2nd MONITORING REPORT

CERRADINHO BAGASSE COGENERATION PROJECT (CBCP)

(CDM Registration Reference Number 0203)

Monitoring Period:

1 January, 2006 to 31 December, 2006

Prepared by:

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1. Introduction

This document reports the Emission Reductions (ERs) generated by the Cerradinho Bagasse Cogeneration Project (hereinafter CBCP), CDM Registration Reference Number 0203, from 01/01/2006 to 31/12/2006.

This project activity consists of increasing efficiency in the bagasse (a renewable fuel source, residue from sugarcane processing) cogeneration facility of **Usina Cerradinho Açúcar e Álcool S/A** (Cerradinho), a Brazilian sugar mill. With the implementation of this project, the mill has been able to sell electricity to the national grid, avoiding that fossil-fuelled thermal plants dispatch the same amount of energy to that grid. By that, the initiative avoids CO_2 emissions, also contributing to the regional and national sustainable development.

By investing to increase steam efficiency in the sugar and alcohol production and increase the efficiency at burning the bagasse (more efficient boilers), Cerradinho generates surplus steam and use it exclusively for electricity production (through turbo-generators).

Bagasse cogeneration is important for the energy strategy of the country. Cogeneration is an alternative to postpone the installation and/or dispatch of electricity produced by fossil-fuelled generation utilities. The sale of the CER generated by the project will boost the attractiveness of bagasse cogeneration projects, helping to increase the production of this energy and decrease dependency on fossil fuel.

By dispatching renewable electricity to the grid, electricity that would otherwise be produced using fossil fuel is displaced. This electricity displacement will occur at the system's margin, i.e. this CDM project will displace electricity that is produced by marginal sources (mainly fossil fueled thermal plants), which have higher electricity dispatching costs and are solicited only over the hours that baseload sources (low-cost or must-run sources) cannot supply the grid (due to higher marginal dispatching costs or fuel storage – in case of hydro sources – constraints).

Bagasse is a fibrous biomass by-product from sugarcane processing, which accounts for about 25 percent on weight of fresh cane and approximately one third of the cane's energy content. In a typical Brazilian sugarcane mill, burning bagasse for generation of process heat and power production is a practice already established. It is estimated that over 700 MW of bagasse-based power capacity is currently installed in the state of São Paulo only[1]. The energy produced from these facilities is almost all consumed for their on purposes. Because of constraints that limit the access of independent power producers to the electric utilities market, there is no incentive for sugarcane mills to operate in a more efficient way. Low-pressure boilers, very little concern with optimal use and control of steam, crushers mechanically activated by steam, energy intensive distillation methods, are a few examples of inefficient methods applied to the sugar industry as normal routine.[2]

Using steam-Rankine cycle as the basic technology of its cogeneration system, for achieving an increasing amount of surplus electricity to be generated, Cerradinho began its efforts in three phases, which are:

[1] São Paulo Secretary of Energy, 2001.
[2] Nastari, 2000.

Project Phases:

Phase 1 (2002): Installation of a high efficiency 62 kgf/cm² pressure boiler providing 150 ton of steam per hour at 450 ºC therefore consuming less bagasse per ton of steam generated. Installed also a new backpressure 25 MW turbo-generator; CBCP built up also a new powerhouse, a sub-station and a transmission line, increasing the efficiency to exploit biomass energy significantly. A 1.2 MW turbo-generator was deactivated when 2002's harvest season ends.

For this first phase there was an intention to annually supply the grid with renewable energy around the amount of 52,000 MWh during the harvest season of 2003/2004. For the local utility company it is an advantage to buy energy produced by a sugar mill, as the base load for the utilities in Brazil is supported mainly through hydro generation, and the sugarcane crop season is during the dry period. Eletropaulo is the utility that has signed a ten years contract with Cerradinho.

Phase 2 (2006): By the year 2006, the CBCP was considering to continue the investment from the year 2002, to reach a higher installed capacity and efficiency for exploiting biomass through the acquisition of an additional 30 MW condensing type, with steam extraction (21 kgf/cm^2), turbo-generator and another 62 kgf/cm² pressure boiler, operating at 480ºC producing 200 tons of steam per hour.

In addition, at the time of project's registration, the two 21 kgf/cm² pressure boilers should be deactivated and the 4 MW turbo-generator that was installed before Phase 1 should be put into standby position.

The table below was extracted from Section A.4.3. (page 8) of the registered version of the PDD – Project Design Document (Cerradinho Bagasse Cogeneration Project (CBCP) – Version 2 B of 21 December 2005)[3], registered on 03 March 2006, and it is demonstrated the configuration of the cogeneration system at the time of the project's registration.

