & Proposed Fixture For Indramarket Zone																			
		Lane																	
		Bhartipur Lane		8						8									
38	Tahasil Chowk	High Court Chowk to Tahsil Chowk	32	4	1								32	5					
		Tahsil Chowk to Station Main Road		6												6			
		Police Quarter, Neharu Ward Lane		11	21						32								
		Tahsil Chowk to Gurandi Bazar Main Road		11				2					2				11		
		Tahsil Chowk to Gurandi Bazar Main Road		5							5								
		Bharatipur Road		10													10		
		Shiv Shakti Mandir, Choti Omati, Khalasi Line Lane		9	1	5											9	6	
		Near Kishan Taylors		13	3						16								
		Vyoharbagh Lane		34	2						36								
		PWD Colony Lane		9	4						13								
		Vyoharbagh Lane	1	12	2						15								
39	Thakur electric, Housing Bord compex Kachghr Colony	Kachghar Main Road	4										4						
		Thakur Electronics to Railway Police Line Sub Road	12	0	2						14								
		Sanjay Gandhi Ward Police Line Lane	3	4	15						22								
		Neharu Ward Behind Police Line Quarter Lane	5	9	5						19								

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Existing & Proposed Fixture For Indramarket Zone																	
		Samadadiya Nagar Lane	8	11	1						20						
		Kachghar Chowk to Station Main Road	8	5							13						
		Kachghar Kasturba Nagar Lane		4	2			4			10						
		Kachghar Chowk to Station Road Lane	5	2	6						13						
		Samadadiya Nagar Lane		4	2			4			10						
		Housing Board Complex Kanchghar Main Road	1	5									6				
		Housing Board Complex Kanchghar Main Road Lane	4	1	1			2			8						
		Kachghar to PF Office Main Road	6	3	1						10						
		Behind PF Office Housing Board Lane	5	2	4						11						
		Kachghar New Basti Lane	5	9	13	4					31						
40	Vyohar Bag	Ghamapur Road	53										53				
Total			443	2979	2153	32	7	89	32	14	4332	94	584	114	203	201	221

6. Mission Compound Zone

Existing & Proposed Fixture For Mission Compound Zone																			
Sr No	Switching Point Name	Name of Road	Number & Type of Existing Fitting Installed on Road									Proposed Type of Fitting							
			HPSV 250 W	HPSV 150 W	FTL 40 W	Bulb 100 W	CFL 2x36 W	CFL 85 W	Halo gen 500 W	LED 120 W	MH 400 W	25 W LED	45 W LED	72 W LED	120 W LED Already Installed	150 W HPSV Already Installed	150 W HPSV Proposed Fixture	250 W HPSV Already Installed	250 W HPSV Proposed Fixture
1	Bada Fuhara	Bada Fuhara to Kotwali Main Road	11	1										12					
		Kamaniya Gate to Sarafa Road		9										9					
		Bhaldarpura Sarafa Ward Sub Road	1	11	1									13					
		Tilak Bhumi Talaiya Sub Road		7										7					
		Sharad Jain Vidhayak Karyalaya Lane		4								4							
		Khowa Mandi Sub Road		4										4					
		Khowa Mandi Road Lane		12	2									14					
		Dixitpura Sub Road		6	3									9					
		Kabutar Khana Lane		3	1									4					
		Nivadganj Ward Lane		2	3	2								7					
		Dixitpura Lane		11	2									13					
Bada Fuhara to Baldev	4	10								1			15						

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Existing & Proposed Fixture For Mission Compound Zone																			
	Bag Main Road																		
	Khowa Mandi Jawaharganj Ward Lane	1	2	3							6								
	Galla Mandi Main Road	1	5		1							7							
	Pandey Chowk to Dishitpura Road Lane		3	7							10								
	Sabji Mandi Sub Road		10									10							
	Aaga Chowk Sub Road		1	2								3							
	Aaga Chowk Road Lane		2	1							3								
	Kasturba Gandhi Ward, Nivadganj Sub Road		12	1	1							14							
	Kasturba Gandhi Ward, Nivadganj Sub Road Lane		3	7							10								
	Sabji Mandi Nivadganj Mahatma Gandhi Ward Sub road		5	3							8								
	Sabji Mandi Padav Lane		18	18	1						37								
	Khowa Mandi to Shankar Ghhi Bandar Sub Road	1	1									2							

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Existing & Proposed Fixture For Mission Compound Zone																		
	Bada Fuhara to Lardganj Thana Main Road		7									7						
	Inside Lardganj Thana, Police Quiter Lane		12	12							24							
	Charhai Sub Road		5	2								7						
	Ram Manohar Lohiya Ward Lane		3	5							8							
	Ram Manohar Lohiya Ward Sub Road		1	3	1							5						
	Lardganj to Shyam Talkij Main Road		3										3					
	Shyam Band Lane	1	11	5							17							
	Rupali Showroom to Shankar Ghhi Bhandar Main Road		15	4								19						
	Rupali Showroom to Shankar Ghhi Bhandar Main Road Lane		3	4							7							
	Bada Fuhara to Andher Dev Main Road	12														12		
	Bada Fuhara to Andher Dev Main Road	1	3	1								5						
	Bada Fuhara to Andher Dev Main	2	4								6							

Existing & Proposed Fixture For Mission Compound Zone																				
		Road Lane																		
		Lala Ramsavrup Lane Andher Dev road	5	9	4						18									
		Galgala Sub Road		3								3								
		Galgala Sub Road Lane	1	22	3						26									
		Tilak Bhumi Ki Talaiya Lane Sub Road		6								6								
		Tilak Bhumi Ki Talaiya Lane		5	3						8									
		Andher Dev to Galgala Sub Road		10								10								
		Andher Dev Lane		6	5						11									
		Jawahar Ganj Main Road		6								6								
2	Baldev bag Agrawal Petrol Pump Ke Samne	Baldev bag Se Parijat Building Sub Road		7	3							10								
		Hardol Mandir Lane, Mahatma Ganghi Ward Dixitpura Road Lane		11	9						20									
		Hardol Mandir Sarafa Sub Road		3	3							6								
		Sindhi Colony mahatma Gandhi Ward Lane		7	3						10									

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Existing & Proposed Fixture For Mission Compound Zone																		
	Rajju Guru Ka Akhada Road Lane		17	1							18							
	Sai Mandir Road Lane		7	1							8							
	Sarafa Sub Road		3								3							
	Rajiv Nagar New Basti			4	1						5							
	Sangam Colony Lane	2	3	7							12							
	Sangam Colony Sub Road		3	2								5						
	Shital Puri Lane		1	5							6							
	Rajiv Nagar, Cherital ward Lane			9							9							
	Durga Mandir Rajiv Nagar Sub Road		1	4							5							
	Uprenganj Rajendra Prasad Ward Lane		6	1							7							
	Purana Uprenganj Sub Road		5	1							6							
	Khermai Mandir Cherital Ward Lane		7	14	1						22							
	Parijat Building Rahul Transport Lane			3							3							
	Parijat Building Se Baldev Bag Main Road	24															24	
	Baldev Bag Se Aaga Chowk Main Road	13	2												2		13	

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Existing & Proposed Fixture For Mission Compound Zone																		
		Aga Chowk Masjid Lane	2	5								7						
		Aga Chowk to Padav Sub Road		16	1								17					
		Aga Chowk to Jagdish Mandir Sub Road,		11	9								20					
		Aga Chowk to Jagdish Mandir Sub Road Lane		5	12								17					
		Purvi Nivadganj Lane		5	2								7					
		Baldev Bag Se Ukhari Main Road		1	18										1	18		
		Baldev Bag Se Ukhari Road Lane		4	8							12						
		Sangam Colony Sub Road		11	6								17					
		Baldev bag Se Pandey Chowk Sub Road		13	6								19					
		Pragati Nagar Lane		4	2							6						
		Rathi Colony Lane		4	4							8						
3	GolbaZar	Golbazar to Ranital Main Road	4													4		
		Ranital Churah Se Aga Chowk	18													18		
		Ranital Churah Se Aga Chowk Anna Basti Lane	1	1	3							5						

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Existing & Proposed Fixture For Mission Compound Zone																		
	Anna Basti to Aga Chowk Main Road	3	4													4	3	
	Inside Ranital Idgah Sub Road	13	4				2					19						
	Aga Chowk to Gada Fatak Road Vinod Dijital Work Lane	2			4							6						
	Gupta Colony Pralhad Chowk Gada Fatak Road Lane	3	3		3							9						
	Ranital Shakti Industries	2										2						
	Ranital to Bharat Hospital Main Road	11	4										15					
	Patrakar Colony Lane	1	4		2							7						
	Bharat Hospital Lane	6	3									9						
	Sudama Hardware Lane	1			3							4						
	Golbazar to Dr. Jamdar Hospital Road	11	1													1	11	
	Golbazar to Dr. Jamdar Hospital Road Lane	4	5		2							11						
	HDFC Bank Lane	4	3									7						
	Dr. Pavan Sthapak Lane	3	1									4						

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Existing & Proposed Fixture For Mission Compound Zone																		
		Golbazar to Gupta Colony Lane	7	2	3							12						
		Gada Fatak to Ranital	9	1									10					
		Golbazar to National Hospital Road	3											3				
		Golbazar National Hospital Road lane		2	1							3						
		Gol Bazar to Gada Fatak Main	1	11	3								15					
		Gol Bazar to Gada Fatak Road Lane	1	17	8							26						
		Gol Bazar to Gada Fatak Road Puran Lakadi Ki Tal Lane	1	7								8						
		Gol Bazar to Gada Fatak Road Behind Lal School		5	4							9						
		Lohiya Pool to Golbazar Sub Road		5								5						
		Lohiya Pool to Golbazar Sub Road Lane		5	1							6						
		Ranital Chowk to Golbazar Gate No-3,	16															16
4	Gopal Vihar Colony RC	Gopal Vihar Colony Main Road		16	5									21				
		Gopal Vihar Colony Lane		20	6							26						

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Existing & Proposed Fixture For Mission Compound Zone																			
		Manju Teli Lane		2	5							7							
		Gopal Vihar Colony Lane		7	4							11							
		Parijat Building to Sarswati Colony Sub Road		13	4								17						
		Sarswati Colony Lane	2	10	15							27							
		Parsas Colony Lane		3								3							
		Sarswati Colony Lane		4	5							9							
		Damoh Naka Parijat Building Main Road	10	4											4	10			
		Parijat Building Main Road Lane		4	1							5							
5	Gurunanak School & Collage Karamchand Chowk	From Naudara Bridge to Karamchand Chowk	39																39
6	Karam Chand Chowk	Karam Chand Chowk to Tularam Chowk Main Road		8			2						10						
		Karam Chand Chowk to Tularam Chowk Road Lane		3								3							
		Karam Chand to Omthi Chowk Main Road	3	14												14	3		

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Existing & Proposed Fixture For Mission Compound Zone																		
	Omthi Chowk Lane		7	1							8							
	Omthi Chowk to Tularam Chowk		3											3				
	Omti Chowk Gandhi Bhawan Lane	10	7	4							21							
	Omti Chowk to New Mohalla Lane	2	8									10						
	New Mohalla Lane		28	23							51							
	Citi College Sub Road		4	1							5							
	Hotel Deep Palace Lane		1	3							4							
	Karamchand Chowk to Malviya Chowk Road Lane		1	5							6							
	Main Road	1	2										3					
	Inside Bangla Mukhi Mandir		1			4					5							
	Karamchand Chowk to Shreenath Talaiya Sub Road		11	1							12							
	Shreenath Talaiya to Indian Coffee House Sub Road	1	10	2	1								14					
	Shreenath Talaiya to Indian Coffee House Sub Road Lane	2	2	3							7							

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Existing & Proposed Fixture For Mission Compound Zone																			
		Shrrenath Tailaiya to Ganjipura Lane	4	10	1								15						
7	Kotawali Thana	Kotwali to Sarafa Main Road	2	9												9	2		
		Kotwali to Gohalpur Main Road		37						2						37	2		
		Sub Road		11	8									19					
		Lane		12	3									15					
		Lane,Sub Road		13	1									14					
		Sub road		12	8		1							21					
		Sub Road		11	1									12					
		Sub Road		9										9					
		Lane		39	8									47					
		Sarafa road to Dixitpura road		27										27					
		Lane		38	26			3						67					
8	Madhavantal yatatay Thane Ke paas	Yatayat Thana Se Ranital Chowk Main Road	19														19		
		Shyam Talkij to Tinpatti Main Road	1	7												7	1		
		Yatayat Thana Se Ranital Chowk Main Road		3	1											3	1		

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Existing & Proposed Fixture For Mission Compound Zone																	
		Maharashtra School Se Manas Bhavan Sub Road		9	4								13				
		Maharashtra Highschool Se Golbazar Sub Road		4									4				
		Maharashtra Highschool Se Golbazar Road Lane			2					2							
		Yatayat Thana to Gate No 2, IDBI Bank Sub Road		6	1								7				
		Yatayat Thana to Gate No 2, Kotak Mahindra Bank to Golebazar Sub Road		3	2								5				
		Shyam Talkij Se Golbazar Main Road		14										14			
		Shyam Talkij to Bada Fuwara Main Road	2	17	1									17	3		
		Shyam Talkij to Bada Fuwara Main Road Lane		3	2					5							
		Shyam Talkij to Golbazar Road Lane	1	10	11					22							
		Satana Building Main Road		6	5								11				
		Malvik Chowk Se Karmamchand Main		4			1							4	1		

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Existing & Proposed Fixture For Mission Compound Zone																					
		Road																			
		Sanudaiya Mall to Chowpati Road	7	19	2											19	9				
9	Milauniganj Chowk	Milaoniganj Chowk to Sujipura road		10		6				3						10	9				
		Milaoniganj Khajipur to Purana Pur		4	6					10											
		Sujipura		21	4	1				26											
		Dadhamia Mohulla		3	4					7											
		Durga Temple Road		18	9	1				28											
		Behind Panchceel Talkies		4	2					1	7										
		Tamrahi School		10						1						10	1				
		Uprenjag		9	1						10										
		Tamrahi chowk to Dixitpura		10	1						11										
		Zade Mohalla		6	3						9										
		Milaniganj		5							5										
		Tamarahi chowk to raja rasgulla		7	2						9										
10	Mission Compound	Mission Compound to Sadar Road(Commercial)	7	7	3										7	10					

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Existing & Proposed Fixture For Mission Compound Zone																		
	Mission Compound to Sadar Road(Residential)		2	1							3							
	Barat Compound Road		7	2								9						
	Barat Compound Sarswati Ward		9	10						19								
	Dayanand Chowk		4	1								5						
	Rasal Chowk to Rupali Hotel		16	4								20						
	Rasal Chowk to Rupali Hotel Sub Road Lane		3	8							11							
	Nagrath Chowk to Collectrate Road(Commercial)	1	9	10										9		11		
	Nagrath Chowk to Collectrate Road(Residential)		8	4							12							
	Taiyab Ali Petrol Pump Road		13											13				
	Station to Collecterate Road	1	18											18		1		
	Pul No.2 to Rasal Chowk Road(Commercial)		5											5				
	Pul No.2 to Rasal Chowk Road(Residential)			2							2							

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Existing & Proposed Fixture For Mission Compound Zone																				
		Nagrath Road to Sadar Road		7			9									7	9			
		Collectrate Chowk to Rushi Agency Main Road	29													29				
11	Near Gohalpur Thana	Aadhartal Road	50															50		
		Sabji Mandi Gohalpur to Amanpur Sub Road		3	6												3	6		
		Sabji Mandi Gohalpur to Amanpur Lane			3						3									
		Gohalpur to Miloniganj Main Road		6													6			
		Gohalpur to Miloniganj Sub Road		9								9								
		Purana Gohalpur Pool Lane		8	8							16								
		Gohalpur Ward Lane	9	16	7							32								
		Gohalpur to Raddi Chowki Road Lane	2	6					1			9								
		Gohalpur Nai Basti Lane		1	10							11								
12	Kachiyana Chowk	Kachyana Chowk Se Datta Mandir Road		4							4									
		Datta Mandir to National Hospital Sub Road	1	2									3							
		Datta Mandir to	2	6	1		1					10								

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Existing & Proposed Fixture For Mission Compound Zone																			
		National Hospital Sub Road Lane																	
		Behind Datta Mandir, Bhavani Prasad Ward Lane		2	3						5								
		Kachyana Chowk to Mahakaushal School Main Road	1	3										3	1				
		Kachyana Chowk to Mahakaushal School Main Road	1	4							5								
		Kachyana Chowk to Subji Mandi Sub Road		7	1						8								
		Kachyana Chowk to Lardganj Thana Road Lane		5	5						10								
		Kachyana to Gada Fatak Main Road	1	1							2								
		Lardganj Thana to Kachyana Chowk Lane		3	7						10								
		Shiv prschin Mandir Kachyana	2	11							13								
13	Russel Chowk Near State Bank of Patiala	From Russel Chowk to Pool No. 5		39														39	
		Russel Chowk to Jyoti Talkij		2															2
		Russel Chowk to Bhanvartal Garden		7															7

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Existing & Proposed Fixture For Mission Compound Zone																		
		Bhanvartal Garden to Shashtri Bridge Sub Road	1	6								7						
		Jabalpur Hospital to Shastri Bridge		6	1													7
		Jabalpur Hospital to Shastri Bridge(Residential)		3							3							
		Bhanvartal Garden to Nepiar Town Sub Road		9				1				10						
		Russel Chowk to Pool No. 4 Main Road		9									9					
		Pool No 4 Lane	1	6	2		4					13						
		Shishu Shiksha Mandir, Higher Secondary School, Pool No.4 Lane		3	1			1				5						
14	Russel Chowk Opposite Anmol Auto Mobiles	Russel Chowk to Income Tax Main Road								28							28	
15	Shastri Bridge ICICI Bank	Shashtri bridge to Choti Line Fatak Main Road	8							19							19	8
		Shashtri Pul SE Raj Kumari bal Niketan		4	6								10					

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Existing & Proposed Fixture For Mission Compound Zone																			
		Ashram Sub Road																	
		ICICI Bank to Nepier Town Sub Road		12	4								16						
		Nepier Town Lane		7	8						15								
		Nepier Town Sub Road		18	9							27							
		Nepier Town Lane		12	24						36								
16	Telegraph Gate No.2	Hotel Satkar to Gate No.2 Main Road	31														31		
		Gate No.2 to Ranital Main Road		9															9
		Gate No.2 to Yatayat Thana Road Lane		5							5								
		Gomata Chowk Main Road		6	3									9					
		Gomata Chowk Main Road Lane		2	1							3							
		Mohanlal Har Govinddas Hospital Sub Road		6	1									7					
		Mohanlal Har Govinddas Hospital Sub Road Lane		7	3	1							11						
		Gomata Chowk to Gate No.4 Main Road		12											12				
		Gomata Chowk to Gate No.4 Road Lane		7	1								8						

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Existing & Proposed Fixture For Mission Compound Zone																			
		Himgiri Apartment & Town Road	1	8										9					
		Ranital Road to Gate No. 4 Main Road	1	19	1											19	2		
		Gate No.4 to Bus Stand Sub Road		11									11						
		Gate No.4 to Bus Stand Sub Road lane		8	3								11						
	Total		463	1607	651	10	30	5	3	47	8	1392	519	176	19	278	232	144	64

7. Gorakhpur Zone

Existing & Proposed Fixture For Gorakhpur Zone																			
Sr. No	Switching Point Name	Name of Road	Number & Type of Existing Fitting Installed on Road									Proposed Type of Fitting							
			HPSV 250 W	HPSV 150 W	FTL 40 W	Bulb 100 W	CFL 2 x 36 W	85 W CFL	LED 120 W	Metal Halide 400 W	Halogen 500W	25 W LED	45 W LED	72 W LED	120 W LED Already Installed	150 W HPSV Already Installed	150 W HPSV Proposed	250 W HPSV Already Installed	250 W HPSV Proposed
1	Ambey Traders Shethi Nagar	Ambe Traders to Gupteshvar Mahadev Mandir Main Road	4	11	1	0					0			16					
		Ambe Traders to Railway Line Sub Road	2	3	6	0	0				0	11							
		Kumhar Mohalla Lane	0	0	7	0	0				0	7							
		Sethi Nagra Behind Water Tank Lane	0	0	3	0	0				0	3							
		Ambe Traders to Pani Ki Tanki Sub Road	2	3	1	0	0				0	6							
		MIG Colony Lane	1	3	6	0	0				0	10							
		Ambe Traders to Shiv Mandir Lane	2	3	12	0	0				0	17							

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Existing & Proposed Fixture For Gorakhpur Zone																				
		Pani Tanki to Lodhi Samudayak Bhavan Lane	1	6	10	1	2				0	20								
		National Colony Lane	0	2	6	0	0				0	8								
		Lodhi Samudhayak Bhavan Lane	0	3	7	0	0				0	10								
		Ashok Vihar Lane	0	2	4	0	0				0	6								
2	Anand Enterprises Choti Lines Fatak	Choti Line Phatak Road	1	0	0					0								1		
		Choti Line Phatak Road Lane	0	1	4					0	5									
		Kakraiya Talaiya Lane	0	4	10					0	14									
3	BSNL Office Ke Pass Madan Mahal	Dasmesh Dwar to Kripal Chowk Main Road	2	3	0	0				0				5						
		Dasmesh Dwar to Kripal Chowk Main Road Lane	9	7	3	0				0	19									
		New Pooja Devi Lane	0	4	1	0				0	5									

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Existing & Proposed Fixture For Gorakhpur Zone																			
		Shree Ram Mandir Gupteshvar	0	2	2	0					0	4							
		Sarswati Shishu Mandir Vidhalaya Lane	1	1	3	0					0	5							
		RSSH School Lane	3	1	2	0	2				0	8							
		Madan Mahal Nagpal Garden Lane	2	3	7	0					0	12							
4	Esai Mohalla Chowk	Esai Mohalla to J.K. Complex Road	2	3	1						0	6							
		Sanatan Dharmakala to Middle School Lane	1	2	0						0	3							
		Guruman Febrication Lane	0	7	3						0	10							
		Sanatan Dharmakala to Middle School	6	5	0						0	11							
		Infront of Ram Mandir Lane	2	3	0						0	5							
		Sai Baba Mandir Lane	1	4	0		0				0	5							

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Existing & Proposed Fixture For Gorakhpur Zone																		
		Infront of Jaiswal Kirana Store Lane	6	11	7		0				0	24						
		Esai Mohalla Lane	2	5	9		0				0	16						
		Sharab Ki Dukan Lane	5	1	13		2				0	21						
5	Employment Office	Narmada Traders Gorakhpur Thana to Employment Office	0	3	1		0	0			0		4					
		Employment Office to Dashmesh Dwar Road Lane	1	10	3	0	0	0			0	14						
		Lucky Tailor Lane	0	3	3	0	0	0			0	6						
		Hatital Gupteshvar Ward Lane	1	9	8	0	0	0			0	18						
		Sita Ram Mandir Lane	0	5	2	0	0	0			0	7						
		Garima Kirana Lane	0	5	0	0	0	0			0	5						
		Vansh Kirana Lane	0	4	1	0	0	0			0	5						

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Existing & Proposed Fixture For Gorakhpur Zone																		
	Happy Kirana Lane	0	6	0	0	0	0			0	6							
	Hatital Housing Board Colony to Sethi Nagar Main Road	0	12	8	0	0	0			0		20						
	Hatital Housing Board Colony to Sethi Nagar Main Road Lane	2	7	18	1	0	0			0		28						
	Employment Office to Railway Line Road Samarth Vilay Apartment Lane	0	4	1	0	6	2			0		13						
	Hatital to Laxmi Colony	1	8	4	0	0	2			0		15						
	Laxmi Colony to Dashmesh Dwar Sub Road Lane	0	1	2	0	0	0			0		3						
	Laxmi Colony to Dashmesh Dwar Sub Road Lane	0	5	4	0	0	0			0		9						

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Existing & Proposed Fixture For Gorakhpur Zone																		
	MG School Sub Road	1	4	1	0	0	0			0	6							
	Laxmi Colony to Gupteshwar Road	1	5	0	0	0	0			2	8							
	Gupteshwar Mukti Dham Lane	0	5	1	0	0	0			0	6							
	Mahaveer Colony Sub Road	0	6	3	0	2	0			0	11							
	Mahaveer Colony Lane	0	19	11	0	0	0			3	33							
	Laxmi Colony Sub Road	0	4	0	0	0	0			0		4						
	Triveni Dev Vidha Mandir Laxmi Colony	2	12	8	0	0	0			0	22							
	Laxmi Colony Aasha Kirana Store lane	1	4	4	0	0	0			0	9							
	Laxmi Colony Choursiya Kirana Store lane	0	2	7	0	0	0			0	9							
	Gupteshwar Reliance Tower Lane	1	4	7	0	0	0			0	12							

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Existing & Proposed Fixture For Gorakhpur Zone																				
		Laxmi Colony Lane	1	5	3	0	0	0			0	9								
6	Ghantaghar Omati Thana Ke Samne	Ghataghar to High Court Main Road	26	0	0	0	0	0			0							26		
		Ghantaghar to Collecterate Road Home Guard Office Lane	0	1	2	0	0	0			0	3								
		Ghantaghar to Collecterate Road Omti Thana Lane	0	10	0	0	0	0			0	10								
		Ghataghar to Tayab Ali Chowk Main Road	2	15	2	0	0	0			0					15	4			
		Ghataghar to Tayab Ali Chowk Road Lane	2	12	11	0	20	2			0	47								
		Road	0	2	0	0	0	0			0									2
		Tayab Ali to Joyti Takij Road Lane	0	1	4	0	0	0			0	5								
		Ghantaghar to Victoriya Main	0	5	0	0	0	0			0					5				

