



Capacitor Technologies c.c.

Reg. No. 2003/006468/23

POWER FACTOR CORRECTION AND HARMONIC FILTERING SPECIALISTS

Phone / Fax : (031) 465 2810
Dudley Stevens : 084 465 2810

Street : 21 Malton Road
Seaview 4094
Postal : P.O. Box 41331
Rossburgh 4072

Our Ref.: dgs\Sample Load Profile Report 2010

2 June 2010

XXXXXX
P.O. Box xxxx
MALVERN
4055

Attention : Mr XXXXXX

Dear Sirs

LOAD ANALYSIS FOR XXXXXX

We confirm our visit to xxxxxx House in order to install a kW / kVA demand recorder on the LV main supply.

LOAD RECORDING

The maximum demand measured during the recording was:

XXXXXXXXX : 891,07 kVA @ Cos ϕ = 0,906

For the period 6– 14 April 2010, we obtain the following comparison with the municipal meter.

kWh consumption - Recorder	:	63 653,0 kWh
Ethekwini Meter	:	63 880,6 kWh
% Error	:	+ 1,23 %

This error is acceptable for the portable test equipment used in the recording.

TARIFF INVESTIGATION

The following tariff comparison is based on :

The following tariff comparison is based on :

Notified Maximum Demand	1000	kVA	
Maximum Demand	891.07	kVA	@ Cos ϕ = 0.906
Maximum Restricted Demand	476.45	kVA	@ Cos ϕ = 0.898
kWh consumption			
	Peak	50582	kWh
	Standard	148129	kWh
	Off-Peak	44917	kWh
	Total	243628	kWh
Two-Rate Daily Sum		168759	kWh

LV TARIFFS		<u>Uncorrected Load</u>	<u>300 kVAr @ 440 V</u> <u>PF Correction</u>
Business & General	Scale 1	R 185,939.94	R 185,939.94
Two-Rate	Scale 2	R 195,835.43	R 195,835.43
3-Part Bulk Supply	LT3	R 187,831.30	R 178,251.46

NB : Two-Rate and 3-Part Bulk Tariffs are obsolete and no longer available to new consumers.

COMMERCIAL TOU (Maximum Notified Demand of 100 kVA)

Time-of-Use (High Demand)	R 222,213.23	R 222,213.23
Time-of-Use (Low Demand)	<u>R 147,097.39</u>	<u>R 147,097.39</u>
Time-of-Use (Year Average)	R 165,876.35	R 165,876.35

INDUSTRIAL TOU (Minimum Notified Demand of 100 kVA)

Time-of-Use (High Demand)	R 226,208.06	R 221,925.46
Time-of-Use (Low Demand)	<u>R 155,072.58</u>	<u>R 150,789.98</u>
Time-of-Use (Year Average)	R 172,856.45	R 168,573.85

From the above comparison, it can be seen that conversion to the Industrial Time-of-Use Tariff will result in an average saving of :

R 14,974.85 / Month

The Time-of-Use Tariff is 50 % higher in the High demand season months of June, July and August. The saving in the Low Demand season will compensate for these higher costs.

Capacitor Technologies would recommend conversion to the Industrial Time-of-Use tariff with effect from September 2010.

POWER FACTOR CORRECTION

The installation of Power factor correction rated 300 kVAr @ 440 V would result in a further saving of:

R 4,282.60 / Month

We trust this report will be of assistance and hold our services at your disposal for any further information or clarification you may require.

Yours faithfully



D.G. Stevens
Engineering Consultant

APPENDIX A

XXXXXX – LV MAIN SUPPLY

- 1) 30-Minute Average kW / kVA Demand Recording
- 2) 30-Minute Average Load Profile
- 3) Tariff Comparison



Capacitor Technologies c.c.