	Active / Activating		Stand by / Deactivated	
Before Expansion Plan 2001	**One 1.2 MW backpressure turbo generator**	**One 4 MW backpressure turbo generator**		
	Two 21 kgf/cm² pressure boilers			
Phase 1 2002	**One 25 MW backpressure turbo generator**	**One 4 MW backpressure turbo generator**	**One 1.2 MW backpressure turbo generator**	
	One 62 kgf/cm² pressure boiler	**Two 21 kgf/cm² pressure boilers**		
Phase 2 2006	**One 30 MW condensing type turbo-generator**	**One 25 MW backpressure turbo generator**	**One 4 MW backpressure turbo generator**	**One 1.2 MW backpressure turbo generator**
	One 62 kgf/cm² pressure boiler	**One 62 kgf/cm² pressure boiler**	**Two 21 kgf/cm² pressure boilers**	

[3] Available at: http://cdm.unfccc.int/UserManagement/FileStorage/A3QNNO4KO4UM8MY4LXUTS4IIK5HADP

However, instead of installing one turbo-generator having 30 MW of capacity installed and one 62 kgf/cm² pressure boiler in "Phase 2 (2006)", Cerradinho decided to deactivate one 4 MW backpressure turbo generator, to install and operate a 25 MW backpressure turbo-generator and one 65 kgf/cm² pressure boiler by April 2006. These changes, considering the previous configuration regarding "Phase 2 (2006)", were made for market reasons. In addition, another 25 MW condensing turbo-generator was installed by June 2006. However, this last turbo-generator was not considered in the registered PDD. Therefore, no emission reductions will be claimed for the electricity produced by this last turbo-generator. The energy generated, by each of the two aforementioned 25 MW turbo-generators, is independently monitored using separately meters for internal control purpose.

The table below demonstrates the current configuration of the project's cogeneration system.

	Active / Activating		**Stand by / Deactivated**	
Before Expansion Plan 2001	**One 1.2 MW backpressure turbo generator (G1)**	**One 4 MW backpressure turbo generator (G2)**		
	Two 21 kgf/cm² pressure boilers			
Phase 1 2002	**One 25 MW backpressure turbo generator (G3)**	**One 4 MW backpressure turbo generator (G2)**	**One 1.2 MW backpressure turbo generator (G1)**	
	One 62 kgf/cm² pressure boiler	**Two 21 kgf/cm² pressure boilers**		
Phase 2 2006	**One 25 MW backpressure (G4) and one 25 MW condensing turbo-generator (G5)**	**One 25 MW backpressure turbo generator (G3)**	**One 4 MW backpressure turbo generator (G2)**	**One 1.2 MW backpressure turbo generator (G1)**
	One 65 kgf/cm² pressure boiler	**One 62 kgf/cm² pressure boiler**	**Two 21 kgf/cm² pressure boilers**	

In addition, it is important to highlight that the current configuration of the mill's power generation is defined as described below:

- The 25 MW backpressure turbo-generator from Phase 1 (2002), also know as Generator 3 or just "G3", provides 100% of its electricity produced directly to the grid;
- A 100% of the electricity produced by the 25 MW condensing turbo-generator from Phase 2 (2006), also know as Generator 5 or just "G5", installed by June 2006, is directed to the internal consumption of the mill only;
- The 25 MW backpressure turbo-generator from Phase 2 (2006), also know as Generator 4 or just "G4", installed by April 2006, is responsible for providing the remaining energy demanded by the internal consumption of the mill (for sugar and alcohol production), in addition to the total electricity delivered by the 25 MW condensing turbo-generator (G5) from Phase 2 (2006), installed by June 2006. Therefore, all the surplus electricity

generated by the 25 MW backpressure turbo-generator (G4) from Phase 2 (2006), installed by April 2006, is directed to the grid.

Thus, as each of the two 25 MW turbo-generators (G4 and G5) installed in Phase 2 (2006) are independently monitored using individual meters, it is possible to confirm and demonstrate that no emission reductions could be claimed for the electricity produced by the 25 MW condensing turbo-generator (G5) from Phase 2 (2006), installed by June 2006.

Detailed information regarding the "Daily Power Measures (kWh)", a database for internal control of the mill only, containing on a daily basis (from March/2006 to December/2006) the amount of electricity generated by each turbo-generator (G3, G4 and G5), as well as the electricity dispatched to the grid, electricity bought from the grid, the electricity used for internal consumption of the mill and the difference between the total electricity produced by G5 and the electricity internally consumed by the sugar mill, is provided in the Annex 1 of this Monitoring Report.

The CBCP operation has been monitored in accordance with the requirements of the applicable Monitoring Methodology AM0015: "Bagasse-based cogeneration connected to an electricity grid" as described in its Project Design Document. Quality Assurance and Quality Control mechanisms stipulated in the Monitoring Methodology have been applied.

2. Emission Reductions Calculation Formula

ERs generated by the CBCP are calculated as follows:

Net generation from project during the monitoring period times baseline emission factor = (MWh) * (tCO_2e /MWh) = Net CO_2 emissions avoided at grid (tCO_2e)

Where the ex-ante baseline emission factor is 0.2677 tCO_2e/MWh.