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Existing & Proposed Fixture For Gorakhpur Zone																			
		Road																	
		Taiyab Ali to Ayakar Bhavan Main Road	0	34	0	0	0	0			0								34
7	J.K.Complex Gorakhpur	J.K Complex to Chhoti Line Fatak	3	14	0	0	0	0			0			17					
		Lodhi Shetriya Dharmshala Lane	2	3	3	0	0	0			0	8							
		Pushpa Kunj Colony Lane	6	0	0	0	0	0			0	6							
		J.K Complex to Chhoti Line Fatak Road Lane	7	3	9	0	0	0			0	19							
		Dipali Sadi Center Lane	3	0	1	1	0	0			0	5							
		Lane Infront of Shree Sut Collection	1	0	4	0	0	0			0	5							
		Baina Mohalla Lane	6	3	2	0	0	0			0	11							
		Bhola Kirana Store Lane	2	3	2	0	0	0			0	7							
		Shiv Kirana Lane	5	6	3	0	0	0			0	14							

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Existing & Proposed Fixture For Gorakhpur Zone																		
	Sampatlal & Work lane	1	1	1	0	0	0			0	3							
	J.K.Complex to Esai Mohalla Sub Road	2	3	1	0	0	0			0	6							
	J.K.Complex to Esai Mohalla Road Lane	1	5	4	1	2	0			0	13							
	J K Complex to Hawabag Station Main Road	9	4	0	0	0	0			0			13					
	J K Complex to Hawabag Station Main Road	0	2	1	0	0	0			0	3							
	Hawabag Station to Pool No.4	3	6	2	0	0	0			0		11						
	Pool No.4 to Katanga Tiraha	1	9	1	0	0	0			0		11						
	Shree Guru Ramdas Charitable Hospital Lane	0	3	1	0	0	0			0	4							
	Pandit Raj Kumar Sharma Joytish Karyala Lane	3	5	0	0	0	0			0	8							

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Existing & Proposed Fixture For Gorakhpur Zone																			
		Bhesasur Road	2	0	0	0	0	0			0			2					
		J K Complex to Hawabag Station Road Lane	5	34	21	0	0	0			0	60							
8	Katanga Tiraha	Central Bank Se Gorkhpur	1	2	0	0	0	0			0	3							
		Katanga Tiraha to Gorakhpur Main Road	0	4	0	0	0	0			0			4					
		Behind Bharat Petroleum Lane	2	1	1	0	0	0			0	4							
		Ratan Nagar Labour Court Lane	1	3	2	0	0	0			0	6							
		Narmada Road	2	7	6	0	0	0			0	15							
		Ratan Nagar	1	10	6	0	0	0			0	17							
		Katanga Tiraha to Rampur Chowk	7	12	0	0	0	0			0							7	12
		Narmada Road	0	0	7	0	0	0			0	7							
		Narmada Road	0	3	0	0	0	0			0					3			
		Pragati Shil Colony Katanga Lane	3	15	23	2	0	0			0	43							

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Existing & Proposed Fixture For Gorakhpur Zone																				
		Narmada Road Johanson Compound Lane	1	2	4	0	0	0			0	7								
		Katanga Tiraha Visham School Lane	0	11	3	0	0	0			0	14								
		Katanga Tiraha to J K Complex Gorakhpur Main Road	0	16	1	0	0	0			0								17	
		Katanga Tiraha to J K Complex Gorakhpur Main Road Lane	0	5	7	0	0	0			0	12								
9	Madan Mahal Thana	Madan Mahal Se Kanchan parisar Main Road	0	7	1	0	0	0			0				7	1				
		Madan Mahal Se Kanchan parisar Sub Road	0	2	7	0	0	1			0	10								
		Madan Mahal Thana Se Home Science Collage Main Road	0	18	1	0	0	0			0				18	1				

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Existing & Proposed Fixture For Gorakhpur Zone																				
		Madan Mahal Thana Se Home Science Collage Road Lane	0	39	4	0	0	1			0	44								
		Madan Mahal Station Main Road	0	5	1	0	0	0			0					5	1			
		Madan Mahal Station Main Road Lane	0	1	2	0	0	0			0	3								
		Shastri Bridge Main Road	0	13	1	0	0	0			0					13	1			
		5 No gate to Sai Mandir Road	0	3	1	0	0	0			0		4							
		4 No gate to Sai Mandir Road Lane	0	9	2	0	0	0			0	11								
10	Navbhrat Press	Bus Stand to Russel Chowk, Bhavartal Garden Sub Road	2	4	0	0	0	0			0			6						
		Bus Stand to Russel Chowk Road, Bhavartal Garden Road	0	0	3	0	0	0			1	4								

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Existing & Proposed Fixture For Gorakhpur Zone																					
		Lane																			
11	Near BPCL Petrol Pump Medical Road	Model Road	43	0	0	0	0	0			0								43		
12	Near Narmada Traders	Narmada Traders to Esai Mohalla Road	4	2	3	0	0	0			0	9									
		Esai Mohalla Lane	5	1	1	0	0	0			0	7									
		Esai Mohalla Jayraj Aata Chakki Sub Road	1	1	3	0	0	0			0	5									
		Gorakhpur Jogi Mohhala Lane	4	0	10	0	0	0			0	14									
		Behind Gorakhpur Thana	1	3	1	0	0	0			0	5									
		Police Quarter Lane	7	1	8	0	0	0			0	16									
		Narmada Traders to Choti Line Fatak Main Road	13	1		0	0	0			0									13	1
		Sabji Market Lane	4			0	0	0			0			4							

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Existing & Proposed Fixture For Gorakhpur Zone																		
	Infront of Sabji Market	2	2	4	0	0	0			0	8							
	Opp. Of Narmada Provision Lane		1	3	0	0	0			0	4							
	Choti Line Fatak to Narmada Traders Lane	6	6	15	0	0	0			0	27							
	Narmada Traders to Parth Medical Store Hatital Road	1	1	0	0	3	0			0					1	4		
	Narmada Traders to NES College Sub Road			5	0	0	0			0	5							
	Atul Vihar Colony Lane	3	5	2	0	0	0			0	10							
	Inside Atul Vihar Shree Ram Darbar Mandir	3	2		0	0	0			0	5							
	Atul Vihar Colony Lane	2	2	5	0	0	0			0	9							
	Narmada Traders to Bandriya	15	5		0	0	0			0							15	5

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Existing & Proposed Fixture For Gorakhpur Zone																				
		Tiraha Main Road																		
		Narmada Traders to Bandriya Tiraha Road Lane	2	1	9	0	0	0			0	12								
		Satya Vihar Colony Sub Road	1		5	0	0	0			0	6								
		Satya Vihar Colony Lane	5	5	10	0	2	0			0	22								
13	Near Shri Guru Tegh Bahadur Khalsa College	Near Shri Guru Tegh Bahadur Khalsa College	38	0	0	0	0	0			0							38		
14	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	Madan Mahal Chowk to Madan Mahal Station Main Road	15															15		
		Madan Mahal to Gupta Hotel Main Road	25																25	
		Madan Mahal to Choti Line Fatak Sub Road	6	2	2										2	8				
		Madan Mahal to Choti Line	6	6	8							20								

Existing & Proposed Fixture For Gorakhpur Zone																		
		Fatak Sub Road Lane																
		adan Mahal to Choti Line Fatak Sub Road	5											5				
		Madan Mahal to Madan Mahal Undar Bridge Road	4							4								
		Amanpur New Basti Narsingh Ward lane	2	8						10								
		Amanpur New Basti to Station Road	12							12								
		Madan Mahal Under Bridge Lane	4	1						5								
		Amanpur Colony Lane	28	3						31								
		Kalimath Mandir Road		3								3						
		Amanpur Colony Lane	11	2						13								
15	Rishi Vihar Colony	Inside Garden, Katanga Road Laxmi Parisar Udyan	8	1						9								

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Existing & Proposed Fixture For Gorakhpur Zone																				
		Laxmi Parisar Udhyan, Alok Tower		7																
		Rishi Vihar Colony Lane	5	15	2		2	1					25							
		Rishi Vihar Colony Lane		13	2								15							
16	Saluja Tyre Madhotal Road	Gau Mata Chowk Main Road		10	3											10	3			
		Dwaraka Hotel Main Road		22												22				
		Bus Stand to Shashtri Bridge Viklang Punarvas Kendra Lane		7	1									8						
		Shastri Bridge Road Lane				3														3
		Shastri Bridge Road Lane				4							4							
		Shastri Bridge to Home Science Road		12	2												12	2		
		Shastri Bridge to Home Science Road Lane		27	3	1								31						

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Existing & Proposed Fixture For Gorakhpur Zone																			
17	Santosh Garage	Shastri Bridge to Madan Mahal Main Road		3	0													3	
		Choti Line to Madan Mahal Guljar Hotel Lane		5	1						6								
		Narsingh Ward Choti Line Phatak Lanes		24	25						49								
		Choti Line to Shastri Bridge Road Lane		8	8						16								
		Shastri Bridge to Madan Mahal Road		0	0			15						15					
18	Teenpatti Chauraha	Teenpatti to Naudra Bridge Main Road		12					5									17	
		Inside Municipal Corporation		9	5						14								
		Teenpatti Chowk to Shyam Talkij road		9					2										11
		Madhotal Road		5		2								5	2				

Existing & Proposed Fixture For Gorakhpur Zone																			
		Prabhu Wandana Talkij to Chaupati road	4	12												12	4		
		Prabhu Wandana to Shyam takij road		7												7			
19	Wright Town Pankaj Palace	Hotel Pankaj Palace to Prem Mandir Main Road	2	12												12	2		
		Hotel Pankaj Palace to Prem Mandir Road Lane		9	2						11								
		Pankaj Palace Se Goumata Chowk Main Road	8	3	1								12						
		Goumata Chowk Se Bus Stand Road	3	7	5	3											7	11	
		Goumata Chowk Se Bus Stand Road Lane		1	2	2						5							
		Sagar Hotel Sub Road		4									4						

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Existing & Proposed Fixture For Gorakhpur Zone																		
	Ravishankar Stadium to Gate No.2		8												8			
	Ravishankar Stadium to Gate No.2 Lane		4	2						6								
	Pankaj Palace to Bus Stand Road Lane		15	4						19								
	Pankaj Palace Se Bus Stand Main Road	2	5		1							8						
	M.L.B. School Main Road		10	2										10	2			
	Total	415	1037	575	15	43	9	15	7	6	1425	79	90	15	179	46	183	105

8. Purva Zone

Existing & Proposed Fixture For Purva Zone																		
Sr No	Switching Point Name	Name of Road	Number & Type of Existing Fitting Installed on Road								Proposed Type of Fitting							
			HPSV 250 W	HPS V 150 W	FTL 40 W	Bul b 100 W	CFL 2x36 W	85 W CFL	Halogen 500W	400W MH	25 W LED	45 W LED	72 W LED	150 W HPSV Already Installed	150 W HPSV Proposed	HPSV 250W Already installed	HPSV 250W proposed	
1	Bazanmath	JDU Colony Lane		6	44							50						
		Bhajna Math chowk to JDA Colony Sub Road		2	3							5						
		Naw Nehru Nagar Lane		2	19							21						
2	Bhairav Baba Road	Nehru Nagar Sub Road		5	2							7						
		Nehru Nagar Lane		2	3							5						
		Bhajanmath Chowk to Bhajanmath Mandir Sub Road		3	1							4						
		Bhajanmath Bhairav Mandir Road		3	4							7						
		Nehru Nagar Sub Road		3	6							9						
		Bhajanmath Ashram		3	8							11						
3	Bhairav Nagar , Bada Pathar, Hanuman Mandir	Jabalpur to Nagpur highway	54													54		
4	Bhairav Nagar Near Sub Station MPEB Purva	Near Sub Station MPEB Purva Sub Road		4	5							9						
		Near Sub Station		4	3							7						

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Existing & Proposed Fixture For Purva Zone																
		MPEB Purwa Lane														
5	Bhukamp Colony	Lane-1		6						6						
		Lane-2		5						5						
		Lane-3		5						5						
		Lane-4		9						9						
		Lane-5		6						6						
		Lane-6		6						6						
		Lane-7		12						12						
		Lane-8		14						14						
		Lane-9		14						14						
		Lane-10		7						7						
		Main Road		3						3						
		Main Road		14						14						
6	Devtal Main Road Sauparn Park	Devtal Sub road	3	14						17						
		Bajrangnagar Lane	2	6						8						
		Chuhani Road		3						3						
		Swami Biranj Sub Road	6	1						7						
7	Dr. Colony 1- Type Medical Queter ke Samane	Garha Bazar Road to Dhanwantri Nagar Square Main Road	3	26								3	26			
		Dr.Colony Medical Sub Road	2	6						8						
		Naynavas Colony Sub Road	2	2						4						
8	Ganga Nagar Road	Ganga Nagar Rani	5	1					6							

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Existing & Proposed Fixture For Purva Zone																	
		Durgavati Road															
		Rajul City Lane		3	5						8						
		Chandan Colony Lane		5	6						11						
		Chandan Colony Sub Road		7	32		1				40						
		Ganga Nagar Sub Road		8		2					10						
		Chandan Colony to Gujrati Colony Sub Road		11	4						15						
		Ganga Nagar to Saraewati shishu Mandir School Sub Road		5	6						11						
		Siddheswar Vihar Lane		1	5		2				8						
		Ganga Nagar Lane			13						13						
		Navnavish Colony Sub Road		3	22		2				27						
		Naynavas colony Lane			11	2					13						
		Rani Durgawati Girls Govt. High School to Naynavas colony Sub Road		3	8		2				13						
		Ganganagar Lane		11	18		2				31						
9	Garha Thana , Near Medical College	Medical Road	54														54
10	Gupta nagar	Gupta nagar Near Sai		4	15						19						

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Existing & Proposed Fixture For Purva Zone																			
		Niwas																	
11	LIG Colony (Near Aakarshn Beauty Parlar)	LIG Colony Near Aakarshan Beauty Parlar Lane 1 & 2			4						4								
		LIG Colony To Dhanvantri By Pass Main Road		1	17						18								
		Lane-3			8						8								
		Lane-4			10						10								
		Lane-5			2						2								
		Lane-6			8						8								
		Lane-7			7						7								
		Lane-8		1	7						8								
		Lane-9			13						13								
		Lane-10			8						8								
		Lane-11			14						14								
		Lane-12			5						5								
		Lane-13			9						9								
		Lane-14			7						7								
		Lane-15			6						6								
12	Lodhi Maholla Shashtri Nagar pili Building ke piche	Lodhi Maholla Sharda Chowk Road		6	3						9								
		Lodhi Maholla Sharda Chowk Road Lane		3	4						7								
		Devi Nagar Near Tower Lane		5	11						16								

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Existing & Proposed Fixture For Purva Zone																	
		Koshta Mohalla Lane		3	8	1	1				13						
13	Medical Colony	Bhedaghat Road		16										16			
		Doctors Colony Sub Road		11	1						12						
		Doctors Colony Lane		5	2						7						
14	Near Gyanganga College	Nagpur to Medical Road	56													56	
15	Near Hotel Maruti Mandapam	Medical Road	39													39	
16	Near Jain Mandir	Medical College Road	48													48	
17	Near Jasuja City	Bhedaghat Road	53													53	
18	Near Kangi House (Chungi Naka)	Garha Bazar Road Sub Road	1	8	24						33						
		Bus Stand Road		13								13					
		Garha Bazar Road		8	20						28						
		Garha Bazar Road to Dhanwantari Nagar Chowk Main Road		7	13								20				
19	Near Sahi Naka	Gautam Madia Road Sub Road		4	2							6					
		Chaudhari Area Lane 2		3	4						7						
		Shahi naka Lane 3		3	11							14					
		Shahi naka Lane 4		2	4							6					
		Shahi naka Lane 5		2	5							7					
		Shahi naka Lane 6			8		2					10					
		Shahi naka Lane 7			4							4					

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Existing & Proposed Fixture For Purva Zone																
		Shahi naka Lane 8		9	12						21					
		Shahi naka Lane 9		3	14						17					
20	Near Samudayak Bhavan	Dhanvantari nagar chowk to Dhanvantri Nagar Main Road		4	6		2						12			
		M A Sub Road		1	20		1					22				
		Royal Internatioal school Lane		1	15							16				
		Royal Internatioal school Sub Road			5							5				
		Mahadev Pariser Lane		1	26							27				
		M A Colony Sub Road		1	8							9				
		Bharat Gas Godown Lane			7							7				
		Front Krishti Model school Lane		1	35							36				
		LIG Colony Lane 1		4	31		2					37				
		LIG Colony Lane 2		1	19		1					21				
		LIG Colony Lane 3			10							10				
		LIG Colony Lane 4		1	22							23				
		LIG Colony Lane 5			14			1				15				
LIG Colony Lane 6			10							10						
21	Near Water Tank Tripura Chowk	Hill Area		8	8						16					
22	Neharu Nagar Near Apex Hospital	Medical Road To Neharu Nagar Sub road		2							2					

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Existing & Proposed Fixture For Purva Zone																			
		Lane1		6	3						9								
		Lane2		6	7						13								
		Lane3			2						2								
		Lane4		1			6				7								
		Lane5			1		5				6								
		Lane6			4		5				9								
		Lane7			2		1				3								
23	Paraswada Colony	Paraswada Colony Road			82						82								
		Paraswada Colony Main Road			9							9							
24	Rajul City	Sahi Naka Road to Rajul City Sub Road			6						6								
		Lane 1			8						8								
		Lane 2		1	7		2				10								
		Lane 3		10			1				11								
25	Ram Nagar - 1	Ram nagara Main Road			7						7								
		Lane - 1		1	6						7								
		Lane - 2		2	13						15								
26	Ram Nagar-2	Ram Nagara Main Road			12						12								
27	Near Sai Sagda Mandir, Anand Krushi Kendra	Nagpur Jabalpur Highway	60														60		
28	Sagda Sai Mandir	Sagda Sai Mandir to Sant Jude Church		3	12						15								

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Existing & Proposed Fixture For Purva Zone																
		Sant Jude Church Sub Road		4	12						16					
29	Sagar Colony	Sagar Colony Main Central Road		6	19						25					
30	Sai Colony	Sai Colony Road		1	22						23					
31	Shahnala	Shahnala Sub Road			4						4					
		Tilwara Main Road		2	6								8			
32	Shashtri Nagar Chauraha	Shashtri Nagar main Road		4	9						13					
		Shashtri Nagar Sub Road			3						3					
		Rdhakrushna Mandir Sub Road		12	17							29				
33	Shastri Nagar-2	Shastri Nagar Lane1,2&3		8	7						15					
		Shastri Nagar Lane4&5		5	7						12					
		Shastri Nagar Lane6&7			14						14					
		Lane-8			9						9					
		Shastri Nagar Lane9,10&11		12	20							32				
34	Tilwara Ghat	Main Road		23	3											26
		Sub Road		30	1								31			
		Shankar Ghat Lane		5	1						6					
35	Tripuri Chowk	Tripuri Chowk to Kanji house Lane		2	3						5					
		Tripuri Chowk to Kanji house Sub Road		4									4			

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Existing & Proposed Fixture For Purva Zone																	
		Purava Road Chowdhari Mohalla Lane		4	24						28						
	Total		365	411	1276	6	37	1	0	0	1540	41	80	19	26	364	26

9. Adhartal Zone

Existing & Proposed Fixture For Adhartal Zone															
Sr No	Switching Point Name	Name of Road	Number & Type of Existing Fitting Installed on Road						Proposed Type of Fitting						
			HPSV 250 W	HPSV 150 W	FTL 40 W	Bulb 100 W	CFL 2 x 36 W	85 W CFL	25 W LED	45 W LED	72 W LED	150 W HPSV Already Installed	150 W HPSV Proposed	HPSV 250 W Already Installed	HPSV 250 W Proposed
1	Adhartal Tiraha	Power House Road		15	0		0								15
		Krushi Vishvavidyalaya to Adhartal Tiraha		17	0		0								17
		Shiv Nagar Geeta Bhavan Lane		2	10		0		12						
		Nagar Palika, Zone No-7 Lane		6	3		0		9						
		Adhartal Jawahar Nagar Lane		7	4		0		11						
		Jawahar Nagar Road		2	1		0						2	1	
		Jawahar Nagar Road Lane		3	11		2		16						
		Jawahar Nagra Sadguru Kirana Lane		4	17		0		21						
		Jay Maa Ambe Trading Company Jawahar Nagar Lane		1	9		0		10						
		Jawahar Nagar Mama Welding Lane		1	7		2		10						
		Kevat Mohalla Purani Basti Lane		0	6		0		6						
		Infront of Adhartal Thana Lane		2	12		2		16						
		Modi Dressers Lane		4	8		0		12						

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Existing & Proposed Fixture For Aadhartal Zone														
		Durga Mata Mandir Gujarati Colony Lane		1	12		0		13					
		Vinoba Nagar		2	0		0				2			
		Yash Nursery to Aadhartal Tiraha		7	6		10		23					
		Beside Abhinanadan Hospital Lane		1	5		0		6					
		Utsav Restaurent Lane		1	5		0		6					
		Asha Nagar Lane		0	4		0		4					
		Sai Paryavaran Park Jawahar Nagar Lane		1	8		0		9					
		Sai Paryavaran Park Jawahar Nagar Sub Road		2	6		0		8					
2	Gaji Nagar	Jai Prakash Nagar Road		15	6		0		21					
		Gutam Nagar Lane		7	3		0		10					
		Jai Prakash Nagar Road		3	1		0				3	1		
		J.P Helth Club Lane		8	9		0		17					
		Pari Beauty Parlour Lane		1	2		0		3					
		Mukesh Time Lane		2	2		0		4					
		Shankar Ji Mandir Lane		3	7		2		12					
		Swagatam Chowk Behind Tower Lane		5	7		2		14					
		Swagatam Chowk Road		1	2		0				1	2		
		Infront of Towar		4	2		0		6					
		Jai Prakash Nagar to Zhanda Chowk Lane		4	11		2		17					

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Existing & Proposed Fixture For Aadhartal Zone														
		Puspak Nagar Subhash Chowk Lane		2	1		0		3					
		Durga Mandir Lane		2	3		0		5					
		Laxmi Kirana Store Lane		0	8		0		8					
		Jai Prakash Nagar Lane		8	8		0		16					
3	Chokse Hotel (New Kanchanpur)	New Kanchanpur Main Road		3	1	0			4					
		Choukase Hotel to Tin Puliya Road		0	4	0			4					
		New Kanchanpur to Gandhi Nagar Road		4	11	0			15					
		Pal Ata Chakki Lane		7	31	1			39					
4	Ram Nagar (New)	Ram Nagar Sub Road		12	4	0	0		16					
		Ashok Nagar Lane 1		4	2	0	0		6					
		Ashok Nagar Land 2		3	0	0	0		3					
		Sanmati Nagar Lane		2	4	0	0		6					
		Kirti Nagar Lane		3	13	0	0		16					
		Ashok Nagar Lane 3		3	3	0	0		6					
		Alok Nagar Sub Road		3	5	0	0		8					
		Sanjivani Hospital Road Ram Nagar		2	10	1	0		13					
		Ram Nagar Sub Road 1		3	4	0	0		7					
		Ram Nagar Sub Road 2		1	5	0	0		6					
		Trimurti Midle School to Panchmukhi Mandir Road		11	2	0	0				13			
		Ram Nagar Lane		11	7	1	1		20					
Near Saraswati Shishu Mandir		1	11	0	0		12							

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Existing & Proposed Fixture For Aadhartal Zone														
		Lane												
		Ram Nagar Lane		1	5	0	2		8					
		Mahakaushal Nagar Sub Road		1	10	0	0		11					
		Mahakaushal Nagar Lane		2	6	0	0		8					
5	Afak Bekari Makka Nagar Gali no-3	Rajja Chowk to Makka Nagar Road		2	3					5				
		Makka Nagar Lane No.1		1	15				16					
		Makka Nagar Gali No-2		0	10				10					
		Makka Nagar Gali No-3		0	9				9					
		Makka Nagar Gali No-4		2	11				13					
		Makka Nagar Gali No-5		1	10				11					
		Dental Clinic Lane		1	3				4					
6	Agrawal Kirana Store Shankar Chowk	Shankar Chowk Sanjay Nagar , Shubhas ward, Sub Road	2	5	13	1	0		21					
		Shankar Chowk Sanjay Nagar , Shubhas ward, Lane	1	2	8	1	4		16					
7	Anand Nagar, Near Dr Ansari Clinic	Aadhartal Main Road	28										28	
8	Dr Ambedkar Colony	Ambedkar Colony to Neta Colony Road		11	2	0	0				11	2		
		Ambedkar Colony to Neta Colony Road Lane		7	0	0	0		7					
		Neta Colony Lane		2	4	0	0		6					
		Neta Colony to Sabji Mandi Road		5	4	0	0		9					