Reg. No. 2003/006468/23

POWER FACTOR CORRECTION AND HARMONIC FILTERING SPECIALISTS

Street : 21 Malton Road
Seaview 4094
Postal : P.O. Box 41331
Rossburgh 4072

Phone / Fax : (031) 465 2810
Dudley Stevens : 084 465 2810

30 - MINUTE AVERAGE KW / KVA DEMAND RECORDING

XXXXXXXX

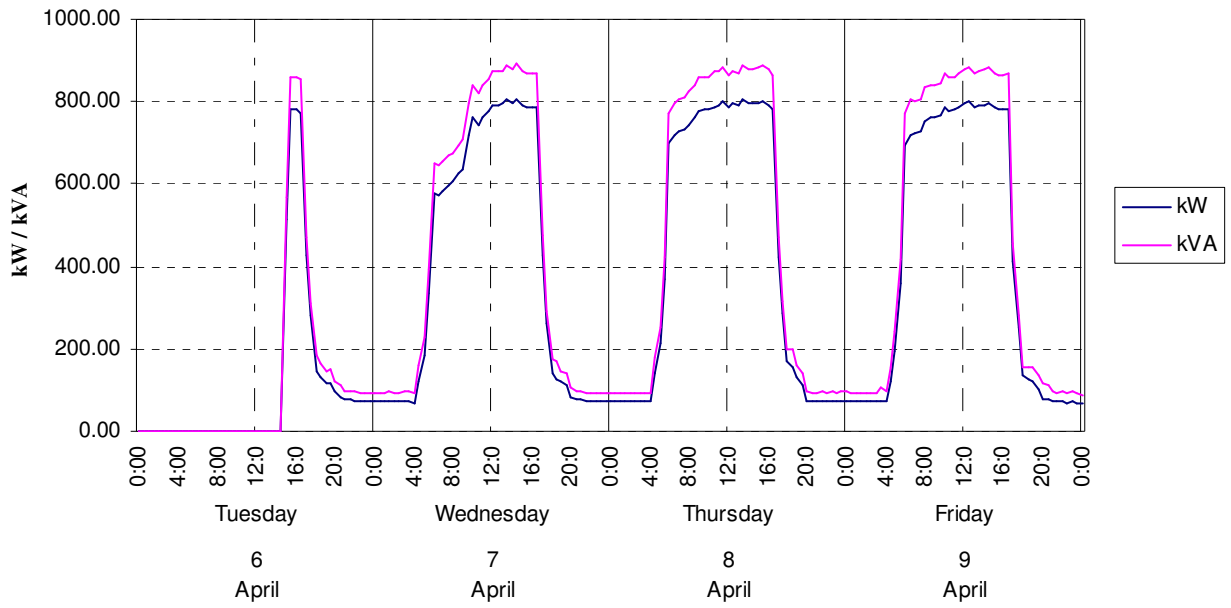
LV Main Incomer

RECORDING FROM : Tuesday 6-Apr-2010 TO Tuesday 13-Apr-2010

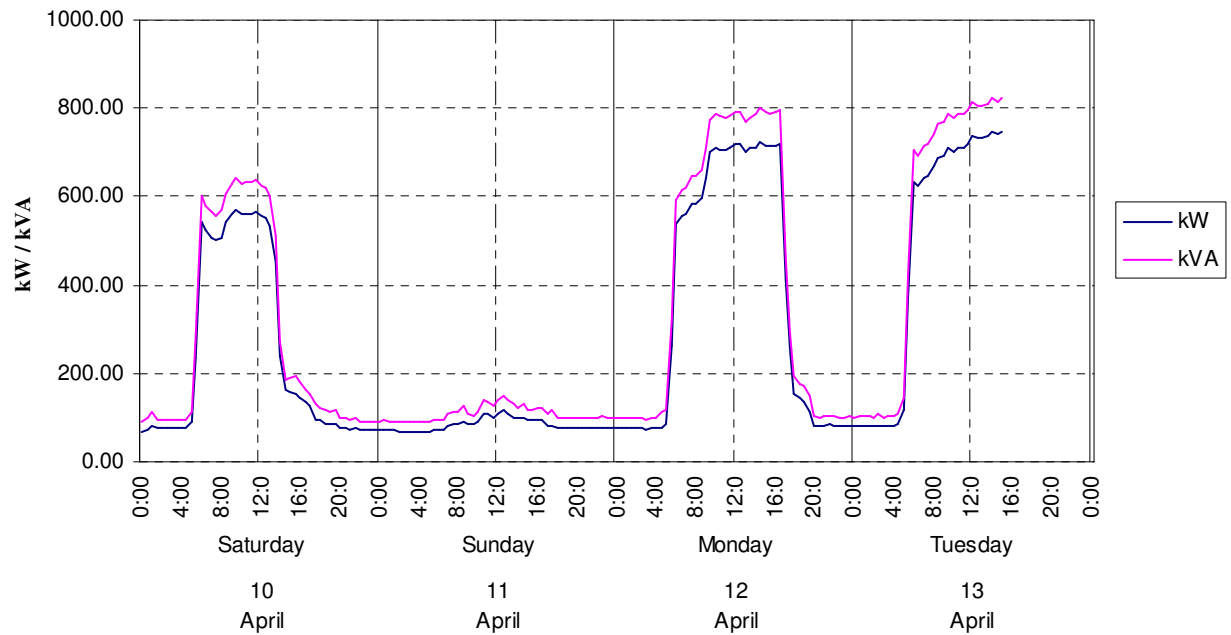
	RECORDER	ETHEKWINI METER
REFERENCE NO.	CIRCUTOR Cir e3	
C.T.RATIO V.T. RATIO		3000 / 5
MAXIMUM DEMAND 14h30 7 April 2010	891.07 kVA 807.47 kW POWER FACTOR = 0.906	880.32 kVA
RESTRICTED DEMAND 17h00 7 April 2010	476.45 kVA 427.94 kW POWER FACTOR = 0.898	858.24 kVA
<u>TIME-OF-USE</u> OFF-PEAK STANDARD PEAK	10 337.58 kWh 34 091.92 kWh 11 641.48 kWh	
KWH CONSUMPTION	56 070.98 kWh	62 880.60 kWh
2-RATE DAILY KWH SUM	38 839.89 kWh	

METER COMPARISON	RECORDER	ETHEKWINI METER
KWH START	0	4843.232
KWH FINISH	63653.00	4948.033
DIFFERENCE	63653.00	104.801