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Existing & Proposed Fixture For Aadhartal Zone																
		Neta Colony Lane		0	7	1	0		8							
		Khan Tailor Lane		0	4	0	0		4							
		New Nikhar Beuty Parlor Lane		1	5	0	0		6							
		Ambedkar Colony Lane		12	39	4	4		59							
		Ambedkar Colony to Makka Nagar Road		3	1	0	0					3	1			
		Ambedkar Colony Lane		1	7	0	0		8							
9	G. C. F. Colony	G.C.F. Colony, Ghani ki kutia road Main Road		6	4	0	0				10					
		Ankhera road Pushpak Nagar Sub Road		8	7	0	0		15							
		Pushpak Nagar Sub Road		12	20	7	0		39							
		Rajendra Nagar Sub Road		10	4	0	0		14							
		Umanagar Sub Road		2	6	0	0		8							
		G.C.F.Colony Sub Road		2	2	0	0		4							
		Jayprakash Nagar Sub Road		11	11	0	0		22							
		Near Park Puspak Nagar Sub Road		12	18		4		34							
10	Gandhi Chowk Katra, Near Vishwkarma Electric	Neta Colony to Gandhi Chowk Road		1	3				4							
		Katara to SBI Bank Aadhartal Sub Road		4	9				13							
		Katara to SBI Bank Aadhartal Sub Road Lane		1	10				11							
11	Gayatri Nagar	Gayatri Nagar Sub Road		3	7				10							

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Existing & Proposed Fixture For Aadhartal Zone														
		Gayatri Nagar Lane		3	23				26					
12	Hotel, Near Sulemani masjid , Rajja chowk	Rajja Chowk to Sulemani Masjid Road		0	8				8					
		Rajja Chowk to Sulemani Masjid Road Lane		1	10				11					
13	Housing Board in Pump House	Main Road		3	3				6					
		Shastri Ward to Subhash ward Lane		3	8				11					
		Housing Board to Pump House Lane		0	11				11					
		Anand nagar to Pump House Sub Road		4	6				10					
		Al-Raza Masjid Sub road		5	6				11					
		New Anand Nagar to Pump House Main Road		4	4				8					
		Housing Board Colony to Raza Chowk Sub Road		0	8				8					
Raza Chowk		3	11				14							
14	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass	Inside Kalimata Mandir		7	3				10					
15	Industrial Area Near Power House	Sanjay Nagar Power House to Aadhartal Subji Mandi Road		27	1						27	1		
		Sanjay Nagar Power House to Aadhartal Subji Mandi Road lane		2	0				2					
16	Jawahar Nagar ,	Madrama Hashami Arbia		12			0		12					

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Existing & Proposed Fixture For Aadhartal Zone														
	Hussain Masjid	Primery School Road												
		Jawahar Nagar Hussain Masjid Lane		14		2		16						
17	Katra Sabji Mandi	Ktra Road Gauri Shankar Mandir Lane		2	9		0		11					
		Katara Road		1	1		3				1	4		
		Khermai Mandir Lane		2	6		0		8					
		Sharda Kirana Store Lane		2	3		0		5					
		Khermai Mandir Road		1	5		1		7					
		Near Masjid Lane		1	7		3		11					
		New Aadarsh Nagar Lane		2	5		1		8					
18	Main Road Adhartal Near Nilesh Computer	Aadhartal Main Road	28										28	
19	Shankar Mandir Neharu Nagar	Post Office to Mukadam Mandir Road		1	3	0			4					
		Mukadam Mandir Lane		0	4	0			4					
		Old Kanchanpur to Neharu Nagar		0	8	1			9					
20	New Ramnagar	Main Road		4	3		0	0	7					
		Pushpak nagar to jai prakash nagar Sun Road		0	3		1	0	4					
		New Ram Nagar to Pushpak nagar Sub Road		2	0		0	0	2					
		New ram Nagar to Gurudwara road		6	1		0	1	8					
21	New Ramnagar	Dhani Kutiya to New Ramnagar		2	5		0			7				

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Existing & Proposed Fixture For Aadhartal Zone														
		Road												
		New Ramnagar Lane		1	6		2		9					
		Shree Ganesh Mandir Sub Road		4	5		2		11					
		Goswami Sadan Lane		4	2		2		8					
		Sanskar Colony Lane		4	12		0		16					
22	Old Kanchanpur Samudayik Bhavan	Ananad Bhavan to Samudayak Bhavan		2	7	2	0		11					
		Ananad Bhavan to Samudayak Bhavan Lane		3	14	0	1		18					
23	Pandey Gas Agency	Behind Pandey Gas Vivek Colony Lane		2	9				11					
		Pandey Gas to Sabji Mnadi Aadhartal		3	1				4					
24	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	Sanjay Nagar to Punit Nagar Road		8	4		0		12					
		Punit Nagar Lane		10	7		0		17					
		Power House to Sanjay Nagar		4	3		1		8					
		Power House to Sanjay Nagar Lane		2	7		0		9					
		Laxmibai School Lane		7	1		1		9					
		Sanjay Nagar to Shankar Chowk		2	6		0		8					
25	Rain Baysara, Anand Nagar	Anand Nagar Rain Basera to Anand Nagar Bus Stop Main Road		8	2	0	0				8	2		
		Anand Nagar Rain Basera to		1	8	0	0		9					

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Existing & Proposed Fixture For Aadhartal Zone														
		Anand Nagar Chowki Road												
		Rain Basera to Raja Chowk Road Lane		4	1	0	0		5					
		Ahmad Nagar Lane		8	2	0	0		10					
		Rain Basera to Kids Kingdam School Lane		5	3	0	0		8					
		Ahmad Nagar Lane		2	7	0	1		10					
		Ahamad Nagar, Raja Chowk Road		2	5	0	0		7					
		Ahamad Nagar, Raja Chowk Road Lane		0	5	0	0		5					
		K K Jain Clinic to Ahmad Nagar Road		3	5	0	0				8			
		Ahmad Nagar Lane		10	4	1	0		15					
		Nandan Narsury School Lane		5	0	0	0		5					
26	Sanjay Nagar Industrial Arya Chand Mari Road	Industrial Area to Chandmari Road		2	4				6					
		Shiv Darbar Lane		2	3				5					
		Chadmari Lane		0	3				3					
27	Sanjay Nagar	Sanjay Nagar Road		6	36			42						
28	SBI ATM New Kanchanpur	New Kanchanpur to Shobhapur Road		2	0		0				2			
		Patel Traders to Sainath School Road		5	26		1		32					
		New Kanchanpur to Old Kanchanpur Road		2	8		0		10					
		Old Kanchapur to Choudhary		0	6		0		6					

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Existing & Proposed Fixture For Adhartal Zone															
		Mohalla Lane													
		Pramod Tent House Lane		4	6		0		10						
		Infront of Patel Ata Chakki Lane		0	7		0		7						
		Post Office to Industrial Area Road		1	8		0			9					
		Ziria Mohalla Lane		1	15		1		17						
		Anand Bhavan to Samudayak Bhavan Lane		2	8		0		10						
		Anand Bhavan to Pandey Chowk Lane		0	9		0		9						
		Pandey Chowk to Sun City Lane		1	7		1		9						
		Govind Panditji Lane		0	4		0		4						
		SBI ATM to Manoj Kirana Lane		4	4		0		8						
		New Kanchanpur Lane		2	19		0		21						
29	Sharda Colony New Kanchanpur	Shobhapur to Sharda Colony		1	5	3	0		9						
		Shivhari Kirana Store Lane		4	5	1	2		12						
		Durga Mandir Lane		0	4	0	0		4						
		Manisha Beuty Parlour Lane		3	2	1	2		8						
		Sharda Colony Garden Lanes		1	7	1	0		9						
30	Shobapur Railway Fatak	Vehicle mod to Adhartal Main Road		10	5		0		15						
		Goyal prasad ward to Adhartal Sub Road		3	2		0		5						
		Purana Shobhapur Lane		5	9		0		14						

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Existing & Proposed Fixture For Adhartal Zone														
		Purana Shobhapur Sub Road		9	10		0		19					
		Purana Shobhapur Main Road		7	6		2		15					
		Shobhapur to Vehicle Sub Road		4	4		0		8					
		Shobhapur Lane		3	21		0		24					
31	Vivek Colony	Post Office to Vivek Colony		1	3				4					
		Vivek Colony Lane		2	5				7					
32	Xlean Bharat Gas Agency	Adhartal Main Road	28										28	
33	Zenda Chowk J.P. Nagar	Vinayak Tiraha to Zenda Chowk Main Road		1	4		2		7					
		Subhash Chowk to Holilight school		2	4		0		6					
		Subhash Chowk to Pushpachakra Nagar		1	6		0		7					
		Vinayak Tiraha to Zenda Chowk		3	1		0		4					
		Vinayak Tiraha to Jayprakash Nagar		1	5		0		6					
		Vinayak Tiraha to Shakti Nagar		3	2		0		5					
		Total	87	665	1174	27	69	1	1781	21	31	60	14	84

10. Vijay Nagar Zone

Existing & Proposed Fixture For Vijay Nagar Zone																	
Sr No	Switching Point Name	Name of Road	Number & Type of Existing Fitting Installed on Road								Proposed Type of Fitting						
			HPSV 250 W	HPSV 150 W	FTL 40 W	Bulb 100 W	CFL 36 W	85 W CFL	Haloge n 500W	400W MH	25 W LED	45 W LED	72 W LED	150 W HPSV Already Installed	150 W HPSV Propose d	HPSV 250W Already installed	HPSV 250W propose d
1	Agrawal Madpump	Agrawal Madpump to Dr. Avasthi Hospital Sub Road	0	1	7	0	0	0	0	0	8						
		Dr. Awasthi Hospital ton Garhi Chowk Main Road	0	5	1	0	3	0	0	0		9					
		H.B. Mahavidyalaya Lane	1	4	4	0	0	0	0	0	9						
		H.B. Mahavidyalaya to Shiv shakti Durga Mandir Lane	0	1	5	0	0	2	0	0	8						
		Durga Mandir Tiwari Provision Lane	0	0	10	0	0		0	0	10						
		Ekta Chowk to DPS School	4	1	2	0	0	1	0	0			8				
		Garhi Chowk Lane	0	8	9	0	0	0	0	0	17						
		Garhi Chowk Main Road	0	0	3	0	0	0	0	0			3				
		SBI Chowk to Agrawal Mandpam Road Lane	2	3	18	0	0	1	0	0	24						
2	Amkhera Sanjay Telecom	Gohalpur Basti No-2 Sub Road	0	5	7	0	0	0	0	0	12						
		Basti No- 2 Gohalpur	0	4	36	0	0	0	0	0	40						

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Existing & Proposed Fixture For Vijay Nagar Zone																		
		Lane																
		Rajshree Nagar Basti No-2 Lane	0	2	10	0	0	0	0	0	12							
		Gohalpur Road	0	0	3	0	0	0	0	0	3							
		Om Nagar Basti No-2 Sub Road	0	0	8	0	0	0	0	0	8							
		Om Nagar Lane	0	2	21	0	0	0	0	0	23							
		MR	0	6	15	0	0	0	0	0	21							
		Bharat Nagar Chitaranjan Ward Lane	0	2	5	0	0	0	0	0	7							
		Gohalpur Basti No-1 Lane	0	3	3	0	0	0	0	0	6							
		Gohalpur Se Amarkhera Main Road	0	3	5	0	0	0	0	0	8							
		Narmada Nagar Chitaranjan Ward lane	0	3	22	0	0	0	0	0	25							
3	Basti No-1 Amkhera Gohalapur	Khermai Mata Mandir Sub Road Basti No-1	0	4	26	0	0	0	0	0	30							
		Shubhash Nagar Basti No-1 Lane	0	3	21	0	0	0	0	0	24							
		Shubhash Nagar to Power House Amarkhera Sub Road	0	5	4	0	0	0	0	0	9							
		Hemant Nagar lane	0	3	6	0	0	0	0	0	9							
		Khermai Mandir to Golahpur Road	0	3	6	0	0	0	0	0	9							
4	Central Lighting Works,Kamla Nehru	Central Lighting Works,Kamla Nehru	62	0	0	0	0	0	0	0							62	

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Existing & Proposed Fixture For Vijay Nagar Zone																		
	Nagar,Near Mobile Shoppee	Nagar,Near Mobile Shoppee																
5	Central Street Light Ranital	Ranital Main Road	54	0	0	0	0	0	0	0						54		
6	Damoh Naka Chowk	Damoh Naka to Baldevbag Main Road	7	1	0	0	0	0	0	0						7	1	
		Damoh Naka to Panjab Bank Colony Sub Road	0	4	12	0	2	0	0	0	18							
		Punjab Bank Colony Lane	0	0	2	0	0	0	0	0	2							
		Damoh Naka to Gohalpur Thana Main Road	2	3	1	1	0	0	1	0				3	5			
		Damoh Naka to Gohalpur Thana Main Road Lane	2	7	11	0	2	0	1	0	23							
		Bandheya Mohalla, Sujipura Lane	0	8	6	2	0	0	0	0	16							
		Vaishnavi Beuty Parlour Lane	0	5	1	0	2	0	0	0	8							
		Harish Halwai Lane	5	6	2	0	0	0	0	0	13							
		Infront of Jain Kirana Store Lane	4	6	7	0	0	0	0	0	17							
		Infront of Bhagwati Mandal Chandimata Lane	0	7	1	0	0	0	0	0	8							
		Pehelwan Dada Vyayam Shala Lane	0	5	2	0	0	0	0	0	7							

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Existing & Proposed Fixture For Vijay Nagar Zone																
		Behind Manu Kirana Store	1	5	2	0	0	0	0	0	8					
		Koshta Health Bhavan Lane	1	2	1	0	0	0	0	0	4					
		Damoh Naka Chowk Main Road	2	1	0	1	0	0	0	0		4				
		Damoh Naka to Shanti Nagar Main Road	3	8	0	0	0	0	0	0		11				
		Anushri Vihar Shanti Nagar Lane	1	3	1	0	0	0	0	0	5					
		Damoh Naka to Shanti Nagar Main Road	9	1	1	0	0	0	0	0						9
	Near Damoh Naka Chowk	Hanuman Chowk Damoh Naka to Priyadarshani College Gokalpur Main Road	53												53	
7	Dindayal Chowk	Dindayal Chowk to Damoh Naka Sub Road	0	1	9	0	0	0	0	0	10					
		Green City Sub Road	0	0	18	0	0	0	0	0	18					
		Sai Colony Lane	0	4	4	0	4	0	0	0	12					
		Sanchar Nagar Colony Lane	0	5	8	0	1	0	0	0	14					
		Ahinsa Chowk Lane	0	7	3	0	0	0	0	0	10					
		Dindayal Chowk to SBI Chowk Main Road	0	28	0	0	0	0	0	0						28
		Dindayal Chowk to SBI Chowk Main Road Lane	0	1	1	0	0	0	0	0	2					
8	Disha Sanchi	Ghadi Chowk to SBI	0	5	9	0	0	0	0	0		14				

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Existing & Proposed Fixture For Vijay Nagar Zone																	
9	Corner	Chowk Main Road															
		Madhyamik Shiksha Mandal Sub road	0	1	5	0	0	0	0	0	6						
		Vijay Nagar Sub Road	0	3	5	0	0	0	0	0	8						
		Dr. S,N. Obhana, Jain Kirana Store,road	1	5	3	0	1	0	0	0	10						
		Main Road	0	8	0	0	0	0	0	0							8
		IDBI Bank to Ahinsha Chowk Sub Road	0	6	1	0	0	0	0	0	7						
		Ahinsh chowk to Shakti Mandir	4	8	7	1	0	0	0	0	20						
		Vijay Nagar Sub Road	0	7	14	0	1	0	0	0	22						
9	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha	Ghari Chowk to Kachnar Main Road	0	7	9	0	0	1	0	0			17				
		Ghari Chowk to Kachnar Main Road Lane	0	3	2	0	0	0	0	0	5						
		Ghari Chowk to Dandiya Ground Main Road	1	6	3	0	0	0	0	0			10				
		Ghari Chowk to Dandiya Ground Main Road Lane	0	3	0	0	0	1	0	0	4						
		Ghari Chowk to Ahinsa Chowk	2	0	3	0	0	0	0	0	5						
		Ghari Chowk to Ahinsa Chowk Road Lane	0	5	8	0	0	4	0	0	17						
10	Dr.Atul Sharma	Main Road	0	15	1	0	0	0	0	0			16				
		Sub Road	0	3	1	0	0	0	0	0	4						
		Lane	0	2	1	0	2	0	0	0	5						

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Existing & Proposed Fixture For Vijay Nagar Zone																
		Sanjay Nagar to Yadav Colony Sub Road	0	7	1	0	0	0	0	0			8			
		Yadav Colony Lane	0	6	0	0	0	1	0	0	7					
		Gajanan Complex Sub road	0	2	1	0	0	3	0	0	6					
		Gajanan Complex Lane	0	5	0	0	0	1	0	0	6					
		New Adarsha Colony	0	10	5	0	0	0	0	0	15					
		Kachapura Bridge to Yadav Colony Main Road	1	3	5	0	1	0	0	0			10			
		Devyani Complex Sub road	0	0	6	0	0	0	0	0	6					
11	Global Hospital Ukhaari	Mukti Dham to Ukhari tiraha Main Road	25	1	0	0	0	0	0	0					25	1
		Badi Ukhari Kachpura Bridge Main Road	12	10	1	0	0	0	0	0			23			
		Gayatri Vidya Mandir , Saket Nagar to badi Ukhari Sub Road	0	10	8	0	2	1	0	0	21					
		Gayatri Vidya Mandir , to Saket Nagar Lane	0	0	6	0	0	0	0	0	6					
		Badi Ukari Road	0	0	26	0	0	0	0	0			26			
12	Green City	Green City Colony Road	0	0	46	0	2	0	0	0	48					
13	Hat Bajar	Hat Bazar Area	0	5	0	0	0	0	0	4	9					
14	ITI Near Swastik Hospital	ITI to Dindayal Chowk Main Road	62	0	0	0	0	0	0	0					62	

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Existing & Proposed Fixture For Vijay Nagar Zone																		
15	Jain Mandir Mother Teresa	Main Road	0	1	12	0	0	0	0	0	13							
		Mother Teresa Colony Road	0	3	67	0	0	1	0	0	71							
16	Janki Nagar	Janki Nagar Sub Road	3	29	47	0	0	0	0	0	79							
17	Kasodhan Colony Green City	Main Road		0	42	0	0	0	0	0	42							
		Sub Road		8	11	0	0	1	0	0	20							
18	Labour Chowk	Labour Chowk to Sneh Nagar		5	0							5						
		Sneh Nagar to Madn Mahal Main road		9	0								9					
		Sneh Nagar Kamla Neharu Ward sub Road		15	8							23						
		Sneh Nagar Colony to Narmada Colony Main Road		11	3									14				
		Sneh Nagar Colony Road		4	4							8						
		Sneh Nagar Colony Lane		5	2							7						
19	Lal bahadur Shastri Colony	Trimutri Nagar to Damuha Naka Sub Road		6	15							21						
		Shastri nagar road		1	8							9						
20	Mandi Area In Front Of baba Sai Clinic RC	Dindyal Chowk, Krushi Upaj Mandi Main Road	52														52	
21	Near Rose Beuty sallon Ekta Tilhara	Ekta Tiraha to Ahinsa Chowk Sub Road	1		5							6						

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Existing & Proposed Fixture For Vijay Nagar Zone																
		Ekta Nagar to Agrawal Mandpam Lane	1		7						8					
		Ekta Nagar Ashoka Highshool Lane	1	1	3						5					
		Ekta Tiraha to MR5	22		1										22	1
		Ekta tiraha to Ahinsa chowk Main Road	11	2											11	2
		Ekta Nagar Vikramaditya Mahavidlaya Lane		6	16		2				24					
		Dubey Gas Service Vijay Nagar Lane		2	4				1		7					
22	Om Enterprises	Labur Chowk to Kamla Nehru Park Sub Road		13	4						17					
23	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk	Dindayal Chowk to Shiksha Mandal Sub Road	2	1	8						11					
		Shiksha Mandal to SBI Chowk Sub Road	2	4	12		1				19					
24	Pili Building Ke Samne Near Deligh Mariage.Com	Damoh Main Road	74												74	
25	BH/08 Pushp Nagar	Khinna Basti Pushp Nagar Road		2	29		1				32					
26	Sarvaday Nagar	Sarvaday Nagar Kabristhan Road	2	3	5						10					
		Sarvadaya Nagar Aaga Chowk Road		7	7						14					

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Existing & Proposed Fixture For Vijay Nagar Zone																
		Behind Lucky General Stores	1	3							4					
		Kriss Church Lane		4	2						6					
		Mukti Dham Lane		4	2						6					
		Sarvadaya Nagar Aaga Chowk Road Lane	1	4	8						13					
		Ujar Purva Lane 3		1	9						10					
		Sarvadaya Nagar Aaga Chowk Road Lane	3	7	7						17					
27	Shanti Nagar RC	Shanti Nagar To Sulbh Complex Transport Nagar Sub Road	5	11	7						23					
		Shanti Nagar Colony Lane		3	3						6					
		Shiv Shankar Durga Mandir Samata Colony Lane		6	6						12					
		Reyon School Lane		2	2						4					
		Near Talab Lane	3	8	5	1					17					
		ZuleLal Chowk Lane		10	5						15					
		Damoh Naka to Shanti Nagar	4	3	12						19					
		Satguru Kirana Lane	1	4	1						6					
		Rajesh Kirana Lane			4						4					
		Kabir Kirana Lane	1	2	2						5					
Gurukul Vidhyalaya Lane	1	3	4						8							

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Existing & Proposed Fixture For Vijay Nagar Zone																
		Behind Reyon School			3						3					
		Erodic School Sub Road	3	3	10						16					
		Suvarnkar Bhavan Lane	1	2	5						8					
		Vandana Aata Chakki Lane		3	9						12					
		Behind Reyon School Lane	2	2	2	1					7					
28	Shiv Nagar Near APT Machine	Shiv Nagar Near APT Machine		1	5								6			
		Shiv Nagar to Pani Tanki Sub Road		6	10		1		1			18				
		Shiv Nagar to Pani Tanki Sub Road Lane			12							12				
		Dhani Marriage Hall to Jain Mandir Lane	1	3	12							16				
		Behind Jain Mandir		5	5		2					12				
		Shiv Nagar Hospital Lane		2	11							13				
		Jabalpur International School Lane	1	2	5							8				
		Shiv Mandir Lane	1	1	3							5				
		Shiv Nagar Sub Road			3							3				
		Shiva Nagar to Damoha Naka Sub Road		2	7							9				
Shiva Nagar to Damoha Naka Main Road	1	1	4							6						

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Existing & Proposed Fixture For Vijay Nagar Zone																	
		Samaiya Dairy Lane	2	1	1						4						
		Shikhar Computer Lane	1		6						7						
		Sammati Handlum Lane			3						3						
		S.B.I. ATM Lane			14						14						
		Shiv Nagar Sub Road		3	14						17						
		Shiv Nagar Sub Road Lane			9						9						
29	Sneha Nagar Jayaswal Treders	Sneha Nagar to Madan Mahal Main Road		19	1							20					
		Sneha Nagar to Madan Mahal Road Lane		7							7						
		Sneh Nagar Patel Mohalla Lane		13							13						
		Sai Mandir to Gate No. 4 Sub Road		12	6						18						
		Sai Mandir to Gate No. 4 Sai Colony Sub Road		5							5						
		Khermai Mandir Road Lane		8	2	1					11						
		Agrawal Colony Lane		2	2						4						
		Sneha Nagar Indra Ward lane		29	1						30						
		Madan Mahal To Sneha Nagar Main Road		3	5						8						
		Madan Mahal To Sneha Nagar Main Road Lane		15							15						
30	Trimurti Nagar RC	Aghori Baba Mandir to		6	16						22						

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Existing & Proposed Fixture For Vijay Nagar Zone																
		Trimurti Nagar Main Road														
		90 Quarter Trimurti Nagar Lane		1	20					21						
		Krushna Nagar Lane		1	2					3						
		90 Quarter Trimurti Nagar Lane		2	5					7						
		Anmol Nagar Lane		3	16					19						
		Trimurti Nagar Lane		2	7					9						
		Krushna Nagar Lane			2					2						
		Trimurti Nagar Rajiv Gandhi Ward Sarvoday Chowk Krushna Colony Lane		8	29					37						
		Trimurti Nagar Shiv Mandir Lane		2	7					9						
		Trimurti Nagar Gali No-4 Lane		17	12					29						
		Ambedkar Colony Lane		1	7					8						
		Aghori Baba Mandir Road		5	7					12						
		Trimurti Nagar, Shanti Nagar Sarswati Shishu Mandir Lane		3	17					20						
31	Varsa Kirana Store	Choti Ukari to Ukhari Tiraha	4	17	19					40						
32	Damoha Nake	Damoh Naka Sub Road			4					4						

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Existing & Proposed Fixture For Vijay Nagar Zone																
	Road	PNB Colony Lane	5	13	33						51					
		Transport Nagar Main Road	7	3	9										7	12
		Transport Nagar Main Road	3	8	5								8	8		
		Transport Nagar Basti Lane		1	9						10					
		Transport Nagar Basti Sub Road	10	6	7						23					
		Chodhari Mohlla	1	3	30						34					
		Damuha Naka Se Shanti Nagar Lane		13	12						25					
33	Chota Fuhara Chowk	Chota Fuhara to Damoha Naka Chowk Main Road	11	6									6	11		
		Chota Fuhara to Damoha Naka Chowk Main Road Lane		2	2					4						
		Gopal Vihar Colony Lane	2	6	1					9						
		Rajendra Prasad Ward Lane	2	3	1					6						
		Rajiv Gandhi Ward Lane	2	4	1					7						
		Damoh Naka to Chota Fuhara Sub Road	1	2								3				
		Sneha Krisi Kendra Lane	1	4	2					7						
		Chota Fuhara to Gopal	3	3	1					7						

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Existing & Proposed Fixture For Vijay Nagar Zone																	
		Bag Mahesh Bhavan Sub Road															
		Inside BSNL Office		8						8							
		Near Hardoil Mandir Lane	7	15	6					28							
		Sitali Bhaiya Ka Baada Lane	3	2						5							
		Chota Fuhara Chowk to Miloini Ganj Chowk Main Road	4	3									3	4			
		Chota Fuhara Chowk to Miloini Ganj Chowk Lane	1	3						4							
34	Vijay Nagar Dr.Vijay jain RC	Kanchanvihar Road		2	8					10							
		Trimurti Scool to Ahinsa Chowk Main Road		7	3						10						
		Ahinsa Chowk Agrawal Tent House Sub Road		5	3					8							
		Ahinsa Chowk Yadav Treders Lane		1	4					5							
		Ahinsa Chowk Main Road	1	2	1						4						
		Dr. Lori Jain to Kamlashya Kirana Sub Road	2	2	3		2				9						
		Aadarsh Girl Hostel Lane			5						5						
		Kanchanvihar Road		1	8						9						
		Near Trimurti School		1	3						4						

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Existing & Proposed Fixture For Vijay Nagar Zone																		
		Lane																
35	Hat Bazer	Hat Bazar Tiraha to Kapil Dairy	1	7	7							15						
		Hat Bazar Tiraha to Kapil Dairy Lane			3							3						
		Vikas Nagar Lane	1	4	16							21						
		Jagdamba Colony Lane	1	5	2							8						
		Vikas Nagar Lane		3	3							6						
		BSNL Colony Vikas Nagar Sub Road	1	2	1							4						
		Sanchar Nigam BSNL Colony Vikas Nagar		4	12			1				17						
		Krushni Upaj Mandi Sub Road	8	1	10							19						
36	Namdav Brother Ke Pass S.B.I. Colony	SBI Colony Sub Road		7			2					9						
		Shree Pipleshwar Dham Gali No, 4 S.B.I. Colony Lane	1	6	5							12						
		SBI Colony Lane	5	8	7							20						
		SBI Colony Maharaj Agrasen Ward Lane		2	5							7						
		Namdev Brothers to Ukhari Road Lane		7	3							10						
		Sharda Kirana Store Lane	2	3	1							6						
		Ukhari Tiraha to Memorial School Road		1	4									5				

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Existing & Proposed Fixture For Vijay Nagar Zone																
		Ukhari Tiraha to Memorial School Road	3	21	7							31				
		Manish Kirana Store Lane		5	7							12				
37	Rameshvaram Colony	Ukhari to Ekta Tiraha Main Raod	8	16	1										8	17
		Ekta Tiraha Lane		1	2							3				
		Rameshvaram Colony Lane	3	14	44		1	2				64				
38	ITI Madotal	ITI to Katangi Road	1	9	3										1	12
		New Dixit Colony Lane		1	8							9				
		Madotal New Basti Lane	1	1	17							19				
		Madotal Purani Basti lane	1	4	20							25				
39	Sagam Colony	Sangam Colony Sub Road	2	2	8							12				
		Anand Colony Lane		5	10							15				
		Sangam Colony Ganesh Mandir Lane	2	4	2		2					10				
		Sangam Colony Parshv Chaya Residency Lane		7	8							15				
		Sangam Colony Near Jain Mandir Lane	3	1								4				
		Gujrati Bhavan lane		2								2				
		Behind Narmada Nursury		1	1							2				
		Parshva Chaya		2	2							4				

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Existing & Proposed Fixture For Vijay Nagar Zone																	
		Residency Lane															
		Blessing Public School Sub Road	7									7					
		Blessing Public School Lane	1	1	1							3					
40	Thana Vijay Nagar	Sraswati Medical Store to SBI Chowk Sub Road	1	1	2	1						5					
		Vijay Nagar Thana Lane	2	1	2							5					
		Vijay Nagar Thana to S.B.I. Bank		4	1							5					
41	P.No.66 Tulsui	Tulsi Nagar Sub Road	2	1	4		2					9					
		Reliance Tower Lane	1	3	8							12					
		Aishvariya Beauty Parlour Lane		3	11							14					
		Ashoka High School Lane	2	1	5							8					
		Kamal Bawan Lane	1	2	2							5					
		Kumkum Beauty Parlour Lane	1	2	1							4					
		Aarohi Kirana Lane	1	1	2							4					
		Janvhi Electric Lane	5		4		2	1				12					
		Stemfield School Durga Mandir Lane	1	5	6		2					14					
		Vasundara Colony Lane	5	7	13		2					27					
42	Union Bank Ke Pass	Kanchanar City Gate No.2 Sub Road		3	4							7					
		Kanchan Vihar Road		3	17							20					

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Existing & Proposed Fixture For Vijay Nagar Zone																		
		Lane																
		90 Quarter Lane		4	9							13						
		Jyoti Vidhya Mandir Lane		8	14							22						
		Shree Provision Lane			3							3						
		Union Bank to Trimurti School Main Road		3	3							6						
		Union Bank to Trimurti School Lane			3							3						
43	Yadav Colony	Agrawal Colony Sub Road		23	6							29						
		Laxmi Narayan Mandir Ward no 1 lane		5	2								7					
		Agrawal Colony Sub Road		14	1								15					
		Agrawal Colony Road		5	2								7					
		Daya nagar chowk to Gupta sweets Sub Road		11	15								26					
		Raital Parsi mohalla gate no 1 Lane		4	3								7					
		Chetaram ji ki Madhiya ,Kamla Neharu ward no 01 Sub Road		18	6								24					
		Daya nagar to Mukti Dham Sub Road		44	31								75					
44	Yadav Colony RC	Ranital Talab to Yadav Colony Sub Road		11	4							15						
		Ranital Talab to Yadav	1	2	7							10						

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Existing & Proposed Fixture For Vijay Nagar Zone																	
		Colony Road Lane															
		Yadav Colony Sub Road		8	2					10							
		Yadav Colony Main Road		8	3		2			13							
		Yadav Colony Lane		18	6					24							
		Yadav Colony Saheb Parisar Lane	3	4	9		2			18							
		Harshit Nagar Yadav Colony Lane	1	21	8		3			33							
		Total	674	1300	1862	9	52	22	4	4	3113	69	166	20	28	447	84

Annexure IX- Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads

1. Polypathar Zone

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Polypathar Zone									
Sr No	Switching Point Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Total Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Insurance Premium in RS.	Net saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Adarsh Nagar Near Dr. Kumar	527170	45072	171272	33709	204981	8639	196341	32
2	Adarsh Nagar	336680	23589	89637	17538	107175	5518	101658	40
3	Awanti Vihar	75310	3982	15132	2929	18061	1234	16827	54
4	Bital Gaeneral Store Ke Pass	221500	19370	73606	14495	88101	3630	84471	31
5	Brajmohan Nagar Sociey	57590	2396	9104	1741	10846	944	9902	70
6	Chote Hanuman	376550	34882	132553	26142	158696	6171	152525	30
7	Chungi Naka Rampur, Near Sule Nursing Home	132160	6218	23630	4575	28205	2323	25882	61
8	Daroga Ghat	66450	10961	41653	8303	49957	1089	48868	16
9	Durga Nagar Sent Alayasis School	53160	2849	10827	2097	12924	871	12052	53
10	Tagore Nagar, Forest Gate	185690	6884	26161	4964	31125	3122	28003	80

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Polypathar Zone									
11	Jai Bheem Nagar Society	186060	12435	47254	9231	56485	3049	53436	42
12	Jihari Ghat Station	255150	12268	46617	8956	55573	4719	50854	60
13	Jalahrigaon Narmada Road	48730	2118	8050	1543	9593	799	8794	66
14	Jogney Nagar Chui Khadan	44300	2572	9772	1899	11671	726	10945	49
15	Kalariwala Polipathar	155050	7817	29703	5737	35440	2541	32899	57
16	Lalpur	84170	3687	14010	2687	16697	1379	15317	66
17	Polipathar Near Homiopathic Aaushadhalaya/MPHBPP Colony	172770	11924	45310	8861	54170	2831	51339	40
18	Murddaya Ghat	110750	18775	71345	14228	85573	1815	83758	16
19	Near Chhapar of Ganesh Yadav	358830	21810	82876	16134	99010	5881	93130	46
20	Patel Mohalla, Rampur	411990	41817	158905	31407	190312	6752	183560	27
21	Polipathar Gwarighat Bigbazar	394270	17678	67175	12901	80075	6461	73614	64
22	PWD Colony	323390	29665	112728	22227	134955	5300	129656	30
23	Ravidas Nagar	398700	19592	74451	14363	88814	6534	82280	58
24	Rewa Colony	385410	26872	102114	19976	122090	6316	115773	40
25	Santnagar New PP Colony	93030	4690	17822	3442	21264	1525	19740	57
26	Sant Shiromani Ashram	110750	12024	45692	9044	54736	1815	52921	25
27	Satyanand Vihar Garden,Durga Nagar	239220	19333	73465	14437	87902	3920	83982	34

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Polypathar Zone									
28	Shankar Nagar Corporation	44300	1980	7522	1444	8967	726	8241	65
29	Sidhanath	35440	1702	6468	1246	7714	581	7133	60
30	Vijaynagar Chhapar	318960	19606	74502	14510	89012	5227	83785	46
31	Jhanda Chowk Gwarighat	1037840	76674	291363	57219	348581	18005	330577	38
Total		7241370	521242	1980719	387987	2368706	120443	2248263	39

2. Bilhari Zone

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Bilhari Zone									
Sr No	Switching Point Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Insurance Premium in Rs.	Net Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Dhobi Ghat Near New Time Telor	374605	16239	61707	11936	73643	6788	66855	67
2	Govt. Primary School Kajarwara	213190	9135	34713	6709	41422	3848	37574	68
3	Janta Medical Hall	366305	39131	148697	28100	176797	6062	170735	26
4	Khermai Mandir, Dixit Ata Chakki	244200	7967	30276	5759	36035	4356	31679	93
5	Purani Kalahari Ke Piche	272690	20424	77612	15210	92823	4574	88249	37
6	Temar Bitra Road	79740	6642	25238	4964	30202	1307	28895	33
7	Post Office Gali Ke Andar Vijay Tailor Ke Pass	502800	27738	105406	20500	125906	8712	117194	51
8	Shivpuri Kajarwara	182550	5064	19242	3622	22864	3267	19597	112
9	Durga Mandir Kajarwara	146465	7592	28851	5609	34460	2577	31882	55
Total		2382545	139932	531743	102410	634152	41491	592661	48

3. Ranjhi Zone

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Ranjhi Zone									
Sr No	Switching Point Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Insurance Premium in Rs.	Net Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	75 H Bhagat Singh Ward	735380	65033	247124	48681	295804	12052	283753	31
2	72-G Infront Of Akansha Silai Center	1000560	56134	213308	41363	254671	16843	237828	50
3	Chandan Colony	389840	48552	184497	36616	221113	6389	214725	22
4	Gokalpur Marghatai	310100	15729	59769	11548	71317	5082	66235	56
5	Main Road Gokalpur	525690	35887	136370	25006	161375	8930	152446	41
6	Mastana Chowk Ranjhi	1285800	129501	492105	97362	589467	21780	567687	27
7	Major Kirana Store Ganesh Ganj	736600	36996	140585	27081	167665	13068	154597	57
8	Merghatai Road ,Khairmai Mandir	1138405	67103	254993	49781	304774	19856	284917	48
9	Police Thana	527170	36861	140072	24331	164403	8639	155764	41
10 (A)	Raksha nagar New	186060	12932	49141	9612	58753	3049	55704	40
10 (B)	Raksha nagar Colony	163910	11245	42731	8355	51086	2686	48400	41

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Ranjhi Zone									
Total		349970	24177	91872	17967	109839	5735	104104	40
11	Ranghi Bazar Colony	248080	26504	100717	19928	120645	4066	116580	26
12	Ravan Park Ranghi	261370	32153	122182	24243	146426	4283	142142	22
13	Shanti Nagar Ranghi (S-29)	115180	5479	20821	4011	24832	1888	22944	60
14	Sharda Nagar Ranghi (S-1)	248080	13690	52024	10089	62113	4066	58047	51
15	Neutral Garden Ranghi/Sharda Nagar Park	97460	22149	84168	16842	101010	1597	99412	12
16 (A)	Uday Nagar	44300	1980	7522	1444	8967	726	8241	65
16 (B)	Uday Nagar - 3,(E29)	287950	21050	79991	15672	95663	4719	90944	38
Total		332250	23030	87513	17117	104630	5445	99185	40
Total		8301935	638979	2428119	471965	2900084	139719	2760365	36

4. Garha Zone

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Garha Zone									
Sr. No	Switching Point Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Insurance Premium in Rs.	Net Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Amanpur Nursing ward	746260	39666	150731	29346	180078	13213	166865	54
2	Bedi nagar near Gurudwara area lighting	179875	9155	34789	6745	41535	3086	38449	56
3	Bedi nagar	226575	17646	67055	13179	80235	3812	76423	36
4	Brajmohan nagar supatal	155695	11282	42872	8413	51285	2650	48635	38
5	Choti bagariya shree ram mandir ke samne	674280	48710	185099	36297	221396	11326	210070	39
6	Dargah Road	181630	19897	75609	14968	90577	2977	87601	25
7	Devtal Ayodayapuri	225930	24245	92130	18231	110361	3703	106658	25
8	Ekta chowk	224820	7504	28514	5514	34027	3920	30107	90
9	Ganga Sagar	252510	19157	72798	14279	87077	4138	82938	37
10	Garha Bazar masjid ke pass	898550	94255	358170	70867	429037	14883	414154	26
11	Near of Gullah Chouraha	346830	27904	106035	106035	212071	5881	206190	20
12	Gupteshwar Near Babbu Vidhayak	93030	8414	31972	6302	38274	1525	36750	30

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Garha Zone									
	House								
13	Indira nagar	199255	29668	112740	22484	135224	3521	131703	18
14	Khudabaksh Garha Bazar	155050	10777	40951	8010	48961	2541	46420	40
15	Kripal Chowk	727500	66691	253424	49938	303362	12342	291020	30
16	LIC Office	491730	48335	183672	36275	219947	8059	211888	28
17	Main Road Ratan Nagar	161570	13276	50449	9906	60354	2831	57523	34
18	Near Bank Of Maharashtra Gautam Madhia	1058115	58480	222225	43090	265316	18186	247129	51
19	Near Geological Surve Of India	954410	53345	202712	39274	241986	16480	225506	51
20	Near H.K. Engg. Work	358830	33735	128195	25292	153486	5881	147606	29
21	Near Supatal Sulabh Complex	211900	11142	42338	8183	50521	3630	46891	54
22	Panday Vyas Chowk	192950	11415	43376	8428	51804	3267	48537	48
23	Pishanhari Ki Madiya	528640	32189	122318	23770	146088	9293	136796	46
24	Ranidurgavati	512400	29795	113219	21981	135200	8712	126488	49
25	Ratan Nagar Gupteshwar	469080	21887	83172	15954	99126	8422	90705	62
26	Sanjivani Nagar Beside Rly Track	623150	15859	60264	11570	71834	10527	61307	122
27	Sainik Society	340860	40367	153396	29911	183307	5953	177354	23

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Garha Zone									
28	Shakti Nagar Chowk	341970	32817	124705	24606	149311	5735	143576	29
29	Shakti Nagar Shree Sai Palace Barat Ghar	632870	36138	137323	26637	163960	10817	153143	50
30	Sharda Mandir Road	296930	25847	98218	19320	117537	5155	112383	32
31	Shukla Nagar	625490	43474	165200	32305	197504	10382	187123	40
32	Subhash Chowk Shakti Nagar	784110	82156	312194	61746	373940	12850	361090	26
Total		13872795	1025227	3895863	848859	4744722	235696	4509026	37

5. Indramarket Zone

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Indramarket Zone									
Sr. No	Switching Point Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Insurance Premium in Rs.	Total saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Allahabad Bank Chowk	314530	35938	136565	27059	163623	5155	158469	24
2	Bai Ka Bagicha Nandani Foundation	2256460	175241	665916	130645	796561	37897	758664	36
3	Baldi Kori Ki Dafai	713230	54719	207931	40799	248730	11689	237041	36
4	Besides Kotawali	511110	63029	239510	47203	286713	8494	278219	22
5	Bhawani Chowk Sidh Baba Road	1771870	111793	424813	82771	507584	29693	477891	44
6	Bohara Bag Chowk	869010	57552	218699	42654	261353	15028	246325	42
7	Chandmari Talaiya Near Durga Mandir	837270	48129	182892	35527	218419	13721	204697	49
8	CharKhabha	964130	84086	319528	62854	382382	16771	365611	32
9	Choti Madar Tekari	327450	11081	42107	6756	48864	5445	43419	91
10	Chui Khadan	270230	17468	66380	12952	79332	4429	74903	43
11	Civil Lines Thana	158740	15058	57219	11280	68499	2759	65740	29
12	Deepak dairy sidbaba road,hanuman hotel.	1195360	100369	381401	74676	456077	19747	436330	33

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Indramarket Zone									
13	Ekta Transport Services, Sanjivani Hospital	108780	4138	15723	2984	18707	1888	16820	78
14	Ghamapur Chowk , Arvind ward	832100	91544	347867	68862	416729	13794	402935	25
15	Gopal Hotel	1520710	115948	440602	85781	526383	25918	500465	36
16	Haddi Godam	433950	31515	119758	23543	143301	7623	135678	38
17	Hanumantal Thana Ke Pass	2138955	180467	685775	134784	820559	37643	782916	33
18	Inside Galagala Shiv mandir	900510	78619	298753	58762	357515	15754	341761	32
19	Kachghar Chowk	813640	73537	279442	55056	334498	13649	320850	30
20	Futhatal Mazar Ke Samne , L/148	934230	91131	346298	68331	414629	16045	398584	28
21	Lohia Pool	912450	86729	329569	64041	393611	15609	378002	29
22	Lohia Ward	459945	39335	149474	29394	178868	8095	170773	32
23	Mominpura Talaiya	284750	28467	108175	21369	129544	4719	124825	27
24	Mothi Nalla	514000	52373	199017	39318	238335	8712	229623	27
25	Near Bridge No 1	167230	14019	53272	10463	63735	2977	60758	33
26	Near Empire Talkies	606900	29938	113763	21886	135649	10890	124759	58
27	Near IPS Office	257180	11548	43882	8388	52269	4792	47478	65
28	Near Kharmai Gate	570730	54330	206454	40733	247187	9511	237676	29

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Indramarket Zone									
29	Near Maulana Abdul Kalam Ward Gate,Rajja Chowk	580330	64812	246285	48776	295061	9511	285550	24
30	16 Quarter Thkkargram	536030	42379	161042	31627	192669	8785	183884	35
31	Sathiya Kuva	717900	79860	303469	60056	363525	12342	351183	25
32	Science College	573490	23637	89820	17333	107153	10382	96771	71
33	Shiv Mandir, Kadam Taliya	1432350	125983	478735	94183	572919	25047	547872	31
34	Tahasil Chowk	541690	67061	254831	50609	305440	8930	296511	22
35	Thakur Electronic Kachghar Colony	918730	133716	508121	101090	609211	15319	593893	19
Total		26945970	2295550	8723090	1712546	10435636	458759	9976876	32

6. Mission Compound Zone

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Mission Compound Zone									
Sr. No	Switching Point Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Insurance Premium in RS.	Total saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Bada Fuhara	2827410	237094	900957	177574	1078531	49876	1028655	33
2	Baldev Bag Agrawal Petrol Pump Ke Samne	1905060	128188	487115	95562	582676	33541	549135	42
3	Golbazar Near Ranital Chowk	1103430	152546	579676	115376	695052	18949	676104	20
4	Gopal Vihar Colony	803205	60635	230415	45205	275620	14048	261572	37
5	Karamchand Chowk Near Baglai Culb	1003140	102632	390001	77129	467130	17279	449851	27
6	Kotwali Thana	1355475	129102	490587	97017	587604	23414	564191	29
7	Madhavtal Yatayat Thana	554325	29430	111834	21695	133529	9983	123547	54
8	Milauniganj Chowk	540460	70486	267845	53201	321046	8857	312189	21
9	Mission Compound Chouraha	569370	35613	135331	26414	161745	10091	151653	45
10	Near Gohalpur Thana	403405	48210	183198	36359	219557	6788	212769	23
11	Near Kachyaana Chowk	364550	43259	164384	32627	197012	6171	190841	23
12	Russel Chowk Near State Bank of Patiala	366115	31347	119120	23484	142605	6570	136035	32
13	Shastri Bridge ICICI Bank	796495	38089	144740	27928	172667	14266	158401	60
14	Telegraph gate no.2	756685	47168	179240	34966	214206	13758	200448	45
Total		13349125	1153800	4384442	864538	5248980	233591	5015389	32

7. Gorakhpur Zone

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Gorakhpur Zone									
Sr. No	Switching Point Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Insurance Premium in Rs.	Net Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Ambey Traders Shethi Nagar	621180	47434	180248	35333	215581	10600	204981	36
2	Anand Enterprises Choti Lines Fatak	84170	5596	21266	4154	25420	1379	24041	42
3	Madan Mahal BSNL Office Ke Pass	293240	38309	145573	28906	174480	4937	169543	21
4	Esai Mohalla Chowk	447430	65929	250531	49861	300392	7333	293060	18
5	Employment Office	1418055	151893	577192	114313	691505	23849	667656	25
6	Ghantaghar Omati Thana Ke Samne	287950	27648	105063	20739	125802	4719	121083	29
7	J.K.Complex Gorakhpur	1353290	153142	581940	115296	697236	23450	673786	24
8	Katanga Tiraha	613800	65550	249089	49278	298367	10164	288203	26
9	Madan Mahal Thana	395190	41047	155980	30890	186870	6752	180118	26
10	Navbhrat Press	87860	6855	26051	5103	31154	1597	29556	36
11	Near Narmada Traders	773280	96526	366800	72792	439592	12778	426814	22
12	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	455920	59233	225086	44700	269786	7550	262235	21

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Gorakhpur Zone									
13	Rishi Vihar Colony	248080	39065	148448	29574	178022	4066	173956	17
14	Saluja Tyres Madhotal Road	234050	25623	97367	19301	116669	3993	112676	25
15	Santosh Garage	314530	32465	123369	23847	147216	5155	142061	27
16	Teenpatti Chauraha	62020	7271	27628	5477	33105	1016	32089	23
17	Wright Town Pankaj Palace	454930	40492	153869	30292	184161	8059	176103	31
Total		8144975	904079	3435502	679856	4115358	4795214	3977962	25

8. Purva Zone

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Purva Zone									
Sr. No	Switching Point Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road in Rs.	Insurance Premium in Rs.	Total Net Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Baznamath Mandir Road	336680	16466	62569	12068	74638	5518	69120	58
2	Bhairav Baba Road	190490	17215	65416	12893	78309	3122	75187	30
3A)	Bhairav Nagar Near Sub Station MPEB Purva	70880	6956	26433	5220	31654	1162	30492	28
3B)	Neharu Nagar Near Apex Hospital	225930	17580	66804	13113	79917	3703	76214	36
3	Bhairav Nagar Near Sub Station MPEB Purva & Neharu Nagar Near Apex Hospital	296810	24536	93237	18334	111571	4864	106706	33
4	Bhukamp Colony	447430	14015	53255	9997	63253	7333	55920	96
5	Devtal Main Road, Sharn Park	155050	11369	43201	8465	51665	2541	49124	38
6	Dr.Colony-I, Type Medical Quarter Ke Samne	53160	-9347	-35518	-8813	-44331	871	-45203	-14
7A)	Ganga Nagar Road	912580	67064	254844	49938	304783	14956	289827	38
7B)	Rajul City	155050	11655	44289	8685	52974	2541	50433	37
7	Ganga Nagar Road & Rajul City	1067630	78719	299133	58623	357756	17497	340260	38

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Purva Zone									
8A)	Gupta Nagar	84170	5004	19017	3699	22716	1379	21336	47
8B)	Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra								
8	Gupta Nagar & Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra	84170	5004	19017	3699	22716	1379	21336	47
9	LIG Colony, Near Akarshan Beauty parlor	660620	17230	65472	12160	77632	11180	66452	119
10	Lodhi Mohalla Shastri Nagar	199350	16633	63205	12431	75636	3267	72369	33
11	Medical Colony (Dr.Colony)	84170	13218	50230	9154	59384	1379	58005	17
12	Near Kangi House (Chungi Naka)	632405	30197	114750	22113	136863	11144	125719	60
13	Near Shahi Naka	440230	27823	105728	20632	126360	7333	119028	44
14	Near Samudayak Bhawan	1194620	41963	159461	30160	189621	19892	169729	84
15	Near Water Tank Tripura Chowk	70880	6956	26433	5220	31654	1162	30492	28
16	Paraswada Colony	468470	10774	40942	7457	48399	7913	40485	139
17	Ram Nagar - 1	128470	5800	22040	4234	26274	2105	24169	64
18	Ram Nagar-2	53160	1665	6327	1188	7515	871	6644	96
19	Sagda Sai Mandir	137330	8446	32093	6251	38343	2251	36093	46
20	Sagar Colony	110750	7021	26680	5202	31882	1815	30067	44
21	Sai Colony	101890	3783	14377	2731	17108	1670	15438	79