KWH 'K'	1	600
KWH CONSUMPTION	63 653.00 kWh	62 880.60 kWh
% ERROR	+ 1.23 %	

XXXXXXXX - LV Main Incomer



XXXXXXXX - LV Main Incomer



XXXXXX - LV Main Incomer

TARIFF COMPARISON (Including VAT)

2009 / 10 TARIFFS

The following tariff comparison is based on :

Notified Maximum Demand		1000	kVA	
Maximum Demand		891.07	kVA	@ Cos ϕ = 0.906
Maximum Restricted Demand		476.45	kVA	@ Cos ϕ = 0.898
kWh consumption	Peak	50582	kWh	
	Standard	148129	kWh	
	Off-Peak	44917	kWh	
	<u>Total</u>	<u>243628</u>	<u>kWh</u>	
Two-Rate Daily Sum		168759	kWh	
Supply Voltage		400	V	

Uncorrected Load

300 kVA_r @ 440 V PF Correction

RESIDENTIAL TARIFFS

Residential	Scale 3 & 4	R 178,574.51	R 178,574.51
Residential	TOU	R 151,759.85	R 151,759.85

LV TARIFFS

Business & General	Scale 1	R 185,939.94	R 185,939.94
Two-Rate	Scale 2	R 195,835.43	R 195,835.43
3-Part Bulk Supply	LT3	R 187,831.30	R 178,251.46

NB : Two-Rate and 3-Part Bulk Tariffs are obsolete and no longer available to new consumers.