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Purva Zone									
22	Shahnala	111240	1202	4568	719	5287	2033	3254	410
23A)	Shastri Nagar Chouraha I	199350	15716	59721	11728	71449	3267	68182	35
23B)	Shastri Nagar-2	363260	26178	99477	19481	118958	5953	113005	39
24	Shastri Nagar Chouraha I & Shastri Nagar-2	562610	41894	159199	31209	190407	9220	181187	37
25	Tilwara Ghat Road	388970	7429	28230	2764	30994	7187	23807	196
26	Tripuri Chowk	185690	10704	40674	7915	48589	3122	45467	49
Total		8162275	410716	1560720	296807	1857526	136670	1720857	57

9. Aadhartal Zone

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Aadhartal Zone									
Sr. No	Switching Point Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Saving Potential by Replacements of existing fixture with LED Fixture on B1,B2 & C Road	Insurance Premium in Rs.	Net Saving Potential by Replacements of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Adhartal Tiraha	850560	53625	203776	39725	243501	13939	229562	44
2	Gaji Nagar	602480	55556	211113	41631	252744	9874	242871	30
3	Chokse Hotel (New Kanchanpur)	274660	17120	65057	12677	77734	4501	73233	45
4	Ram Nagar (New)	798750	57427	218223	42709	260932	13431	247501	39
5	Afak Bekari Makka Nagar Gali no-3	328465	13142	49938	9546	59484	5481	54003	73
6	Agrawal Kirana Store Shankar Chowk	163910	13413	50968	10019	60987	2686	58301	34
7	Dr Ambedkar Colony	474010	32951	125213	24493	149706	7768	141938	40
8	G. C. F. Colony	719380	57482	218433	42892	261325	12052	249273	35
9	Gandhi Chowk Katra, Near Vishwkarma Electric	124040	7437	28262	5499	33761	2033	31728	47
10	Gayatri Nagar	159480	8547	32480	6291	38771	2614	36157	53
11	Hotel, Near Sulemani masjid , Rajja chowk	84170	3228	12268	2335	14603	1379	13224	76
12	Housing Board in Pump House	349970	23986	91147	17820	108967	5735	103232	41

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Aadhartal Zone									
13	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass	44300	5532	21020	4172	25192	726	24466	22
14	Industrial Area Near Power House	8860	1462	5554	1107	6661	145	6516	16
15	Jawahar Nagar , Hussain Masjid	124040	19468	73979	14737	88717	2033	86684	17
16	Katra Sabji Mandi	221500	13335	50674	9862	60536	3630	56906	47
17 (A)	Shankar Mandir Neharu Nagar	75310	3180	12084	2313	14397	1234	13163	69
17 (B)	Vivek Colony	48730	3302	12549	2453	15001	799	14203	41
		124040	6482	24633	4766	29399	2033	27366	54
18	New Ramnagar NR5	162155	10271	39030	7728	46758	2795	43963	44
19	New Ram Nagar	194920	15916	60482	11794	72276	3194	69081	34
20	Old Kanchanpur Samudayik Bhavan	128470	7538	28644	5569	34212	2105	32107	48
21	Pandey Gas Agency	66450	5041	19157	3758	22915	1089	21826	37
22	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	279090	28469	108181	21384	129565	4574	124991	27
23	Rain Baysara, Anand Nagar	421340	33736	128197	25171	153368	7115	146253	35
24	Sanjay Nagar Industrial Arya Chand Mari Road	62020	4311	16380	3204	19584	1016	18568	40
25	Sanjay Nagar	186060	9380	35643	6885	42528	3049	39479	57
26	SBI ATM New Kanchanpur	722365	33613	127731	24606	152337	12015	140322	62

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Aadhartal Zone									
27	Sharda Colony New Kanchanpur	186060	12913	49069	9598	58666	3049	55617	40
28	Shobapur Railway Fatak	443000	38339	145688	28683	174370	7260	167110	32
29	Zenda Chowk J.P. Nagar	155050	11560	43926	8611	52538	2541	49997	37
Total		8459595	601280	2284866	447270	2732136	139864	2592272	39

10. Vijay Nagar Zone

Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Vijaynagar Zone									
Sr No	Switching Point Name	Net Switching Point Wise Total Investment Cost in Rs.	Potential Saving by Replacement of Existing Fixture with LED Fixtures in kWh	Potential Saving by Replacement of Existing Fixture with LED Fixtures in Rs.	Potential Saving in Fixed Monthly Charges By Installation of LED Fixtures in Rs.	Saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Insurance Premium in Rs.	Total saving Potential by Replacement of existing fixture with LED Fixture on B1,B2 & C Road	Simple Payback Period in Months
1	Agrawal Madpump	554145	32487	123451	24009	147460	9547	137913	48
2	Amkhera Sanjay Telecom	730950	40655	154490	29970	184459	11979	172480	51
3	Basti No-1 Amarkhera Gohalapur	358830	21895	83203	16200	99403	5881	93522	46
4	Damuh Naka Chowk Z33 & Near Damoh Naka Chowk	719595	82594	313856	62241	376098	12088	364010	24
5	Dindayal Chowk	292380	20291	77108	15082	92190	4792	87398	40
6	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha	452960	20937	79562	15254	94816	8131	86685	63
7	Dr.Atul Sharma	614530	38066	144651	28118	172769	10963	161806	46
8	Global Hospital Ukhaari	692420	25824	98131	18557	116688	12632	104055	80
9	Green City	212640	6851	26035	4898	30933	3485	27448	93
10	Hat Bazar	39870	11657	44295	8883	53178	653	52524	9
11	Jain Mandir Mather Theresa	372120	14181	53889	10254	64143	6098	58044	77
12	Jankey Nagar	349970	31424	119412	23532	142944	5735	137208	31

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Vijaynagar Zone									
13	Kasodhan Colony Green City	274660	13497	51287	9895	61182	4501	56680	58
14	Labour Chowk	470250	34058	129419	25369	154788	8349	146439	39
15	Near Rose Beauty salon Ekta Tilhara	221500	17890	67982	13359	81341	3630	77711	34
16	Om Enterprises	75310	10055	38209	7592	45801	1234	44567	20
17	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk	132900	11611	44120	8688	52808	2178	50630	31
18	BH/08 Pushp Nagar	141760	5720	21735	4150	25885	2323	23562	72
19	Sarvaday Nagar	354400	38323	145628	28822	174450	5808	168642	25
20	Shanti Nagar	730950	83117	315844	62575	378419	11979	366440	24
21	Sneha Nagar Jayaswal Treders	725530	81185	308505	61065	369569	12415	357154	24
22	Trimurti Nagar Madhotal	877140	57666	219132	42782	261914	14375	247539	43
23	Varsa Kirana Store	177200	20007	76025	15060	91085	2904	88181	24
24	Shiv Nagar Near APT Machine	761220	47339	179890	35040	214930	12632	202297	45
25	Damoha Nake Road	651210	59279	225259	44406	269665	10672	258993	30
26	Chota Fuhara Chowk	406175	66889	254180	50679	304859	6716	298143	16
27	DR.Vijay Jain	359750	23571	89571	17531	107102	6171	100931	43
28	Hat Bazar	411990	41631	158197	31264	189461	6752	182709	27

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Investment and Saving For Providing LED Fixtures In B1, B2 & C Category Roads at Vijaynagar Zone									
29	Namdav Brother Ke Pass S.B.I. Colony	532460	62301	236745	46921	283666	8857	274809	23
30	Rameshvaram Colony	296810	21882	83150	16295	99445	4864	94581	38
31	ITI Madital	234790	13102	49789	9660	59449	3848	55601	51
32	Sagam Colony	327820	41730	158574	31484	190058	5372	184686	21
33	Thana Vijay Nagar	66450	9157	34796	6918	41713	1089	40624	20
34	P.No.66 Tulsi Nagar	482870	51709	196496	38882	235377	7913	227464	25
35	Union Bank Ke Pass	327820	22700	86261	16871	103131	5372	97759	40
36	Yadav Colony	841700	99772	379134	75175	454309	13794	440515	23
37	Yadav Colony	544890	65850	250230	49634	299864	8930	290934	22
38	Disha Sanchi Corner	461640	37476	142409	28034	170443	7841	162602	34
39	Lal bahadur Shastri Colony	132900	8307	31566	6152	37717	2178	35539	45
Total		16412505	1392687	5292212	1041298	6333510	274682	6058828	33

Annexure-X, Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Switching Points With B1,B2 & C Category of Roads

1. Polypathar Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Polypathar Zone															
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remark
1	Adarsh Nagar Near Dr. Kumar	6.14	12.3	121891	1502	5709	4827	4827	1502	15362	7800	2278	5284	276.80	No & Low saving due to less connected load of switching points.
2	Adarsh Nagar	4.36	8.7	96476	1067	4055	3429	3429	1067	10913	7800	1830	1284	901.78	
3	Awanti Vihar	0.43	0.9	25000	104	395	334	334	104	1063		400	663	452.61	
4	Bital Gaeneral Store Ke Pass	1.25	2.5	25000	306	1162	982	982	306	3126		400	2726	110.05	
5	Brajmohan Nagar Sociey	0.33	0.7	25000	79	302	255	255	79	813		400	413	726.84	
6	Chote Hanuman	2.65	5.3	96476	649	2465	2085	2085	649	6635	7800	1830	-2995		
7	Chungi Naka Rampur, Near Sule Nursing Home	0.66	1.3	25000	161	613	519	519	161	1651		400	1251	239.90	
8	Daroga Ghat	0.38	0.8	25000	92	348	295	295	92	938		400	538	557.84	
9	Durga Nagar Sent Alayasis School	0.30	0.6	25000	73	279	236	236	73	750		400	350	856.58	

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10	Tagore Nagar, Forest Gate	1.07	2.1	25000	261	991	838	838	261	2666		400	2266	132.40
11	Jai Bheem Nagar Society	1.05	2.1	25000	257	976	825	825	257	2626		400	2226	134.78
12	Jihari Ghat Station	1.53	3.1	25000	375	1425	1205	1205	375	3834		400	3434	87.37
13	Jalahrigaon Narmada Road	0.28	0.6	25000	67	256	216	216	67	688		400	288	1042.72
14	Jogney Nagar Chui Khadan	0.25	0.5	25000	61	232	196	196	61	625		400	225	1332.21
15	Kalariwala Polipathar	3.52	7.0	96476	860	3266	2762	2762	860	8790	7800	1830	-839	
16	Lalpur	0.48	1.0	25000	116	441	373	373	116	1188		400	788	380.78
17	Polipathar Near Homiopathic Aushadhalaya/MPH BPP Colony	0.98	2.0	25000	238	906	766	766	238	2438		400	2038	147.19
18	Murddaya Ghat	0.63	1.3	25000	153	581	491	491	153	1563		400	1163	257.96
19	Near Chhpar of Ganesh Yadav	2.03	4.1	25000	495	1882	1591	1591	495	5064		400	4664	64.32
20	Patel Mohalla, Rampur	2.33	4.7	25000	569	2161	1827	1827	569	5814		400	5414	55.41
21	Polipathar Gwarighat Bigbazar	3.63	7.3	96476	888	3376	2855	2855	888	9085	7800	1830	-544	
22	PWD Colony	1.83	3.7	25000	446	1696	1434	1434	446	4564		400	4164	72.05
23	Ravidas Nagar	5.42	10.8	121891	1325	5035	4257	4257	1325	13549	7800	2278	3471	421.37
24	Rewa Colony	2.18	4.4	25000	532	2021	1709	1709	532	5439		400	5039	59.53
25	Santnagar New PP Colony	0.53	1.1	25000	128	488	413	413	128	1313		400	913	328.62
26	Sant Shiromani Ashram	0.63	1.3	25000	153	581	491	491	153	1563		400	1163	257.96
27	Satyanand Vihar Garden, Durga Nagar	1.35	2.7	25000	330	1255	1061	1061	330	3376		400	2976	100.81

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28	Shankar Nagar Corporation	0.25	0.5	25000	61	232	196	196	61	625		400	225	1332.21
29	Sidhanath	0.20	0.4	25000	49	186	157	157	49	500		400	100	2995.44
30	Vijaynagar Chhapar	1.80	3.6	25000	440	1673	1414	1414	440	4501		400	4101	73.15
31	Jhanda Chowk Gwarighat	5.48	11.0	121891	1339	5089	4303	4303	1339	13694	7800	2278	3616	404.47
Total		53.89	107.8	1351577	13178	50076	42340	42340	13178	134756	54600	23752	56404	287.55

2. Bilhari Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Bilhari Zone															
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remark
1	Dhobi Ghat Near New Time Telor	1.76	3.5	25000	430	1636	1383	1383	430	4401		400	4001	74.97	No & Low saving due to less connected load of switching points.
2	Govt. Primary School Kajarwara	1.01	2.0	25000	179	678	794	794	179	2266		400	1866	160.81	
3	Janta Medical Hall	6.44	12.9	121891	1574	5980	5056	5056	1574	16092	7800	2278	6015	243.19	
4	Khermai Mandir, Dixit Ata Chakki	1.19	2.4	25000	290	1101	931	931	290	2963		400	2563	117.03	
5	Purani Kalahari Ke Piche	1.56	3.1	25000	382	1452	1228	1228	382	3909		400	3509	85.50	
6	Temar Bitra Road	0.45	0.9	25000	110	418	354	354	110	1125		400	725	413.60	
7	Post Office Gali Ke Andar Vijay Tailor Ke Pass	2.64	5.3	96476	646	2454	2075	2075	646	6605	7800	1830	-3025		
8	Shivpuri Kajarwara	0.88	1.8	25000	215	818	691	691	215	2201		400	1801	166.60	
9	Durga Mandir Kajarwara	0.73	1.5	25000	179	678	574	574	179	1826		400	1426	210.44	
Total		16.66	33.3	393367	4004	15216	13086	13086	4004	41387	15600	6907	18880	250.02	

3. Ranjhi Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Ranjhi Zone															
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in Kw	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Total Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remark
1	75 H Bhagat Singh Ward	4.15	8.3	96476	1015	3857	3261	3261	1015	10378	7800	1830	749	1546	No & Low saving due to less connected load of switching points.
2	72-G Infront Of Akansha Silai Center	5.75	11.5	121891	1406	5342	4517	4517	1406	14377	7800	2278	4299	340	
3	Chandan Colony	2.20	4.4	25000	538	2044	1729	1729	538	5502		400	5102	59	
4	Gokalpur Marghatai	1.75	3.5	25000	428	1626	1375	1375	428	4376		400	3976	75	
5	Main Road Gokalpur	8.43	16.9	121891	2061	7831	6621	6621	2061	21074	7800	2278	10996	133	
6	Mastana Chowk Ranjhi	6.87	13.7	121891	1680	6384	5398	5398	1680	17180	7800	2278	7102	206	
7	Major Kirana Store Ganesh Ganj	4.39	8.8	96476	1073	4076	3446	3446	1073	10968	7800	1830	1339	865	
8	Merghatai Road ,Khairmai Mandir	5.77	11.5	121891	1411	5362	4534	4534	1411	14429	7800	2278	4352	336	
9	Police Thana	13.13	26.3	139050	3210	12199	10314	10314	3210	32827	7800	2541	22486	74	
10 (A)	Raksha nagar New	1.05	2.1	25000	257	976	825	825	257	2626		400	2226	135	

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10 (B)	Raksha nagar Colony	0.93	1.9	25000	226	860	727	727	226	2313		400	1913	157
Total		1.98	3.95	50000	483	1835	1552	1552	483	4939		800	4139	145
11	Ranghi Bazar Colony	1.40	2.8	25000	342	1301	1100	1100	342	3501		400	3101	97
12	Ravan Park Ranghi	1.48	3.0	25000	361	1371	1159	1159	361	3689		400	3289	91
13	Shanti Nagar Ranghi (S- 29)	0.65	1.3	25000	159	604	511	511	159	1625		400	1225	245
14	Sharda Nagar Ranghi (S-1)	1.40	2.8	25000	342	1301	1100	1100	342	3501		400	3101	97
15	Neutral Garden Ranghi/Shard a Nagar Park	0.55	1.1	25000	135	511	432	432	135	1375		400	975	308
16 (A)	Uday Nagar	0.25	0.5	25000	61	232	196	196	61	625		400	225	1332
16 (B)	Uday Nagar - 3,(E29)	1.63	3.3	25000	397	1510	1277	1277	397	4064		400	3664	82
Total		1.88	3.8	50000	459	1742	1473	1473	459	4689		800	3889	154
Total		61.75	124	1094566	15102	57387	48522	48522	15102	154432	54600	19711	80121	164

4. Garha Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Garha Zone															
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remark
1	Amanpur Nursing ward	3.68	7.4	96476	899	3415	2888	2888	899	9190	7800	1830	-439		No & Low saving due to less connected load of switching points.
2	Bedi nagar near Gurudwara area lighting	7.71	15.4	121891	1885	7163	6056	6056	1885	19276	7800	2278	9198	159.02	
3	Bedi nagar	1.23	2.5	25000	300	1138	963	963	300	3063		400	2663	112.64	
4	Brajmohan nagar supatal	0.83	1.7	25000	202	767	648	648	202	2063		400	1663	180.38	
5	Choti bagariya shree ram mandir ke samne	3.66	7.3	96476	894	3397	2872	2872	894	9140	7800	1830	-489		
6	Dargah Road	1.03	2.1	25000	251	953	805	805	251	2563		400	2163	138.68	
7	Devtal Ayodayapuri	1.28	2.6	25000	312	1185	1002	1002	312	3188		400	2788	107.59	
8	Ekta chowk	1.14	2.3	25000	279	1059	896	896	279	2851		400	2451	122.41	
9	Ganga Sagar	1.43	2.9	25000	348	1324	1120	1120	348	3564		400	3164	94.83	
10	Garha Bazar maszid ke pass	4.99	10.0	96476	1219	4633	3917	3917	1219	12466	7800	1830	2837	408.11	

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11	Near of Gullah Chouraha	4.67	9.3	96476	1141	4336	3666	3666	1141	11669	7800	1830	2039	567.78
12	Gupteshwar Near Babbu Vidhayak House	0.53	1.1	25000	128	488	413	413	128	1313		400	913	328.62
13	Indira nagar	0.99	2.0	25000	241	915	774	774	241	2463		400	2063	145.40
14	Khudabaksh Garha Bazar	2.64	5.3	96476	644	2449	2070	2070	644	6590	7800	1830	-3040	
15	Kripal Chowk	4.2	8.4	96476	1028	3905	3302	3302	1028	10508	7800	1830	879	1317.56
16	LIC Office	2.78	5.6	96476	679	2579	2180	2180	679	6940	7800	1830	-2690	
17	Main Road Ratan Nagar	0.95	1.9	25000	233	887	750	750	233	2386		400	1986	151.08
18	Near Bank Of Maharastra Gautam Madhia	10.75	21.5	125891	2629	9990	8447	8447	2629	26883	7800	2278	16805	89.89
19	Near Geological Surve Of India	5.58	11.2	121891	1364	5185	4384	4384	1364	13952	7800	2278	3874	377.57
20	Near H.K. Engg. Work	2.03	4.1	25000	495	1882	1591	1591	495	5064		400	4664	64.32
21	Near Supatal Sulabh Complex	1.23	2.5	25000	301	1145	968	968	301	3081		400	2681	111.90
22	Panday Vyas Chowk	2.52	5.0	96476	617	2343	1981	1981	617	6304	7800	1830	-3325	
23	Pishanhari Ki Madiya	3.13	6.3	96476	765	2907	2458	2458	765	7822	7800	1830	-1807	
24	Ranidurgava ti	2.96	5.9	96476	725	2754	2329	2329	725	7412	7800	1830	-2217	
25	Ratan Nagar Gupteshwar	4.4	8.8	96476	1076	4089	3457	3457	1076	11003	7800	1830	1374	842.69
26	Sanjivani Nagar Beside Rly	3.59	7.2	96476	1567	5955	5035	5035	1567	16025	7800	1830	6395	181.02

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	Track														
27	Sainik Society	6.41	12.8	121891	878	3335	2820	2820	878	8975	7800	2278	-1103		
28	Shakti Nagar Chowk	3.54	7.1	96476	867	3293	2785	2785	867	8863	7800	1830	-767		
29	Shakti Nagar Shree Sai Palace Barat Ghar	3.67	7.3	96476	898	3414	2887	2887	898	9188	7800	1830	-442		
30	Sharda Mandir Road	1.74	3.5	25000	426	1619	1369	1369	426	4356		400	3956	75.83	
31	Shukla Nagar	3.56	7.1	96476	871	3308	2797	2797	871	8903	7800	1830	-727		
32	Subhash Chowk Shakti Nagar	4.43	8.9	96476	1082	4112	3477	3477	1082	11066	7800	1830	1436	806.01	
Total		103.28	206.6	2335180	25243	95922	81104	81104	25243	258131	156000	43184	58947	475.38	

5. Indramarket Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Indramarket Zone															
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Total Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remark
1	Allahabad Bank Chowk	20.10	40.2	139050	4915.70	18680	15794	15794	4916	50268	7800	2541	39927	42	No & Low saving due to less connected load of switching points.
2	Bai Ka Bagicha Nandani Foundation	17.87	35.7	139050	4370.84	16609	14043	14043	4371	44696	7800	2541	34355	49	
3	Baldi Kori Ki Dafai	4.03	8.1	96476	984.31	3740	3163	3163	984	10066	7800	1830	436	2655	
4	Besides Kotawali	3.95	7.9	96476	965.48	3669	3102	3102	965	9873	7800	1830	243	4755	
5	Bhawani Chowk Sidh Baba Road	10.15	20.3	125891	2482.18	9432	7975	7975	2482	25383	7800	2278	15305	99	
6	Bohara Bag Chowk	9.13	18.3	121891	2233.48	8487	7176	7176	2233	22839	7800	2278	12762	115	
7	Chandmari Talaiya Near Durga Mandir	4.73	9.5	96476	1155.50	4391	3713	3713	1155	11816	7800	1830	2187	529	
8	CharKhabha	5.66	11.3	121891	1385.13	5263	4450	4450	1385	14164	7800	2278	4086	358	
9	Choti Madar Tekari	7.75	15.5	121891	1895.26	7202	6089	6089	1895	19381	7800	2278	9303	157	
10	Chui Khadan	1.53	3.1	25000	372.94	1417	1198	1198	373	3814		400	3414	88	
11	Civil Lines Thana	1.64	3.3	25000	400.08	1520	1285	1285	400	4091		400	3691	81	

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12	Deepak dairy sidbaba road,hanuman hotel.	7.91	15.8	121891	1934.39	7351	6215	6215	1934	19781	7800	2278	9703	151
13	Ekta Transport Services, Sanjivani Hospital	0.64	1.3	25000	156.02	593	501	501	156	1595		400	1195	251
14	Ghamapur Chowk , Arvind ward	4.73	9.5	96476	1157.21	4397	3718	3718	1157	11834	7800	1830	2204	525
15	Gopal Hotel	10.75	21.5	125891	2628.18	9987	8444	8444	2628	26876	7800	2278	16798	90
16	Haddi Godam	2.17	4.3	25000	530.67	2017	1705	1705	531	5427		400	5027	60
17	Hanumantal Thana Ke Pass	14.11	28.2	139050	3451.33	13115	11089	11089	3451	35293	7800	2541	24952	67
18	Inside Galagala Shiv mandir	5.31	10.6	121891	1298.81	4935	4173	4173	1299	13282	7800	2278	3204	457
19	Kachghar Chowk	11.60	23.2	125891	2837.76	10783	9118	9118	2838	29019	7800	2278	18941	80
20	Futhatal Mazar Ke Samne , L/148	5.44	10.9	121891	1330.60	5056	4275	4275	1331	13607	7800	2278	3529	414
21	Lohia Pool	9.52	19.0	121891	2329.09	8851	7483	7483	2329	23817	7800	2278	13739	106
22	Lohia Ward	2.68	5.4	96476	654.90	2489	2104	2104	655	6697	7800	1830	-2932	
23	Mominpura Talaiya	1.62	3.2	25000	395.93	1505	1272	1272	396	4049		400	3649	82
24	Mothi Nalla	2.97	5.9	96476	725.58	2757	2331	2331	726	7420	7800	1830	-2210	
25	Near Bridge No 1	9.80	19.6	121891	2396.10	9105	7699	7699	2396	24502	7800	2278	14425	101
26	Near Empire Talkies	8.04	16.1	121891	1966.67	7473	6319	6319	1967	20111	7800	2278	10033	146
27	Near IPS Office	1.58	3.2	25000	387.37	1472	1245	1245	387	3961		400	3561	84
28	Near Kharmai Gate	3.26	6.5	96476	796.50	3027	2559	2559	796	8145	7800	1830	-1485	
29	Near Maulana Abdul Kalam Ward Gate,Rajja Chowk	10.49	21.0	125891	2565.57	9749	8243	8243	2566	26235	7800	2278	16158	93

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30	16 Quarter Thkkargram	3.03	6.1	96476	739.76	2811	2377	2377	740	7565	7800	1830	-2065	
31	Sathiya Kuva	4.18	8.4	96476	1023.20	3888	3288	3288	1023	10463	7800	1830	834	1389
32	Science College	2.70	5.4	96476	660.29	2509	2121	2121	660	6752	7800	1830	-2877	
33	Shiv Mandir, Kadam Taliya	13.02	26.0	139050	3184.29	12100	10231	10231	3184	32562	7800	2541	22221	75
34	Tahasil Chowk	20.90	41.8	139050	5109.87	19418	16418	16418	5110	52253	7800	2541	41912	40
35	Thakur Electronic Kachghar Colony	5.25	10.5	121891	1282.66	4874	4121	4121	1283	13116	7800	2278	3039	481
Total		248.23	496.5	3532484	60704	230674	195040	195040	60703.67	620754	226200	65290	329264	129

6. Mission Compound Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Mission Compound Zone															
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel & Metering Arrangement for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remark
1	Bada Fuhara	16.93	33.86	139050	4140	15733	13303	13303	4140	42338	7800	2541	31997	52.15	No & Low saving due to less connected load of switching points.
2	Baldev Bag Agrawal Petrol Pump Ke Samne	19.69	39.39	139050	4816	18301	15473	15473	4816	49247	7800	2541	38906	42.89	
3	Golbazar Near Ranital Chowk	17.54	35.09	139050	4290	16303	13785	13785	4290	43873	7800	2541	33532	49.76	
4	Gopal Vihar Colony	6.94	13.88	121891	1697	6450	5454	5454	1697	17358	7800	2278	7280	200.92	
5	Karamchand Chowk Near Baglai Culb	9.07	18.14	121891	2218	8428	7126	7126	2218	22679	7800	2278	12602	116.07	
6	Kotwali Thana	15.80	31.59	139050	3863	14678	12411	12411	3863	39500	7800	2541	29159	57.23	
7	Madhatal Yatayat Thana	20.23	40.46	139050	4948	18801	15897	15897	4948	50595	7800	2541	40254	41.45	
8	Milauniganj Chowk	8.33	16.66	121891	2037	7741	6545	6545	2037	20831	7800	2278	10754	136.02	
9	Mission Compound Choraha	24.03	48.05	139050	5876	22328	18879	18879	5876	60086	7800	2541	49745	33.54	

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10	Near Gohalpur Thana	18.92	37.84	139050	4627	17582	14866	14866	4627	47314	7800	2541	36973	45.13
11	Near Kachyaana Chowk	2.65	5.31	96476	649	2466	2085	2085	649	6637	7800	1830	-2993	
12	Russel Chowk Near State Bank of Patiala	17.45	34.90	139050	4267	16214	13710	13710	4267	43633	7800	2541	33292	50.12
13	Russel Chowk Opposite Anmol Auto Mobiles	4.93	9.86	96476			3872	3872		7744	7800	1830	-1885	
14	Shastri Bridge ICICI Bank	8.90	17.80	121891	2176	8269	6991	6991	2176	22252	7800	2278	12174	120.15
15	Telegraph gate no2	19.12	38.23	139050	4675	17764	15020	15020	4675	47805	7800	2541	37464	44.54
Total		211	421	1931966	50279	191059	165417	165417	50279	521893	117000	35639	369254	62.78

7. Gorakhpur Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Gorakhpur Zone															
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remark
1	Ambey Traders Shethi Nagar	3.60	7.2	96476	880.87	3347	2830	2830	881	9008	7800	1830	-622		No & Low saving due to less connected load of switching points
2	Anand Enterprises Choti Lines Fatak	0.76	1.5	25000	185.12	703	595	595	185	1893		400	1493	200.93	
3	Madan Mahal BSNL Office Ke Pass	1.69	3.4	25000	412.07	1566	1324	1324	412	4214		400	3814	78.66	
4	Esai Mohalla Chowk	2.53	5.1	25000	617.49	2346	1984	1984	617	6314		400	5914	50.72	
5	Employment Office	7.67	15.3	121891	1875.70	7128	6027	6027	1876	19181	7800	2278	9103	160.68	
6	Ghantaghar Omati Thana Ke Samne	23.33	46.7	139050	5706.09	21683	18334	18334	5706	58350	7800	2541	48009	34.76	
7	J.K.Complex Gorakhpur	7.59	15.2	121891	1857.11	7057	5967	5967	1857	18991	7800	2278	8913	164.11	
8	Katanga Tiraha	14.17	28.3	139050	3464.78	13166	11132	11132	3465	35431	7800	2541	25090	66.51	
9	Madan Mahal Thana	10.35	20.7	125891	2531.58	9620	8134	8134	2532	25888	7800	2278	15810	95.55	
10	Navbhrat Press	0.53	1.1	25000	130.10	494	418	418	130	1330		400	930	322.44	
11	Near Narmada Traders	14.86	29.7	139050	3633.03	13806	11673	11673	3633	37151	7800	2541	26810	62.24	

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12	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	16.51	33.0	139050	4037.77	15344	12973	12973	4038	41290	7800	2541	30949	53.91
13	Rishi Vihar Colony	1.40	2.8	25000	342.37	1301	1100	1100	342	3501		400	3101	96.74
14	Saluja Tyres Madhotal Road	10.71	21.4	125891	2617.91	9948	8411	8411	2618	26771	7800	2278	16693	90.50
15	Santosh Garage	4.42	8.8	96476	1081.16	4108	3474	3474	1081	11056	7800	1830	1426	811.66
16	Teenpatti Chauraha	13.53	27.1	139050	3307.78	12570	10628	10628	3308	33825	7800	2541	23484	71.05
17	Wright Town Pankaj Palace	11.80	23.6	125891	2884.96	10963	9269	9269	2885	29501	7800	2278	19424	77.78
Total		145	290.9	1634657	35566	135150	114273	114273	35566	363696	93600	29753	240343	81.62

8. Purva Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Panel Purva Zone														
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months
1	Baznamath Mandir Road	1.9	3.8	25000	465	1766	1493	1493	465	4751		400	4351	68.94
2	Bhairav Baba Road	1.08	2.2	25000	263	999	845	845	263	2688		400	2288	131.10
3A)	Bhairav Nagar Near Sub Station MPEB Purva	0.4	0.8	25000	98	372	314	314	98	1000		400	600	499.75
3B)	Neharu Nagar Near Apex Hospital	1.28	2.6	25000	312	1185	1002	1002	312	3188		400	2788	107.59
3	Bhairav Nagar Near Sub Station MPEB Purva & Neharu Nagar Near Apex Hospital	1.68	3.4	50000	410	1557	1316	1316	410	4189	0	800	3389	177.06
4	Bhukamp Colony	2.53	5.1	96476	617	2346	1984	1984	617	6314	7800	1830	-3315	-349.22
5	Devtal Main Road, Sharn Park	0.88	1.8	25000	214	813	688	688	214	2188		400	1788	167.77
6	Dr.Colony-I, Type Medical Quarter Ke Samne	5.4	10.8	121891	1322	5022	4246	4246	1322	13514	7800	2278	3436	425.66
7A)	Ganga Nagar Road	5.15	10.3	121891	1259	4786	4047	4047	1259	12879	7800	2278	2801	522.19
7B)	Rajul City	0.88	1.8	25000	214	813	688	688	214	2188		400	1788	167.77
7	Ganga Nagar Road & Rajul City	6.03	12.1	146891.0	1473.4	5599.0	4734.1	4734.1	1473	15067	7800	2677.8	4589	384.09

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Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Panel Purva Zone														
8	Gupta Nagar	0.48	1.0	25000	116	441	373	373	116	1188		400	788	380.78
9	LIG Colony, Near Akarshan Beauty parlor	3.54	7.1	96476	864	3285	2778	2778	864	8840	7800	1830	-789	-1466.70
10	Lodhi Mohalla Shastri Nagar	1.13	2.3	25000	275	1045	884	884	275	2813		400	2413	124.31
11	Medical Colony (Dr.Colony)	3.29	6.6	96476	805	3058	2586	2586	805	8230	7800	1830	-1400	-827.22
12	Near Kangi House (Chungi Naka)	3.55	7.1	96476	868	3299	2789	2789	868	8878	7800	1830	-752	-1539.88
13	Near Shahi Naka	2.42	4.8	25000	592	2249	1901	1901	592	6052		400	5652	53.08
14	Near Samudayak Bhawan	6.81	13.6	121891	1666	6332	5354	5354	1666	17040	7800	2278	6962	210.09
15	Near Water Tank Tripura Chowk	0.4	0.8	25000	98	372	314	314	98	1000		400	600	499.75
16	Paraswada Colony	2.7	5.4	96476	660	2507	2120	2120	660	6747	7800	1830	-2882	-401.64
17	Ram Nagar - 1	0.73	1.5	25000	177	674	570	570	177	1813		400	1413	212.31
18	Ram Nagar-2	0.3	0.6	25000	73	279	236	236	73	750		400	350	856.58
19	Sagda Sai Mandir	0.78	1.6	25000	190	720	609	609	190	1938		400	1538	195.05
20	Sagar Colony	0.63	1.3	25000	153	581	491	491	153	1563		400	1163	257.96
21	Sai Colony	0.58	1.2	25000	141	534	452	452	141	1438		400	1038	289.03
22	Shahnala	0.68	1.4	25000	165	628	531	531	165	1691		400	1291	232.47
23A)	Shastri Nagar Chouraha I	1.13	2.3	25000	275	1045	884	884	275	2813		400	2413	124.31
23B)	Shastri Nagar-2	2.05	4.1	25000	501	1905	1611	1611	501	5127		400	4727	63.47

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Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Panel Purva Zone														
23)	Shastri Nagar Chouraha I & Shastri Nagar-2	3.18	6.36	50000	776	2950	2495	2495	776	7940	0	800	7140	84.03
24	Tilwara Ghat Road	9.71	19.4	121891	2376	9027	7633	7633	2376	24292	7800	2278	14215	102.90
25	Tripuri Chowk	1.01	2.0	25000	246	934	790	790	246	2513		400	2113	141.96
Total		61.42	122.84	1444944	15005	57018	48210	48210	15005	153439	70200	25859	57380	302

9. Adhartal Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Adhartal Zone															
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Total Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remark
1	Adhartal Tiraha	14.704	29.4	139050	3596	13664	11553	11553	3596	36771	7800	2541	26430	63	No & Low saving due to less connected load of switching points.
2	Gaji Nagar	4.632	9.3	96476	1133	4304	3640	3640	1133	11584	7800	1830	1954	592	
3	Chokse Hotel (New Kanchanpur)	1.55	3.1	25000	379	1440	1218	1218	379	3876		400	3476	86	
4	Ram Nagar (New)	4.586	9.2	96476	1122	4262	3603	3603	1122	11468	7800	1830	1839	630	
5	Afak Bekari Makka Nagar Gali no-3	1.8	3.6	25000	440	1673	1414	1414	440	4501		400	4101	73	
6	Agrawal Kirana Store Shankar Chowk	0.925	1.9	25000	226	860	727	727	226	2313		400	1913	157	
7	Dr Ambedkar Colony	5.667	11.3	121891	1386	5266	4453	4453	1386	14172	7800	2278	4094	357	
8	G. C. F. Colony	4.12	8.2	96476	1008	3829	3237	3237	1008	10303	7800	1830	674	1719	
9	Gandhi Chowk Katra, Near Vishwkarma Electric	0.7	1.4	25000	171	651	550	550	171	1751		400	1351	222	
10	Gayatri Nagar	0.9	1.8	25000	220	836	707	707	220	2251		400	1851	162	
11	Hotel, Near Sulemani masjid ,	0.475	1.0	25000	116	441	373	373	116	1188		400	788	381	

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	Rajja chowk													
12	Housing Board in Pump House	1.975	4.0	25000	483	1835	1552	1552	483	4939		400	4539	66
13	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass	0.25	0.5	25000	61	232	196	196	61	625		400	225	1332
14	Industrial Area Near Power House	4.978	10.0	96476	1217	4626	3911	3911	1217	12449	7800	1830	2819	411
15	Jawahar Nagar , Hussain Masjid	0.7	1.4	25000	171	651	550	550	171	1751		400	1351	222
16	Katra Sabji Mandi	2.13	4.3	25000	521	1979	1674	1674	521	5327		400	4927	61
17 (A)	Shankar Mandir Neharu Nagar	0.425	0.9	25000	104	395	334	334	104	1063		400	663	453
17 (B)	Vivek Colony	0.275	0.6	25000	67	256	216	216	67	688		400	288	1043
		0.70	1.40	50000	171	651	550	550	171	1751		800	951	631
18	New Ramnagar NR5	0.525	1.1	25000	128	488	413	413	128	1313		400	913	329
19	New Ram Nagar	1.415	2.8	25000	346	1315	1112	1112	346	3539		400	3139	96
20	Old Kanchanpur Samudayik Bhavan	0.725	1.5	25000	177	674	570	570	177	1813		400	1413	212
21	Pandey Gas Agency	0.375	0.8	25000	92	348	295	295	92	938		400	538	558
22	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	1.575	3.2	25000	385	1464	1238	1238	385	3939		400	3539	85
23	Rain Baysara, Anand Nagar	4.186	8.4	96476	1024	3890	3289	3289	1024	10468	7800	1830	839	1380
24	Sanjay Nagar Industrial Arya Chand Mari Road	0.35	0.7	25000	86	325	275	275	86	875		400	475	631
25	Sanjay Nagar	1.05	2.1	25000	257	976	825	825	257	2626		400	2226	135

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26	SBI ATM New Kanchanpur	4.332	8.7	96476	1059	4026	3404	3404	1059	10833	7800	1830	1204	962
27	Sharda Colony New Kanchanpur	1.05	2.1	25000	257	976	825	825	257	2626		400	2226	135
28	Shobapur Railway Fatak	2.5	5.0	96476	611	2323	1964	1964	611	6252	7800	1830	-3378	-343
29	Zenda Chowk J.P. Nagar	0.875	1.8	25000	214	813	688	688	214	2188		400	1788	168
Total		69.75	139.50	1461273	17057	64818	54805	54805	17057	174428	70200	26025	78203	224

10. Vijay Nagar Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Panel Vijay Nagar Zone															
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Agrawal Madpump	3.10	6.2	96476.00	757	2878	2433	2433	757	7745	7800	1830	-1885	-614	No & Low saving due to less connected load of switching points.
2	Amkhera Sanjay Telecom	4.13	8.3	96476.00	1009	3833	3241	3241	1009	10316	7800	1830	686	1687	
3	Basti No-1 Amarkhera Gohalapur	2.03	4.1	116476.00	495	1882	1591	1591	495	5064		2230	2835	493	
6	Damuh Naka Chowk Z33	25.61	51.2	139050.00	6263	23801	20124	20124	6263	64049	7800	2541	53708	31	
7	Dindoyal Chowk	9.55	19.1	121891.00	2334	8871	7501	7501	2334	23872	7800	2278	13794	106	
8	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha	2.72	5.4	96476.00	665	2527	2136	2136	665	6800	7800	1830	-2830	-409	
9	Dr.Atul Sharma	3.67	7.3	96476.00	898	3413	2886	2886	898	9185	7800	1830	-444	-2606	
10	Global Hospital Ukhaari	11.54	23.1	125891.00	2821	10719	9063	9063	2821	28846	7800	2278	18768	80	
11	Green City	1.20	2.4	116476.00	293	1115	943	943	293	3001		2230	771	1812	
12	Hat Bajar	0.23	0.5	116476.00	55	209	177	177	55	563		2230	-1667	-839	

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14	Jain Mandir Mather Theresa	2.10	4.2	116476.00	514	1952	1650	1650	514	5252		2230	3022	463
15	Jankey Nagar	1.98	4.0	116476.00	483	1835	1552	1552	483	4939		2230	2709	516
16	Kasodhan Colony Green City	1.55	3.1	116476.00	379	1440	1218	1218	379	3876		2230	1647	849
17	Labour Chowk	2.59	5.2	96476.00	633	2405	2033	2033	633	6472	7800	1830	-3158	-367
19	Near Rose Beauty salon Ekta Tilhara	11.40	22.8	125891.00	2788	10596	8959	8959	2788	28514	7800	2278	18436	82
20	Om Enterprises	0.43	0.9	116476.00	104	395	334	334	104	1063		2230	-1167	-1198
21	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk	0.75	1.5	116476.00	183	697	589	589	183	1876		2230	-354	-3949
23	BH/08 Pushp Nagar	0.80	1.6	116476.00	196	743	629	629	196	2001		2230	-229	-6106
24	Sarvaday Nagar	2.00	4.0	116476.00	489	1859	1571	1571	489	5002		2230	2772	504
25	Shanti Nagar	4.13	8.3	96476.00	1009	3833	3241	3241	1009	10316	7800	1830	686	1687
26	Sneha Nagar Jayaswal Traders	4.22	8.4	96476.00	1031	3917	3312	3312	1031	10541	7800	1830	911	1271
27	Trimurti Nagar Madhotal	4.95	9.9	96476.00	1211	4600	3889	3889	1211	12379	7800	1830	2749	421
28	Varsa Kirana Store	1.00	2.0	116476.00	245	929	786	786	245	2501		2230	271	5153
29	Shiv Nagar Near APT Machine	4.33	8.7	96476.00	1059	4026	3404	3404	1059	10833	7800	1830	1204	962
30	Damoha Nake Road	11.85	23.7	125891.00	2898	11011	9310	9310	2898	29632	7800	2278	19554	77
31	Chota Fuhara Chowk	6.48	13.0	121891.00	1586	6026	5095	5095	1586	16215	7800	2278	6137	238
32	DR.Vijay Jain	1.88	3.8	116476.00	460	1747	1477	1477	460	4701		2230	2472	565
33	Hat Bazar	2.33	4.7	116476.00	569	2161	1827	1827	569	5814		2230	3585	390

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34	Namdav Brother Ke Pass S.B.I. Colony	3.04	6.1	96476.00	742	2820	2385	2385	742	7590	7800	1830	-2040	-568
35	Rameshvaram Colony	8.73	17.5	121891.00	2134	8108	6856	6856	2134	21819	7800	2278	11741	125
36	ITI Madital	4.99	10.0	96476.00	1221	4638	3922	3922	1221	12481	7800	1830	2852	406
37	Sagam Colony	1.85	3.7	116476.00	452	1719	1454	1454	452	4626		2230	2397	583
38	Thana Vijay Nagar	0.38	0.8	116476.00	92	348	295	295	92	938		2230	-1292	-1082
39	P.No.66 Tulsi Nagar	2.73	5.5	96476.00	666	2532	2141	2141	666	6815	7800	1830	-2815	-411
40	Union Bank Ke Pass	1.85	3.7	116476.00	452	1719	1454	1454	452	4626		2230	2397	583
41	Yadav Colony	4.75	9.5	96476.00	1162	4414	3732	3732	1162	11879	7800	1830	2249	515
42	Yadav Colony	3.08	6.2	96476.00	752	2858	2416	2416	752	7690	7800	1830	-1940	-597
43	Disha Sanchi Corner	4.71	9.4	96476.00	1152	4378	3702	3702	1152	11781	7800	1830	2152	538
44	Lal bahadur Shastri Colony	0.75	1.5	116476.00	183	697	589	589	183	1876		2230	-354	-3949
Total		165.34	330.7	4309628	40435	153653	129917	129917	40435	413486	171600	81553	160333	323

Annexure-X, Investment & Saving for Providing Street Lighting Control Panel for Proposed Load for Switching Points with Exclusive A1 & A2 category of Roads

1. Polypathar Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Polipathar Zone																			
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remark
1	Ashok Vihar Near Lodhi Samudayak Bhavan	5.81	11.6	159855	1420	5397	2290	8700	2523	9589	4564	4564	6233	32813	7800	3037	21976	87.29	
Total		5.81	11.6	159855	1420	5397	2290	8700	2523	9589	4564	4564	6233	32813	7800	3037	21976	87.29	

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2. Bilhari Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Bilhari Zone																		
Sr. No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months
1	Gupta Tent House, Ekta Market, Gauraiya Ghat	1.23	2.5	25000	301	1145	486	1845	535	2034	968	968	1322	6960		400	6560	46
2	Gaur Thane Opp	2.99	6.0	96476	732	2780	1179	4482	1300	4940	2351	2351	3211	16904	7800	1830	7274	159
Total		4.22	8.44	121476	1033	3925	1665	6327	1835	6973	3319	3319	4533	23864	7800	2230	13835	105

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3. Garha Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Garha Zone																			
Sr. No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remarks
1	Supatal Talab	12.69	25.4	139050	3103	11793	5002	19009	5513	20950	9971	9971	13619	71694	7800	2541	61353	27.20	
2	HP Petrol Pump Sharda Chowk	9.87	19.7	121891			3891	14785	4288	16295	7755	7755	8179	46590	7800	2278	36512	40.06	
3	In Front Of Dr. Loth Hospital	8.74	17.5	121891			3446	13095	3798	14432	6869	6869	7244	41265	7800	2278	31187	46.90	
4	Kachpura Overbridge	7.05	14.1	121891	1724	6551	2779	10561	3063	11639	5539	5539	7566	39830	7800	2278	29752	49.16	
5	In front of Triveni Complex LIC	7.9	15.8	121891			3113	11828	3430	13036	6204	6204	6543	37272	7800	2278	27194	53.79	
Total		46.3	93	626614	4827	18344	18231	69278	20093	76352	36339	36339	43151	236651	39000	11652	185999	40.43	

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4. Indramarket Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Indramarket Zone																			
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel & Metering Arrangement for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Total Saving Potential by Installation of Street Lighting Panel & Metering Arrangement for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remarks
1	Near RTO Office	22.00	44.0	181400			8671	32949	9556	36314	17283	17283	18227	103829	7800	3388	92641	23	
2	Vyoharbagh Central Lighting	14.95	29.9	181400	3655.04	13889	5892	22389	6493	24675	11744	11744	16040	84440	7800	3388	73252	30	
3	Civil Line, Near police station	16.36	32.7	181400	3999.86	15199	6448	24501	7106	27002	12851	12851	17553	92406	7800	3388	81218	27	
4	In Front of Agrawal Traders	11.97	23.9	163855			4718	17928	5200	19758	9404	9404	9917	56493	7800	3037	45656	43	
5	Adarsh Nursing Home	4.75	9.5	132050	1162.10	4416	1873	7118	2065	7845	3734	3734	5100	26847	7800	2541	16506	96	
Total		70	140	840105	8817	33505	27601	104884	30419	115594	55016	55016	66838	364014	39000	15742	309272	33	

5. Mission Compound Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Mission Compound Zone																			
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel & Metering Arrangement for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remarks
1	Gururanak School & College Karamchand Chowk	11	22	163855.00	9114	34631	4335	16475	4778	18157	8642	8642	18227	86546	7800	3037	75709	26	
Total		11	22	163855	9114	34631	4335	16475	4778	18157	8642	8642	18227	86546	7800	3037	75709	26	

6. Gorakhpur Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Gorakhpur Zone

Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Total Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remarks
1	Near BPCCL Petrol Pump Medical Road,Main Bus	12.13	24.3	163855	2965.41	11269	4780	18164	5268	20019	9528	9528	13014	68508	7800	3037	57670	34.09	
2	Near Shri Guru Tegh Bahadur Khalsa College	10.72	21.4	163855			4224	16052	4656	17691	8420	8420	8880	50583	7800	3037	39746	49.47	
Total		23	45.7	327710	2965	11269	9004	34216	9924	37710	17948	17948	21893	119091	15600	6074	97417	40.37	

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7. Purva Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Panel Purva Zone																			
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Saving Potential by Installation of Street Lighting Panel for Proposed Load in kWh(Due to Automatic On & Off)	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs.(Due to Automatic On & Off)	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remarks
1	Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra	16.92	33.8	181400	3635	13813	6670	25345	7351	27934	11993	11993	17656	91079	7800	3388	79891	27.25	
2	Shastri Nagar Sai Mandir Ke Samne/Bhairav Nagar Bada Pathar	15.228	30.5	181400	3272	12432	6003	22811	6616	25140	10794	10794	15890	81971	7800	3388	70783	30.75	
3	Garha Thana , Near Medical College	15.228	30.5	181400	3089	11738	5668	21537	6246	23737	10191	10191	15003	77395	7800	3388	66207	32.88	
4	Near of Jasuja City	14.946	29.9	181400	3211	12202	5892	22389	6493	24675	10594	10594	15596	80453	7800	3388	69265	31.43	
5	Near Jain Mandir	13.536	27.1	181400	2746	10434	5038	19144	5552	21099	9059	9059	13336	68795	7800	3388	57607	37.79	
6	Near Gyanganga College	15.792	31.6	181400			6225	23656	6861	26071	11839	11839	13086	73404	7800	3388	62216	34.99	
7	Near Hotel Maruti Mandapam	10.998	22.0	163855			4335	16475	4778	18157	8245	8245	9114	51121	7800	3037	40284	48.81	
Total		102.65	205	1252255	15952	60618	39831	151357	43898	166812	72716	72716	99681	524219	54600	23365	446254	33.67	