COMMERCIAL TOU (Maximum Notified Demand of 100 kVA)

Time-of-Use (High Demand)	R 222,213.23	R 222,213.23
Time-of-Use (Low Demand)	R 147,097.39	R 147,097.39
Time-of-Use (Year Average)	<u>R 165,876.35</u>	<u>R 165,876.35</u>

MV TARIFFS

Business & General	Scale 1	R 182,221.14	R 182,221.14
Two-Rate	Scale 2	R 191,918.72	R 191,918.72

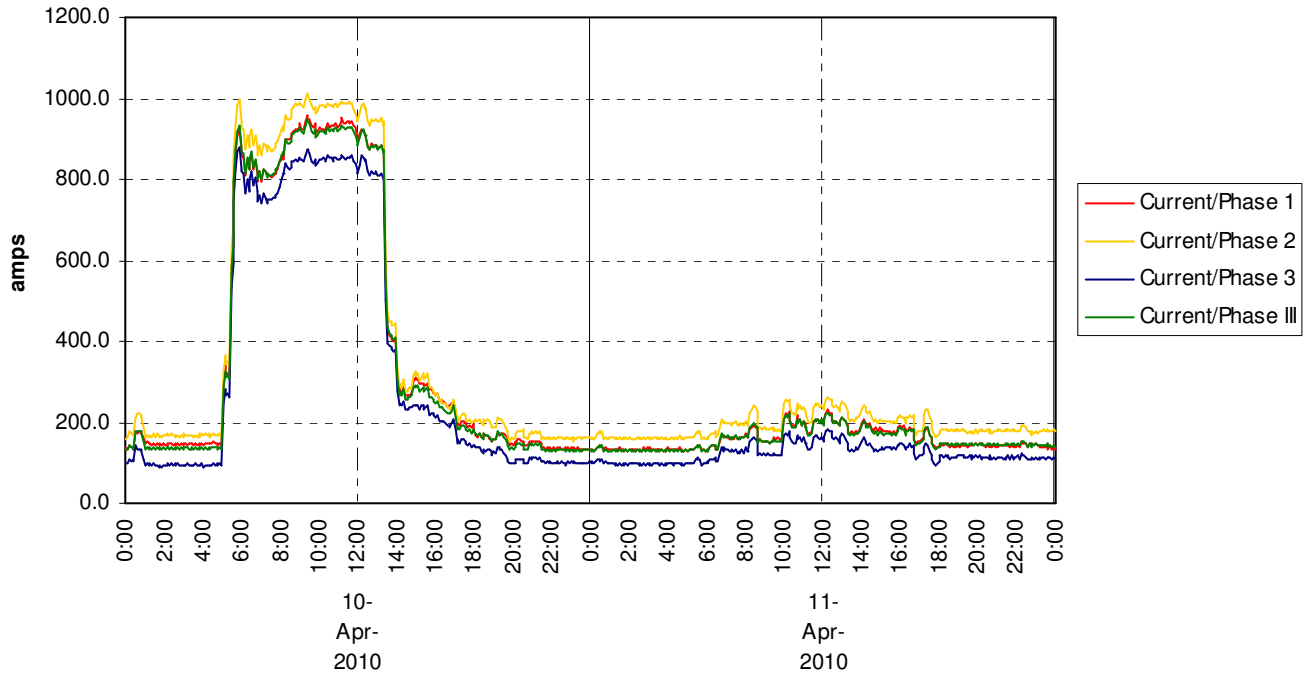
NB : The Two-Rate Tariff is obsolete and no longer available to new consumers.

INDUSTRIAL TOU (Minimum Notified Demand of 100 kVA)