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8. Aadhartal Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Aadhartal Zone																	
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Total Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Proposed Load in Months	Remark
1	Anand Nagar, Near Dr Ansari Clinic	7.896	15.8	159855	3113	11828	3430	13036	6204	6204	6543	37272	7800	3037	26435	72.57	
2	Main Road Aadhartal Near Nilesh Computer	7.896	15.8	159855	3113	11828	3430	13036	6204	6204	6543	37272	7800	3037	26435	72.57	
3	Xlean Bharat Gas Agency	7.896	15.8	159855	3113	11828	3430	13036	6204	6204	6543	37272	7800	3037	26435	72.57	
Total		23.69	47.4	479565	9338	35484	10291	39107	18613	18613	19629	111816	23400	9111	79304	72.57	

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9. Vijay Nagar Zone

Investment & Saving for Providing Street Lighting Control Panel for Proposed Load at Panel Vijay Nagar Zone																
Sr.No	Switching Point Name	Proposed Installed Load in kW	Rating of Street Lighting Panel For Proposed Load in kW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Total Saving in kWh	Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Proposed Load in Rs	Simple Payback Period for Existing Load in Months
1	Pili Building Ke Samne Near Deligh Mariage.Com	20.87	41.7	181400.00	8226	31259	9066	34451	16397	16397	17292	98504	7800	3388	87316	25
2	ITI Near Swastik Hospital	17.48	35.0	181400.00	6892	26190	7596	28865	13738	13738	14488	82531	7800	3388	71343	31
3	Central Lighting Works,Kamla Nehru Nagar,Near Mobile Shopee	17.48	35.0	181400.00	6892	26190	7596	28865	13738	13738	14488	82531	7800	3388	71343	31
4	Central Street Light Ranital	15.23	30.5	181400.00	6003	22811	6616	25140	11965	11965	12619	71881	7800	3388	60693	36
5	Mandi Area In Front of Baba Sai Clinic	14.66	29.3	181400.00	5781	21966	6371	24209	11522	11522	12151	69219	7800	3388	58031	38
Total		85.73	171.5	907000	33794	128417	37245	141530	67360	67360	71039	404666	39000	16940	348726	31

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10. Highmast

Sr.No	Zone Name	Switching Point Name	Installed Load in kW	Rating of Street Lighting Panel For Existing Load in KW	Net Switching Point Wise Total Investment Cost for Street Lighting Panel in Rs.	Annual Potential Saving by Voltage Regulation in kWh	Annual Potential Saving by Voltage Regulation in Rs.	Annual Potential Saving by Providing Dimming Control for Existing Fixture in kWh	Annual Potential Saving by Providing Dimming Control for Existing Fixture in Rs.	Potential Saving By 5% Incentive on Energy Charges by Installation of Street Lighting Panel in Rs.	Potential Saving By 5% Incentive due to Improvement in PF to 0.95 in Rs.	Saving Potential by Installation of Street Lighting Panel for Existing Load in kWh	Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Annual Centralized Monitoring Charges in Rs.	Approximate Insurance Cost in Rs.	Annual Net Saving Potential by Installation of Street Lighting Panel for Existing Load in Rs	Simple Payback Period for Existing Load in Months	Remark
1	Ranjhi	Adarsh Market Ranjhi	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
2	Ranjhi	Ranjhi Badapathar	5.304	10.608	159855	2091	7945	2304	8756	3976	3976	4395	24654	7800	3037	13817	139	
3	Ranjhi	Vehicle Mode Ranjhi	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
4	Ranjhi	Sharda Nagar Park	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	36981	7800	3037	26144	73	
5	Ranjhi	Near Saraswati School Rajhi	5.304	10.608	159855	2091	7945	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
6	Gorakhpur	Katanga Tiraha Near Kundan Jewellers	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
7	Gorakhpur	Main Bus Stand	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	36981	7800	3037	26144	73	
8	Gorakhpur	Rajiv Gandhi chowk	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
9	Gorakhpur	Chothi Lines Fathak Gorakhpur	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
10	Gorakhpur	Madan Mahal	5.076	10.152	159855	2001	7604	2205	8380	3805	3805	4206	23594	7800	3037	12757	150	
11	Gorakhpur	Welfare Association & Tow Bhaissasur Road	3.38	6.76	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
12	Gorakhpur	Madan Mahal Chowk Station Road	3.38	6.76	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
13	Mission Compound	Baburao Paranjpe Near Sapthal Gate No.2	5.304	10.608	159855	2091	7945	2304	8756	3976	3976	4395	24654	7800	3037	13817	139	
14	Mission Compound	Pa.Kunjilal Dube Marg Nepal Town	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
15	Mission Compound	Maliya Chowk	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	36981	7800	3037	26144	73	
16	Mission Compound	Russel Chowk	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	36981	7800	3037	26144	73	
17	Mission Compound	Nagrath Chowk	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
18	Mission Compound	Omari Thana	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
19	Mission Compound	Bada Fuhara	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
20	Mission Compound	Lardganj Tiraha	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
21	Indramarket	Mal Godam Railway station	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	36981	7800	3037	26144	73	
22	Indramarket	Allahabad Bank Chowk	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	36981	7800	3037	26144	73	
23	Indramarket	Kanchghar Chowk	5.304	10.608	159855	2091	7945	2304	8756	3976	3976	4395	24654	7800	3037	13817	139	
24	Indramarket	Tahasil Chowk /Ambedkar Chowk	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
25	Indramarket	Ghamapur Chowk	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
26	Indramarket	Raddi Chowki	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	36981	7800	3037	26144	73	
27	Indramarket	Collectorate Chowk High Court	5.304	10.608	159855	2091	7945	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
28	Indramarket	GCF CJ Building	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
29	Polipathar	Gwarighat-1	27.328	54.656	181400	10773	40936	11873	45116	20487	20487	22645	127026	7800	3388	115838	19	No & Low saving due to less connected load at some of the switching points
Polipathar	Gwarighat-2																	
Polipathar	Gwarighat-3																	
Polipathar	Gwarighat-4																	
30	Polipathar	Gwarighat-5 Near Daroga Ghat	8.688	17.376	159855	3425	13014	3775	14343	6513	6513	7199	40383	7800	3037	29546	65	
31	Polipathar	Jilahiari Ghat Ke Pass	7.072	14.144	159855	2788	10594	3072	11675	5302	5302	5860	32872	7800	3037	22035	87	
32	Polipathar	Rampur Chowk	5.304	10.608	159855	2091	7945	2304	8756	3976	3976	4395	24654	7800	3037	13817	139	
33	Purva	Medical Colony	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	36981	7800	3037	26144	73	
34	Purva	Tilwara Ghat	8.2	16.4	159855	3232	12283	3563	13538	6147	6147	6795	38115	7800	3037	27278	70	
35	Purva	Tripathi Chowk Near gahara thana pass	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
36	Purva	Dhanatwari Nagar Chowk	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
37	Purva	Anandhamukh School Ke pass	6.996	13.992	159855	2758	10480	3039	11550	5245	5245	5797	32519	7800	3037	21682	88	
38	Garha	Gullaua Chowk	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
39	Vijay Nagar	Transport Nagar-1	5.076	10.152	159855	2001	7604	2205	8380	3805	3805	4206	23594	7800	3037	12757	150	
40	Vijay Nagar	Transport nagar - 2	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
41	Vijay Nagar	Transport Nagar -3	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
42	Vijay Nagar	Dindyal Chowk	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	36981	7800	3037	26144	73	
43	Vijay Nagar	Sarmata Colony Shanti Nagar	3.384	6.768	132050	1334	5069	1470	5587	2537	2537	2804	15729	7800	2541	5388	294	
44	Vijay Nagar	Bus Stand Z38	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	25052	7800	3037	14215	195	
45	Bilhari	Kattiyaghat Mini High Mast	1.128	2.256	25000	445	1690	490	1862	935	935	3552	7800	400	-4648	-65		
46	Aadhartal	Aadhartal Tiraha High mast	7.956	15.912	159855	3136	11918	3457	13135	5964	5964	6593	36981	7800	3037	26144	73	
		Total	260	520	6566115	102479	389422	106665	406086	189231	189231	209344	1173970	358800	127002	688168	116	

Annexure-XI, Technical Specification for ECM

Technical Specification for LED Lamps

The LED street lights will conform to BIS standards. The minimum technical specifications will be as follows:

Technical Specification for LED Lamps of 25 W,45W & 72 W	
Powered by the latest bright LEDs with high efficiency and meeting LM-80 standard	
Average rated life span	50000 hrs
LED efficiency	>125 Lumens/watt
Luminaries efficiency	80 Lumens/watt
Input voltage range	90-300 V
Power factor	> 0.9
THD	< 15%
Ingress protection	IP68
Operating temperature	-5°C to 50°C
Storage temperature	-5° to 70°C
Humidity	10% - 100%
Color rendering index (CRI)	>70
LEDs shall be operated at a forward current less than 90% of its rated current	
The LEDs used in the luminaire shall have minimum angle of 120 degree	
Conform to Photo Biological Safety for the LEDs as per IEC 62471	
Free replacement warranties of 5 years for technical defects	
For the entire Contract Period the LED Street Lights supplied shall perform to the agreed standards as per LM-80 and L-70 standards as per BIS	

Technical Specification for Street Lighting Control Panel for Existing Load

Street lighting panel will have following features

1. Provision of astronomical time switch
2. The system shall communicate with the Energy Meter installed in the panel on RS 485 network and collect important parameters i.e., 3 phases Voltages and Currents, KWH, Power Factor.
3. Provision of proper MCCB/MCB and Contactor for switching operation
4. Provision of electrical components having 200% or more capacity than estimated load.
5. Provision of fixed capacitors with proper protection according to rating of connected load, which will operate along with street light load.
6. Provision of online monitoring of electrical parameters. This will be done through multifunction energy meter & GSM connectivity module with centralize monitoring system.
7. Provision of voltage regulation and dimming facility
8. Voltage regulator with manual operation for output: 235 V for 6 to 12PM & 210 V for 12 AM to 6 AM
9. Panel should be , CRCA double door type and suitable for outdoor application with proper weather protection

Technical Specification for Street Lighting Control Panel for Proposed Load with LED Fixtures

Street lighting panel will have following features

1. Provision of astronomical time switch
2. The system shall communicate with the Energy Meter installed in the panel on RS 485 network and collect important parameters i.e., 3 phases Voltages and Currents, KWH, Power Factor.
3. Provision of proper MCCB/MCB and Contactor for switching operation
4. Provision of electrical components having 200% or more capacity than estimated load.
5. Provision of fixed capacitors with proper protection according to rating of connected load, which will operate along with street light load.
6. Provision of online monitoring of electrical parameters. This will be done through multifunction energy meter & GSM connectivity module with centralize monitoring system.
7. Panel should be , CRCA double door type and suitable for outdoor application with proper weather protection

Annexure-XII, Switching Point Wise Billing & Service Connection Number Record**1. Polipathar Zone**

Sr. No.	Switching Point Name	Remark	Service Connection No.
1	Adarsh Nagar Near Dr. Kumar	Bill Received	44470311-34-91-341824
2	Adarsh Nagar	Bill Received	44470305-29-91-341940
3	Ashok Vihar Near Lodhi Samudayak Bhavan	Bill Received	1444700349227
4	Awanti Vihar	Bill Received	144470058154
5	Bital Gaeneral Store Ke Pass	Bill Received	44470313-36-92-463036
6	Brajmohan Nagar Sociey	Bill Received	44470306-21-91-281645
7	Chote Hanuman	Bill Received	44470305-29-91-341563
8	Chungi Naka Rampur, Near Sule Nursing Home	Bill Received	44470305-29-91-441077
9	Daroga Ghat	Bill Received	44470312-35-91-341903
10	Durga Nagar Sent Alayasis School	Bill Received	1444700341710
11	Tagore Nagar, Forest Gate	Bill Received	44470311-34-91-341850
12	Jai Bheem Nagar Society	Bill Received	44470306-21-91-548455
13	Jihari Ghat Station	Bill Received	44470312-35-91-463048
14	Jalahrigaon Narmada Road	Bill Received	44470313-36-92-401511
15	Jogney Nagar Chui Khadan	Bill Received	1444700341812
16	Kalariwala Polipathar	Bill Received	44470312-35-91-341885
17	Lalpur	Bill Received	1444700341680
18	Polipathar Near Homiopathic Aaushadhalaya/MPHBPP Colony	Bill Received	44470312-35-91-9067644
19	Murddaya Ghat	Bill Received	44470312-35-91-341915
20	Near Chhapar of Ganesh Yadav	Bill Received	44470305-29-91-341939
21	Patel Mohalla, Rampur	Bill Received	44470305-29-91-464235

Sr. No.	Switching Point Name	Remark	Service Connection No.
22	Polipathar Gwarighat Bigbazar	Bill Received	44470311-34-91-341666
23	PWD Colony	Bill Received	1444700349215
24	Ravidas Nagar	Bill Received	44470311-34-91-341794
25	Rewa Colony	Bill Received	44470306-21-91-341836
26	Sant Shiromani Ashram	Bill Received	44470312-35-91-600763
27	Satyanand Vihar Garden, Durga Nagar	Bill Received	44470305-29-91-341733
28	Shankar Nagar Corporation	Bill Received	44470305-29-91-349239
29	Sidhanath	Bill Received	44470306-21-91-341952
30	Vijaynagar Chhapar	Bill Received	44470305-29-91-342257
31	Jhanda Chowk Gwarighat	Bill Received	44470312-35-91-341551

2. Bilhari Zone

Sr. No.	Switching Point Name	Remark	Service Connection No.
1	Dhobi Ghat Near New Time Telor	Bill Received	342075
2	Govt. Primary School Kajarwala	Bill Received	342105
3	Janta Medical Hall	Bill Received	342130
4	Khermai Mandir, Dixit Ata Chakki	Bill Received	341988
5	Purani Kalahari Ke Piche	Bill Received	342166
6	Temar Bitra Road	Bill Received	342154
7	Post Office Gali Ke Andar Vijay Tailor Ke Pass	Bill Received	342129
8	Shivpuri Kajarwara	Bill Received	342117
9	Gaur Thane Opp	Bill Received	342002
10	Gupta Tent House, Ekta Market, Gauraiya Ghat	Bill Received	342014

3. Ranjhi Zone

Sr.No	Switching Point Name	Remark	Service Connection No.
1	75 H Bhagat Singh Ward	Bill Received	44420301-2-98-53752
2	72-G Infront Of Akansha Silai Center	Bill Received	44420301-2-98-53740
3	Chandan Colony	Bill Received	44420302-3-98-339209
4	Gokalpur Marghatai	Bill Received	44420303-1-98-73623
5	Main Road Gokalpur	Bill Received	44420303-1-98-51780
6	Mastana Chowk Ranjhi	Bill Received	44420302-3-98-51860
7	Major Kirana Store Ganesh Ganj	Bill Received	2198/123638
8	Merghatai Road ,Khairmai Mandir	Bill Received	44420301-2-98-54252
9	Police Thana	Bill Received	44420302-3-98-129112
10	Raksha nagar New & Raksha nagar Colony	Bill Received	44420301-2-98-80639
11	Ranghi Bazar Colony	Bill Received	44420302-3-98-272310
12	Ravan Park Ranghi	Bill Received	44420302-3-98-51895
13	Shanti Nagar Ranghi (S-29)	Bill Received	44420301-2-98-152870
14	Sharda Nagar Ranghi (S-1)	Bill Received	44420301-2-98-53739
15	Neutral Garden Ranghi/Sharda Nagar Park	Bill Received	44420301-2-98-336750
16	Uday Nagar & Uday Nagar - 3,(E29)	Bill Received	44420303-1-98-51792

4. Garha Zone

Sr.No	Switching Point Name	Remark on Billing Status	Service Connection No.
1	Amanpur Nursing ward	Bill Received	344679
2	Bedi Nagar Near Gurudwara Area & Central lighting	Bill Received	44470201-17-93-544668
3	Bedi nagar	Bill Received	44470214-33-93-462329
4	Brajmohan nagar supatal	Bill Received	344473
5	Choti bagariya shree ram mandir ke samne	Bill Received	144470504-20-92-0936261365
6	Devtal Ayodayapuri	Bill Received	469518
7	Ekta chowk	Bill Received	48255
8	Ganga Sagar	Bill Received	39-93-344539
9	Garha Bazar masjid ke pass	Bill Received	44470201-17-93-344461
10	Near of Gullah Chouraha	Bill Received	344655
11	Gupteshwar Near Babbu Vidhayak House	Bill Received	402217
12	HP Petrol Pump Sharda Chowk	Bill Received	44470201-17-93-544530
13	In Front Of Dr. Loth Hospital	Bill Received	44470214-33-93-469520
14	In front of Triveni Complex LIC Chowk	Bill Received	44470214-33-93-469531
15	Kachpura Overbridge	Bill Received	344618
16	Khudabaksh Garha Bazar	Bill Received	544681
17	Kripal Chowk	Bill Received	344540
18	LIC Office	Bill Received	544670
19	Main Road Ratan Nagar	Bill Received	44470206-23-93-384460
20	Near Bank Of Maharastra Gautam Madhia	Bill Received	4470204-20-92-344515
21	Near Geological Survey Of India	Bill Received	344576
22	Near H.K. Engg. Work	Bill Received	344552
23	Near Supatal Sulabh Complex	Bill Received	344448
24	Panday Vyas Chowk	Bill Received	402205

Sr.No	Switching Point Name	Remark on Billing Status	Service Connection No.
25	Pishanhari Ki Madiya	Bill Received	44470211-31-92-368702
26	Ranidurgavati	Bill Received	44470214-33-93-488306
27	Ratan Nagar Gupteshwar	Bill Received	44470206-23-93-344485
28	Sanjivani Nagar Beside Rly Track	Bill Received	44470204-20-92-344588
29	Sainik Society	Bill Received	44470218-40-93-344527
30	Shakti Nagar Chowk	Bill Received	344680
31	Shakti Nagar Shree Sai Palace Barat Ghar	Bill Received	384458
32	Sharda Mandir Road	Bill Received	4470214-33-93-344643
33	Shukla Nagar	Bill Received	144470517-39-93-8045623876
34	Subhash Chowk Shakti Nagar	Bill Received	344692
35	Supatal Talab	Bill Received	436902

5. Indramarket Zone

Sr.No	Switching Point Name	Remark on Billing Status	Service Connection No.
1	Adarsh Nursing Home	Bill Received	44420208-21-94-70440
2	Allahabad Bank Chowk	Bill Received	44420105-9-98-70816
3	Bai Ka Bagicha Nandani Foundation	Bill Received	44420104-8-94-71377
4	Baldi Kori Ki Dafai	Bill Received	44420107-12-94-70725
5	Besides Kotawali	Bill Received	44420201-13-94-71122
6	Bhawani Chowk Sidh Baba Road	Bill Received	44420203-17-94-70385
7	Bohara Bag Chowk	Bill Received	44420205-19-94-70439
8	Chandmari Talaiya Near Durga Mandir	Bill Received	44420107-12-94-70713
9	CharKhabha	Bill Received	44420208-21-94-70452
10	Choti Madar Tekari	Bill Received	44420205-19-94-70464
11	Chui Khadan	Bill Received	44420106-10-94-71353
12	Deepak dairy sidbaba road,hanuman hotel.	Bill Received	44420203-17-94-70373
13	Ekta Transport Services, Sanjivani Hospital	Bill Received	44420205-19-94-70488
14	Ghamapur Chowk , Arvind ward	Bill Received	44420201-13-94-71092
15	Gopal Hotel	Bill Received	44420107-12-94-70701
16	Haddi Godam	Bill Received	70415
17	Hanumantal Thana Ke Pass	Bill Received	44420202-16-94-71080
18	In Front of Agrawal Traders	Bill Received	44420102-6-94-358228
19	Inside Galagala Shiv mandir	Bill Received	44420206-20-94-70658
20	Kachghar Chowk	Bill Received	44420107-12-94-70683
21	Futhatal Mazar Ke Samne , L/148	Bill Received	44420201-13-94-71110

Sr.No	Switching Point Name	Remark on Billing Status	Service Connection No.
22	Lohia Pool	Bill Received	44420102-6-94-159487
23	Lohia Ward	Bill Received	44420102-7-0841
24	Mominpura Talaiya	Bill Received	44420208-21-94-310724
25	Mothi Nalla	Bill Received	44420208-21-94-70476
26	Near Bridge No 1	Bill Received	44420209-26-94-70646
27	Near Empire Talkies	Bill Received	44420105-9-94-70853
28	Near Kharmai Gate	Bill Received	44420202-16-94-71079
29	Near Maulana Abdul Kalam Ward Gate, Rajja Chowk	Bill Received	44420207-15-94-70348
30	Near RTO Office	Bill Received	44420109-23-98-190317
31	16 Quarter Thkkargram	Bill Received	70324
32	Sathiya Kuva	Bill Received	44420201-13-94-71109
33	Science College	Bill Received	44420111-25-94-71043
34	Shiv Mandir, Kadam Taliya	Bill Received	44420206-20-94-70671
35	Tahasil Chowk	Bill Received	44420209-26-94-70634
36	Thakur Electronic Kachghar Colony	Bill Received	44420107-12-94-71389

6. Mission Compound Zone

Sr. No.	Switching Point Name	Remark on Billing Status	Service Connection No.
1	Bada Fuhara	Bill Received	44505106-1-97-100171
2	Baldev Bag Agrawal Petrol Pump Ke Samne	Bill Received	44505103-61-97-100183
3	Golbazar Near Ranital Chowk	Bill Received	44505107-18-97-100237
4	Gopal Vihar Colony	Bill Received	44505101-6-99-150022
5	Gurunanak School & College Karamchand Chowk	Bill Received	44505204-14-98-242720
6	Karamchand Chowk Near Baglai Culb	Bill Received	44505301-10-99-100468
7	Kotwali Thana	Bill Received	44505309-23-99-100481
8	Madhavtal Yatayat Thana	Bill Received	44505301-10-98-179279
9	Mission Compound Chouraha	Bill Received	44505302-13-98-100407
10	Near Gohalpur Thana	Bill Received	44505304-12-99-100493
11	Near Kachyaana Chowk	Bill Received	44505107-18-97-150769
12	Russel Chowk Near State Bank of Patiala	Bill Received	44505307-20-98-100286
13	Russel Chowk Opposite Anmol Auto Mobiles	Bill Received	44505307-20-98-483909200
14	Shastri Bridge ICICI Bank	Bill Received	44505307-20-98-100420
15	Telegraph gate no.2	Bill Received	44505102-4-99-100262

7. Gorakhpur Zone

Sr.No	Zone Name	Switching Point Name	Remark on Billing Status	Service Connection No.
1	Gorakhpur	Ambey Traders Shethi Nagar	Bill Received	44505203-9-28-309783
2	Gorakhpur	Anand Enterprises Choti Lines Fatak	Bill Received	44505203-9-99-323688
3	Gorakhpur	Madan Mahal BSNL Office Ke Pass	Bill Received	44505202-7-99-292436
4	Gorakhpur	Esai Mohalla Chowk	Bill Received	44505202-7-99-100614
5	Gorakhpur	Employment Office	Bill Received	44505203-9-25-100699
6	Gorakhpur	Ghantaghar Omati Thana Ke Samne	Bill Received	44505206-24-99-100559
7	Gorakhpur	J.K.Complex Gorakhpur	Bill Received	44505205-17-99-100640
8	Gorakhpur	Katanga Tiraha	Bill Received	44505205-17-99-418079
9	Gorakhpur	Madan Mahal Thana	Bill Received	44505201100584.00
10	Gorakhpur	Navbhrat Press(Near of santhavent motor mitra)	Bill Received	44505307-20-98-100419
11	Gorakhpur	Near BPCL Petrol Pump Medical Road,Main Bus Stand	Bill Received	44505201-16-98-408852
12	Gorakhpur	Near Narmada Traders	Bill Received	44505203-9-25-100729
13	Gorakhpur	Near Shri Guru Tegh Bahadur Khalsa College	Bill Received	44505202-7-99-227547
14	Gorakhpur	Near Shree Kach Gurjar Chatriya Samaj & Nagpal Garden	Bill Received	44505202-7-99-100602
15	Gorakhpur	Rishi Vihar Colony	Bill Received	44505207-21-98-169018
16	Gorakhpur	Saluja Tyres Madhotal Road	Bill Received	44505201-16-99-100560
17	Gorakhpur	Santosh Garage	Bill Received	44505202-7-99-100596
18	Gorakhpur	Teenpatti Chauraha	Bill Received	44505204-14-99-100547
19	Gorakhpur	Wright Town Pankaj Palace	Bill Received	44505201-16-99-183519

8. Purva Zone

Sr.No	Zone Name	Switching Point Name	Remark on Billing Status	Service Connection No.
1	Purva	Baznamath Mandir Road	Bill Received	44470208-25-91-368696
2	Purva	Bhairav Baba Road	Bill Received	44470316-50-96-342142
3	Purva	Shastri Nagar Sai Mandir Ke Samne/Bhairav Nagar Bada Pathar	Bill Received	44470208-25-91-744750
4	Purva	Bhairav Nagar Near Sub Station MPEB Purva & Neharu Nagar Near Apex Hospital	Bill Received	44470211-31-92-272462
5	Purva	Bhukamp Colony	Bill Received	44470216-38-91-368660
6	Purva	Devtal Main Road, Sharn Park	Bill Received	44470212-32-91-344564
7	Purva	Ganga Nagar Road & Rajul City	Bill Received	44470207-24-91-368593
8	Purva	Garha Thana , Near Medical College	Bill Received	44470212-32-91-793050
9	Purva	Gupta Nagar & Near Sagda Sai Mandir, Opposite Ananad Krushi Kendra		44470208-25-91-742880
10	Purva	LIG Colony, Near Akarshan Beauty parlor	Bill Received	44470201-17-93-469581
11	Purva	Lodhi Mohalla Shastri Nagar	Bill Received	44470214-33-93-344503
12	Purva	Medical Colony (Dr.Colony)	Bill Received	44470207-24-91-520834
13	Purva	Near Gyanganga College	Bill Received	44470208-25-91-742867
14	Purva	Near Hotel Maruti Mandapam	Bill Received	44470212-32-91-584873
15	Purva	Near Jain Mandir	Bill Received	44470201-17-93-436938
16	Purva	Near of Jasuja City	Bill Received	44470215-37-92-725171
17	Purva	Near Shahi Naka	Bill Received	44470205-22-93-344590
18	Purva	Near Samudayak Bhawan	Bill Received	44470215--37-91-368570
19	Purva	Near Water Tank Tripura Chowk	Bill Received	44470211-31-92-549721
20	Purva	Paraswada Colony	Bill Received	44470216-38-91-368660
21	Purva	Sagda Sai Mandir	Bill Received	44470314-41-96-584204
22	Purva	Sai Colony	Bill Received	44470036872

Sr.No	Zone Name	Switching Point Name	Remark on Billing Status	Service Connection No.
23	Purva	Shahnala	Bill Received	44470208-25-91-368684
24	Purva	Shastri Nagar Chouraha I & Shastri Nagar-2	Bill Received	44470208-25-91-368635
25	Purva	Tilwara Ghat Road	Bill Received	444-70208-25-91-368532
26	Purva	Tripuri Chowk	Bill Received	44470211-31-92-368714

9. Adharta Zone

Sr. No.	Switching Point Name	Metering Status	Service Connection No.
1	Adharta Tiraha	Meter Not Found	44470101-6-91-352147 & 44470101-6-91-352305
2	Gaji Nagar	Meter Not Found	44470111-47-91-352111
3	Chokse Hotel (New Kanchanpur)	Meter Not Found	44470102-7-93-665836
4	Ram Nagar (New R-11)	Meter Not Found	44470111-47-91-825372
5	Afak Bekari Makka Nagar Gali no-3	Meter Not Found	44470102-7-93-663451
6	Agrawal Kirana Store Shankar Chowk	Meter Found	44470102-7-93-352159
7	Anand Nagar, Near Dr Ansari Clinic	Meter Found	44470101-6-91-505535
8	Dr Ambedkar Colony	Meter Not Found	44470102-7-93-663463
9	G. C. F. Colony	Meter Not Found	44470111-47-91-352330
10	Gandhi Chowk Katra, Near Vishwkarma Electric	Meter Not Found	44470101-6-91-673651
11	Gayatri Nagar	Meter Not Found	44470111-47-91-352135
12	Hussainiya masjid , Rajja chowk	Meter Not Found	44470101-6-91-665812
13	Housing Board in Pump House	Meter Not Found	44470102-7-93-352329
14	Industrial Area Kanchanpur, Shobhapur Gate Ke Pass	Meter Found	44470103-8-90-352160
15	Industrial Area Near Power House	Meter Not Found	44470110-16-90-352226
16	Jawahar Nagar , Hussain Masjid	Direct Poles	44470102-7-93-663554
17	Katra Sabji Mandi	Meter Found	44470101-6-91-352100
18	Main Road Adharta Near Nilesh Computer	Meter Found	44470101-6-91-505547
19	Shankar Mandir Neharu Nagar & Vivek Colony	Meter Found	44470110-16-90-352238
20	New Ramnagar NR5	Meter Not Found	44470111-47-91-448485
21	New Ram Nagar NR/10/5	Meter Not Found	44470111-47-91-805257
22	Pandey Gas Agency	Meter Not Found	44470110-16-90-352214
23	Pani Ki Taki Punit Nagar, Near Nikhil Kirana Stores	Meter Not Found	44470102-7-93-352342
24	Rain Baysara, Anand Nagar	Meter Not Found	44470101-6-91-352287
25	Sanjay Nagar Industrial Arya Chand Mari Road	Meter Not Found	44470103-8-90-352093
26	Sanjay Nagar	Meter Found	44470104-9-90-352123
27	SBI ATM New Kanchanpur	Meter Found	44470104-9-90-352251
28	Shobapur Railway Fatak	Meter Found	44470104-9-90-352263
29	Xlean Bharat Gas Agency	Meter Found	44470101-6-91-505523
30	Zenda Chowk J.P. Nagar	Meter Not Found	44470111-47-91-665782

10. Vijay Nagar

Sr.No	Switching Point Name	Remark on Billing Status	Service Connection No.
1	Amkhera Sanjay Telecom	Bill Received	44470109-15-98-352275
2	Basti No-1 Amarkhera Gohalapur	Bill Received	44470109-15-98-406089
3	Central Lighting Works, Kamla Nehru Nagar, Near Mobile Shopee	Bill Received	44505102-4-99-411565
4	Central Street Light Ranital	Bill Received	44505102-4-99-398901
5	Damuh Naka Chowk Z33 & Near Damoh Naka Chowk	Bill Received	44505305-15-99-100500
6	Dindayal Chowk	Bill Received	921142
7	Plot no.522/14 Gharhi Chowk Near Dr.Kishan Kushwaha	Bill Received	44470114-43-98-840622
8	Dr.Atul Sharma	Bill Received	921130
9	Global Hospital Ukhaari	Bill Received	921129
10	Hat Bajar	Bill received	44470112-45-98-539855
11	ITI Near Swastik Hospital	Bill Received	44470112-45-98-894874
12	Jain Mandir Mather Theresa	Bill Received	343638
13	Jankey Nagar	Bill Received	44470116-44-98-352299
14	Kasodhan Colony Green City	Bill Received	44470113-48-98-581227
15	Labour Chowk	Bill Received	44505104-3-99-100274
16	Mandi Area In Front of Baba Sai Clinic	Bill Received	44470112894898
17	Near Rose Beauty salon Ekta Tilhara	Bill Received	44470116-44-98-352378
18	Om Enterprises	Bill Received	539843
19	P.R.P Tradeers, Indian Coffee House ke Peeche Dindayal Chowk	Bill Received	44470114-43-98-539806
20	Pili Building Ke Samne Near Deligh Mariage.Com	Bill Received	44505105-2-99-446786
21	BH/08 Pushp Nagar	Bill Received	44505102310372
22	Sarvaday Nagar	Bill Received	44505102-4-99-356104
23	Shanti Nagar	Bill Received	44505308-22-99-149974
24	Sneha Nagar Jayaswal Treders	Bill Received	44505104-3-99-97962
25	Trimurti Nagar Madhotal	Bill Received	44470113-48-98-352202

Sr.No	Switching Point Name	Remark on Billing Status	Service Connection No.
26	Varsa Kirana Store	Bill Received	44470116-44-98-352172
27	Shiv Nagar Near APT Machine	Bill Received	44505105100225
28	Damoha Naka Road	Bill Received	44505105-2-95-100213
29	Chota Fuhara Chowk	Bill Received	44505305-15-99-100511
30	DR.Vijay Jain	Bill Received	44470114-43-98-352184
31	Hat Bazar	Bill Received	680461
32	Namdav Brother Ke Pass S.B.I. Colony	Bill Received	44470112-45-98-352240
33	ITI Madital	Bill Received	44470112-45-98-352196
34	Sagam Colony	Bill Received	921117
35	Thana Vijay Nagar	Bill Received	4598539831
36	P.No.66 Tulsi Nagar	Bill Received	44505105-2-95-174762
37	Union Bank Ke Pass	Bill Received	98859760
38	Yadav Colony	Bill Received	44505102-4-97-100250
39	Yadav Colony	Bill Received	44505102-4-97-129884
40	Lal bahadur Shastri Colony	Bill Received	44470113-48-98-586675

11. Highmast

Sr.No	Switching Point Name	Remark on Billing Status	Service Connection No.
1	Adarsh Market Ranjhi	Bill Received	4442030251949
2	Ranjhi Badapathar	Bill Received	4442030153764
3	Vehicle Mode Ranjhi	Bill Received	4442030251901
4	Sharda Nagar Park	Bill Received	44420301-2-98-336750
5	Near Saraswati School Rajhi	Bill Received	44420301285912
6	Katanga Tiraha Near Kundan Jewellers	Bill Received	44505205-17-97-100663
7	Main Bus Stand	Bill Received	44505201-16-99-100572
8	Rajiv Gandhi chowk	Bill Received	44505204-14-97-100523
9	Chothi Lines Fathak Gorakpur	Bill Received	44505203100687
10	Madan Mahal	Bill Received	44505202100675
11	Welfare Association & Tow bhaisasur Road	Bill Received	44505205-17-98-392078
12	Madan Mahal Chowk Station Road	Bill Received	44505201-16-98-453067
13	Baburao Paranjpe Near Ranital Gate No.2	Bill Received	44505306-19-98-290520
14	Pa.Kunjilal Dube Marg Nepiar Town	Bill Received	44505307-20-98-100444
15	Malviya Chowk	Bill Received	44505301-10-99-100470
16	Russel Chowk	Bill Received	44505307-20-98-100432
17	Nagrath Chowk	Bill Received	44505302-13-98-100456
18	Omati Thana	Bill Received	44505303-8-98-187616
19	Bada Fuhara	Bill Received	44505106100201
20	Lardganj Tiraha	Bill Received	44505106100195
21	Mal Godam Railway station	Bill Received	44420209-26-94-70610
22	Allahabad Bank Chowk	Bill Received	44420110-24-94-70828
23	Kanchghar Chowk	Bill Received	44420107-12-94-70660
24	Tahasil Chowk /Ambedkar Chowk	Bill Received	4442020934617

Sr.No	Switching Point Name	Remark on Billing Status	Service Connection No.
25	Raddi Chowki	Bill Received	4442020573957
26	GCF CJ Building	Bill Received	44420070830
27	Gwarighat-1	Bill Received	44470312-35-91-442628
	Gwarighat-2		
	Gwarighat-3		
	Gwarighat -4		
28	Gwarighat-5 Near Daroga Ghat	Bill Received	44470312-35-91-341903
29	Rampur Chowk	Bill Received	44470305-29-91-341964
30	Medical Colony	Bill Received	44470211-31-92-368702
31	Tilwara Ghat	Bill Received	44470208-25-91-789409
32	Tripuri Chowk Near gahara thana pass	Bill Received	44470211-31-92-368714
33	Dhanatwari Nagar Chowk	Bill Received	44470215-37-91-368726
34	Andhamukh School Ke pass	Bill Received	445215-90-5-1328943
35	Gullaua Chowk	Bill Received	44470204-20-92-344606
36	Transport Nagar-1	Bill Received	322829
37	Transport nagar - 2	Bill Received	322866
38	Transport Nagar -3	Bill Received	264702
39	Dindayal Chowk	Bill Received	4447-0112352317
40	Samata Colony Shanti Nagar	Bill Received	2298455143.00
41	Bus Stand Z38	Bill Received	44505305-15-99-100535
42	Kattiyaghat Mini High Mast	Bill Received	44470308-30-96-342038
43	Aadhartal Tiraha High mast	Bill Received	44470101-6-91-660012

Annexure-XIII, Budgetary Estimates for development of Street Lighting Infrastructure for areas in the periphery/expansion zone of the city with insufficient street lighting infrastructure

Name of Road-: Shahanala to Tilwara Brigde

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	5925	1356825.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	330	118140.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	3190	63800.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	330	9240.00
16.3	Providing and erecting 9mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	24148.00	135	3259980.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	135	1822500.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	1485	106920.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	135	32805.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	6	10068.00
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/everhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, te, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismanteling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	135	38475.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	5400	1134000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	1080	5400.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	64	576.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	135	29565.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	5600	84000.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	14	9338.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	510	59160.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortor, cover plate having locking arrangment on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	6	15240.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	6	3120.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	6	29634.00
	Total (Part A)				8188786.00
	Part B - Item Rate				
1	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	135	4320000.00
	Total (Part B)				4320000.00
	Grand Total (Part A+B)				12508786.00

Name of Road:- Pisanhari to Dhanwantari Nagar

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	1775	406475.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	150	53700.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	1775	35500.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	150	4200.00
16.3	Providing and erecting 9 mtrs. High hot dipped galvanized octagonal poles with bottom of 200mm A/F, top 100mm, A/F made from 3mm thick HT plate & 290x290x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	32999.00	63	2078937.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	63	850500.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.2	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
6	6 X 1.5 sq mm	Meter	144.00	693	99792.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply conforming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	126	30618.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	2	3356.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, tee, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismantling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	120	34200.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface, including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	1500	315000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	504	2520.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	32	288.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	60	13140.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	1550	23250.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	9	6003.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	150	17400.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortor, cover plate having locking arrangment on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	2	5080.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	2	1040.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	2	9878.00
	Total (Part A)				3990877.00
	Part B - Item Rate				
1	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	126	4032000.00
	Total (Part B)				4032000.00
	Grand Total (Part A+B)				8022877.00

Name of Road:- St. agastin to Baypass

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	2175	498075.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	120	42960.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	3575	71500.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	120	3360.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	90	1215000.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	990	71280.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	90	21870.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	2	3356.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, tee, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismantling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	90	25650.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	1800	378000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	360	1800.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	24	216.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	90	19710.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	1900	28500.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	9	6003.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	275	31900.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	2	5080.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	2	1040.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	2	9878.00
	Total (Part A)				2435178.00
	Part B - Item Rate				
1	Providing and erecting 7mtrs. High hot galvanized octagonal poles with bottom of 130mm A/F, top 70mm A/F made from 3mm thick HT plate & 200x200x12mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	18782.00	90	1690380.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
2	Led outdoor street light fitting 90 watt die cast body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	26600.00	90	2394000.00
	Total (Part B)				2394000.00
	Grand Total (Part A+B)				4829178.00

Name of Road:- Adhartal Tiraha to Maharajpur

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	4345	995005.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	275	98450.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	4345	86900.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	275	7700.00
16.3	Providing and erecting 9mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	24148.00	175	4225900.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	175	2362500.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	1925	138600.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	175	42525.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	5	8390.00
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightening conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, te, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismanteling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	175	49875.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	3600	756000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	1400	7000.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	64	576.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	175	38325.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	3700	55500.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	18	12006.00
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoings,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	425	49300.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	5	12700.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	5	2600.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	5	24695.00
	Total (Part A)				8974547.00
	Part B - Item Rate				
1	Led outdoor street light fitting 130 watt die cast body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	175	5600000.00
	Total (Part B)				5600000.00
	Grand Total (Part A+B)				14574547.00

Name of Road:- ITI Tiraha to Karmeta Bus Stop

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	1655	378995.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	85	30430.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	1655	33100.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	85	2380.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	70	945000.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASINGCAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.2	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	770	55440.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	70	17010.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	2	3356.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, tee, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismantling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	65	18525.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	1400	294000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	560	2800.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	32	288.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	70	15330.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	1500	22500.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	7	4669.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	150	17400.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	2	5080.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	2	1040.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	2	9878.00
	Total (Part A)				1857221.00
	Part B - Item Rate				
1	Providing and erecting 8mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complte erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	21465.00	70	1502550.00
1	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	70	2240000.00
	Total (Part B)				3742550.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
	Grand Total (Part A+B)				5599771.00

Name of Road:- ITI Tiraha to Katangi Road (Rimjha)

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	3575	818675.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	220	78760.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	3575	71500.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	220	6160.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	150	2025000.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	1650	118800.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	150	36450.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	4	6712.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixd between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightening conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, tee, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismantling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	180	51300.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	3000	630000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	1200	6000.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	45	405.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	150	32850.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	3460	51900.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	13	8671.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoings,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	275	31900.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	4	10160.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	4	2080.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	4	19756.00
	Total (Part A)				4007079.00
	Part B - Item Rate				
1	Providing and erecting 8mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	21465.00	150	3219750.00
2	Led outdoor street light fitting 130 watt die cast body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	150	4800000.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
	Total (Part B)				8019750.00
	Grand Total (Part A+B)				12026829.00

Annexure-XIV, Budgetary Estimates for Improvement of Street Lighting Infrastructure in city

Name of Road-: Golbajar Jabalpur.

SOR Reference No.	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	4090	936610.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	430	153940.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	4090	81800.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	430	12040.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	115	1552500.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	1265	91080.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	115	27945.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	4	6712.00

SOR Reference No.	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, tee, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismanteling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	410	116850.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	3800	798000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	920	4600.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	54	486.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	115	25185.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	3900	58500.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	13	8671.00

SOR Reference No.	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoings,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	425	49300.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortar, cover plate having locking arrangment on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	5	12700.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	5	2600.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	5	24695.00
	Total (Part A)				3964214.00
	Part B - Item Rate				
1	Providing and erecting 8mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complte erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	21465.00	115	2468475.00
2	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	115	3680000.00
	Total (Part B)				6148475.00
	Grand Total (Part A+B)				10112689.00

Name of Road:- Ambedakar Chowk to Mallgodwon

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	554	126866.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	65	23270.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	554	11080.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	65	1820.00
16.3	Providing and erecting 9mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	24148.00	23	555404.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	23	310500.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	253	18216.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	23	5589.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	1	1678.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, te, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismanteling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	50	14250.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	450	94500.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evently cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	92	460.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	8	72.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	23	5037.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	510	7650.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	2	1334.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	85	9860.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortor, cover plate having locking arrangment on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	1	2540.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	1	520.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	1	4939.00
	Total (Part A)				1195585.00
	Part B - Item Rate				
1	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	23	736000.00
	Total (Part B)				736000.00
	Grand Total (Part A+B)				1931585.00

Name of Road-: Taiyab Ali Chowk to Chandanvan

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	554	126866.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	65	23270.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	554	11080.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	65	1820.00
16.3	Providing and erecting 9mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	24148.00	23	555404.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	23	310500.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	253	18216.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	23	5589.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	1	1678.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, tee, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismantling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	50	14250.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	450	94500.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	92	460.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	8	72.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	23	5037.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	510	7650.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	2	1334.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoings,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	85	9860.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortor, cover plate having locking arrangment on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	1	2540.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	1	520.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	1	4939.00
	Total (Part A)				1195585.00
	Part B - Item Rate				
1	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	23	736000.00
	Total (Part B)				736000.00
	Grand Total (Part A+B)				1931585.00

Name of Road:- Chandanvan to Bridge No. 3 Jabalpur

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	679	155491.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	65	23270.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	679	13580.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	65	1820.00
16.3	Providing and erecting 9mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	24148.00	28	676144.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	28	378000.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	308	22176.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	28	6804.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	1	1678.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, te, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismanteling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	50	14250.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	550	115500.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	112	560.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	8	72.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	28	6132.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	610	9150.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	3	2001.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoings,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	85	9860.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	1	2540.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	1	520.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	1	4939.00
	Total (Part A)				1444487.00
	Part B - Item Rate				
1	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	28	896000.00
	Total (Part B)				896000.00
	Grand Total (Part A+B)				2340487.00

Name of Road-: Income Tax to Bridge No. 2

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	679	155491.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	65	23270.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	679	13580.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	65	1820.00
16.3	Providing and erecting 9mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complte erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	24148.00	28	676144.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	28	378000.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	308	22176.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	28	6804.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	1	1678.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, tee, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismantling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	50	14250.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	550	115500.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	112	560.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	8	72.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	28	6132.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	610	9150.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	3	2001.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	85	9860.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortor, cover plate having locking arrangment on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	1	2540.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	1	520.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	1	4939.00
	Total (Part A)				1444487.00
	Part B - Item Rate				
1	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	28	896000.00
	Total (Part B)				896000.00
	Grand Total (Part A+B)				2340487.00

Name of Road-: Tinpatti Chowk to Writetaun Stadium Jabalpur

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	1590	364110.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	130	46540.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	554	11080.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	130	3640.00
16.3	Providing and erecting 9mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	24148.00	65	1569620.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	65	877500.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	715	51480.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	65	15795.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	1	1678.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, tee, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismantling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	110	31350.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	1300	273000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	260	1300.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	32	288.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	65	14235.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	1400	21000.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	7	4669.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	170	19720.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	2	5080.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	2	1040.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	2	9878.00
	Total (Part A)				3323003.00
	Part B - Item Rate				
1	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	65	2080000.00
	Total (Part B)				2080000.00
	Grand Total (Part A+B)				5403003.00

Name of Road:- Katanga to Gawarighat

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	6422	1470638.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	440	157520.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	1622	32440.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	440	12320.00
16.3	Providing and erecting 9 mtrs. High hot dipped galvanized octagonal poles with bottom of 200mm A/F, top 100mm, A/F made from 3mm thick HT plate & 290x290x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	32999.00	234	7721766.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	234	3159000.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.2	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
6	6 X 1.5 sq mm	Meter	144.00	2574	370656.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	468	113724.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	8	13424.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, tee, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismanteling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	360	102600.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	5600	1176000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	1872	9360.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	84	756.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	234	51246.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	6422	96330.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	24	16008.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	680	78880.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	8	20320.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	8	4160.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	8	39512.00
	Total (Part A)				14646660.00
	Part B - Item Rate				
1	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	468	14976000.00
	Total (Part B)				14976000.00
	Grand Total (Part A+B)				29622660.00

Name of Road-: Satpula Brigde to Ranjhi Bus Stop

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	4621	1058209.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	220	78760.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	4621	92420.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	220	6160.00
16.3	Providing and erecting 9 mtrs. High hot dipped galvanized octagonal poles with bottom of 200mm A/F, top 100mm, A/F made from 3mm thick HT plate & 290x290x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	32999.00	167	5510833.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	167	2254500.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.2	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
6	6 X 1.5 sq mm	Meter	144.00	1837	264528.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	334	81162.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	4	6712.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, te, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismanteling & other finished masonry Item complete.				
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	180	51300.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	4000	840000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	1336	6680.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	45	405.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	167	36573.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	4621	69315.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	17	11339.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	340	39440.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	4	10160.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	4	2080.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	4	19756.00
	Total (Part A)				10440332.00
	Part B - Item Rate				
1	Led outdoor street light fitting 130 watt die cost body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	334	10688000.00
	Total (Part B)				10688000.00
	Grand Total (Part A+B)				21128332.00

Name of Road-: Adhartal to Shobhapur Bridge

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
14	Supply of XLPE Insulated power cable (conforming IS-7098) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor				
14.1.8	ARMOURED 4 CORE				
3	16 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	229.00	2880	659520.00
5	35 Sq.mm.(XLPE) Make: Havells/Polycab/Phinolex	Meter	358.00	260	93080.00
14.12	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.				
1	2 / 3 / 4 Core cable upto 16 Sq.mm	Meter	20.00	679	13580.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	Meter	28.00	260	7280.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	Each	13500.00	120	1620000.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.				
4.3.1	1.5 Sq mm cable Make: Havells/Polycab/Phinolex				
3	3 X 1.5 sq mm	Meter	72.00	1320	95040.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898:2002 but without enclosures :-				
8.5.1	SINGLE POLE (SP)				
1	0.5 Amp to 5 Amp Rating Make : Havells/Legrand/L&T	Each	243.00	120	29160.00
8.5.5	FOR TRIPLE POLE & NEUTRAL(TPN)				
4	50 Amp to 63 Amp Rating Make : Havells/Legrand/L&T	Each	1678.00	4	6712.00
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightening conductor down strip/overhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, te, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismanteling & other finished masonry Item complete.				

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)				
6	50.00mm Make : Tata/Swastik/Jindal	Meter	285.00	200	57000.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE (IS 14930 Part II -marked) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.				
1	63.00mm outside dia.	Meter	210.00	2400	504000.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu. /Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-				
1	6mm to 16 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	5.00	480	2400.00
3	35 Sq.mm Make : Dowells/Hex/Jainsons/Comet	Each	9.00	32	288.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	219.00	120	26280.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	Meter	15.00	2580	38700.00
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	667.00	12	8004.00
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	KG	116.00	340	39440.00

SOR Reference No	Description of Items	Unit	Rate	Qty	Amount
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry encloser in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	2540.00	4	10160.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	520.00	4	2080.00
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828				
8.1	MCCB with Breaking Capacity 25 KA at 415 V Make : Havells/Legrand/L&T				
2	Current Rating -125 Amps & 70% -100% adjustable	Each	4939.00	4	19756.00
	Total (Part A)				3232480.00
	Part B - Item Rate				
1	Providing and erecting 8mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate & 260x260x16mm base plate with 1500mm long decorative sword type SA/DA bracket complete erected in an approved manner on provided foundation. Suitable size & type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade) Make : Valmont/bajaj/Transrail	Each	21465.00	120	2575800.00
2	Led outdoor street light fitting 130 watt die cast body with heat resistance toughened glass IP 65 Protection level approved by Engineer incharge of JMC. Make : Phillips/Havells/Crompton/Bajaj	Each	32000.00	120	3840000.00
	Total (Part B)				6415800.00
	Grand Total (Part A+B)				9648280.00