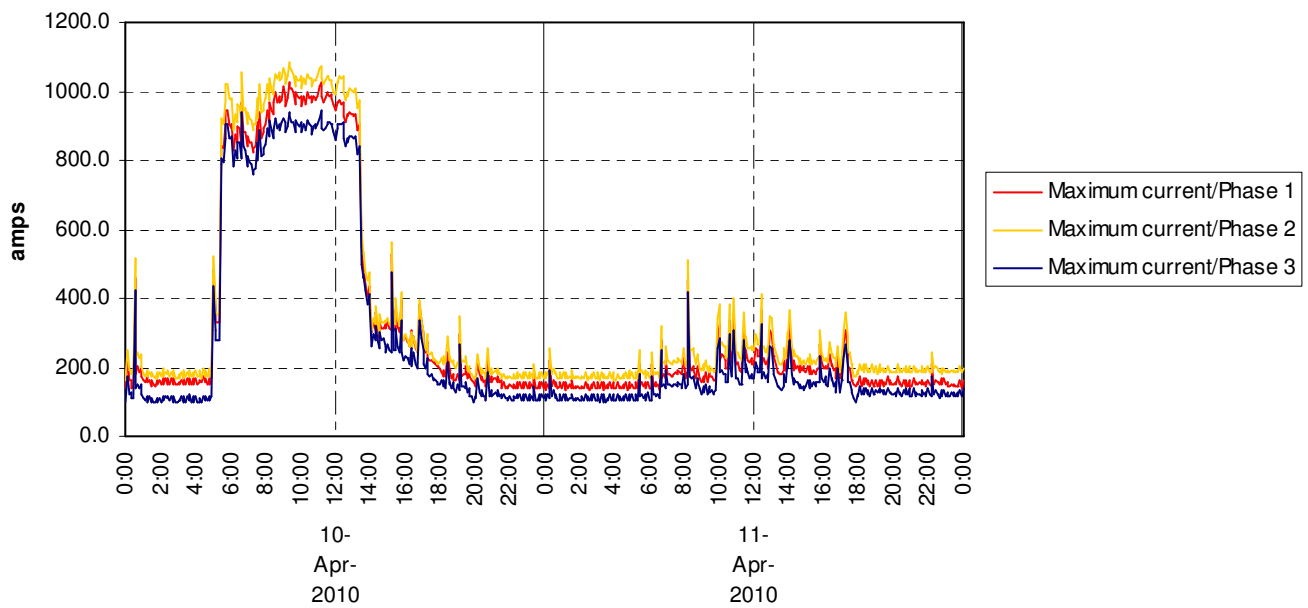
Time-of-Use (High Demand)	R 226,208.06	R 221,925.46
Time-of-Use (Low Demand)	R 155,072.58	R 150,789.98
Time-of-Use (Year Average)	<u>R 172,856.45</u>	<u>R 168,573.85</u>

5-Minute average voltage and current graphs are available as well as the 1-second maximum and minimum as shown below:

XXXXXXXX - LV Main Incomer



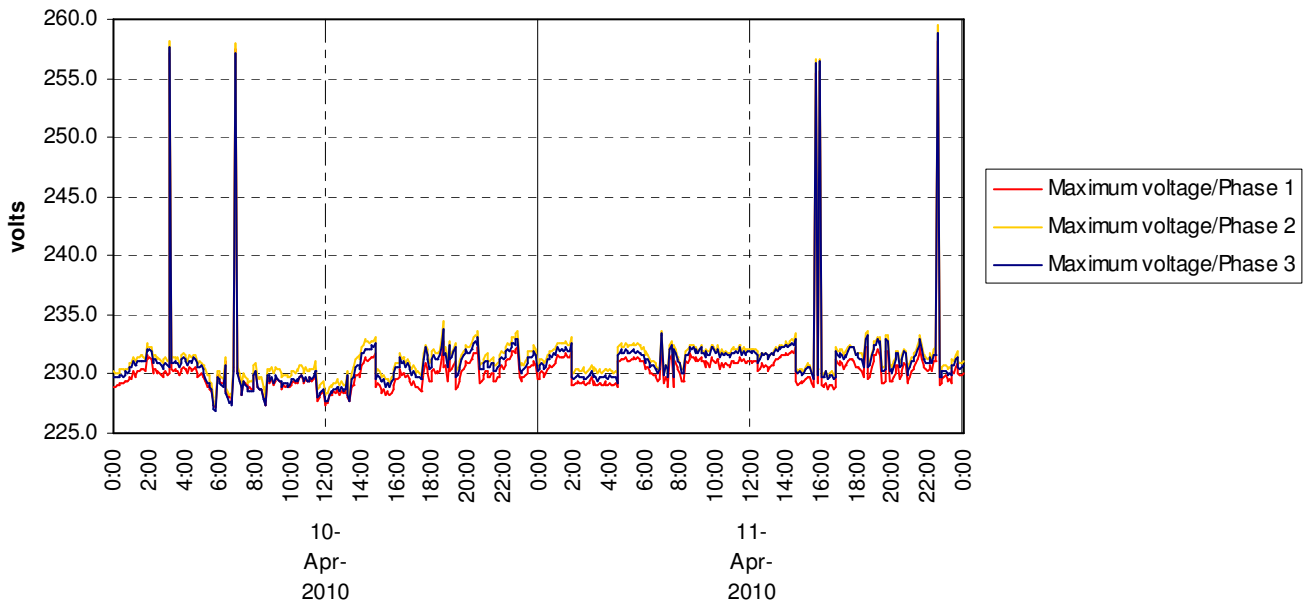
XXXXXXXX - LV Main Incomer



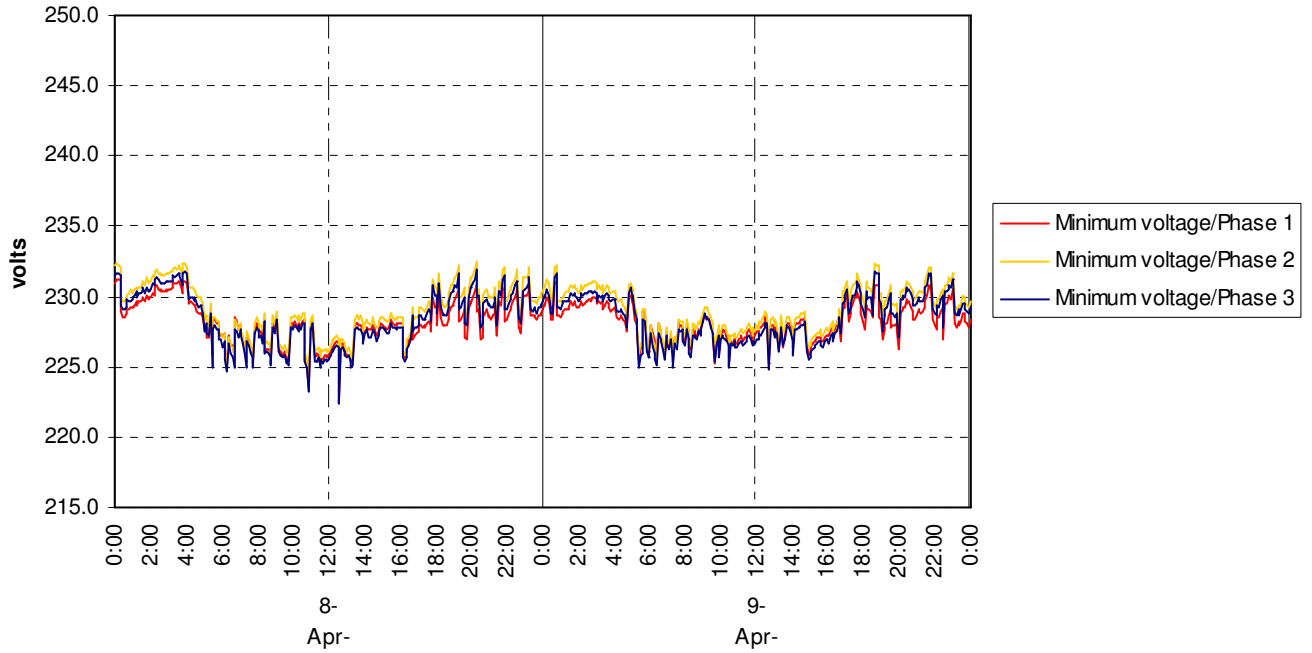
XXXXXXXX - LV Main Incomer



XXXXXXXX - LV Main Incomer



XXXXXXXX - LV Main Incomer



XXXXXXXX - LV Main Incomer