The project activity follows the steps provided by the methodology taking into account the (b) Simple Adjusted OM calculation for the STEP 1, since the would be no available data for applying to the preferred option – *(c) Dispatch Data Analysis OM.* For STEP 2, the option 1 was chosen. The following table presents the key information and data used to determine the baseline scenario.

Variable	Data type	Value	Unit	Data Source
EG_y	Electricity supplied to the grid by the Project.	Obtained throughout project activity lifetime.	MWh	Cerradinho
EF_y	CO_2 emission factor of the Grid.	0.2677	tCO_2e/MWh	Calculated
$EF_{OM,y}$	CO_2 Operating Margin emission factor of the grid.	0.4310	tCO_2e/MWh	This value was calculated using data from ONS (National System Operator).

$EF_{BM,y}$	CO_2 Build Margin emission factor of the grid.	0.1045	tCO_2e/MWh	This value was calculated using data from ONS
λ_y	Fraction of time during which low-cost/ must-run sources are on the margin.	$\lambda_{2002} = 0.5053$ $\lambda_{2003} = 0.5312$ $\lambda_{2004} = 0.5041$	-	This value was calculated using data from ONS.

The combined margin emission coefficient for the South-Southeast-Midwest (S-SE-CO) grid was determined *ex-ante* in accordance with AM0015. At the time of the project's registration, the calculations were based on the available electricity generation data provided by the Brazilian Electricity Agency (ANEEL) and the National Electricity System Operator (ONS) for the electricity generated in the S-SE-CO grid in the years 2002-2004. For the determination of the operating margin (OM) emission coefficient average plant efficiencies for different power plant types established in the IEA study[4] on the Brazilian grid and IPCC carbon emission factors for specific fuels were applied to calculate plant specific emission coefficients. For the calculation of the build margin emission coefficient, the conservative plant efficiencies recommended by the CDM Executive Board at its 22nd meeting were applied. The resulting simple-adjusted OM emission coefficient was 0.4310 tCO_2e/MWh (applying an average λ of 0.5135) and the BM emission coefficient 0.1045 tCO_2e/MWh, resulting in a combined margin emission coefficient of 0.2677tCO_2e/MWh (weighted average of the build and operating margin).

The emission coefficient calculations were transparently presented in spreadsheets submitted to and verified by TÜV-SUD (TÜV Industrie Service GmbH TÜV SÜD Group), which was the DOE chosen for the validation process.

As Econergy Brasil, which is a project participant, was the entity responsible for determining the baseline, the emission factor of the grid applied for CBCP was calculated ex-ante and, therefore, the combined margin emission coefficient of 0.2677 tCO_2e/MWh (weighted average of the build and operating margin) was supposed to be applicable for the entire 7 years of the first crediting period.

However, Econergy Brasil, as a project developer, has been calculating the emission factor of the Brazilian grid systems along the lasts years. The last data available, based on electricity generation data provided by the Brazilian Electricity Agency (ANEEL) and the National Electricity System Operator (ONS), taken into account for calculating the *ex-ante* emission factor of the S-SE-CO Brazilian grid system, which is the grid connected to CBCP, considers the year of 2006. Then, a table with the summarized conclusions of the analysis, with the emission factor calculation is displayed below.

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[4] Bosi, M., A. Laurence, P. Maldonado, R. Schaeffer, A. F. Simoes, H. Winkler and J.- M. Lukamba: *Road testing baselines for greenhouse gas mitigation projects in the electric power sector*. OECD and IEA information paper, October 2002.

Prepared by AgCert, EcoAdvance, Ecoinvest, Econergy, Ecosecurities and MGM

Source: Operador Nacional do Sistema Elétrico, Centro Nacional de Operação do Sistema, Acompanhamento Diário da Operação do SIN (daily reports from Jan. 1, 2006 to Dec. 31, 2006)

Emission factors for the Brazilian South-Southeast-Midwest interconnected grid

Baseline (including imports)	$EF_{OM,2006}$ [tCO_2/MWh]	λ_{2006}	Default EF_y
2006	0.8071	0.4185	[tCO_2/MWh]
	$EF_{OM,simple\text{-}adjusted}$ [tCO_2/MWh]	$EF_{BM,2006}$	0.2798
	0.4693	0.0903	
	Alternative weights	Default weights	Alternative EF_y
	w_{OM} = 0.75	w_{OM} = 0.5	[tCO_2/MWh]
	w_{BM} = 0.25	w_{BM} = 0.5	0.375

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Source: Operador Na

Emission factors

Baseline	EF_O
2006	
2005	
2004	

EF_O

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The spreadsheet containing all the detailed data and information for the calculation of the emission factor of the grid presented in the table above is also available with DNV, which is the DOE selected for this current verification process.

Therefore, as required by the three members of the EB on theirs "Request for Review[5]" related to the "Request for Issuance" in connection to the 2nd verification process of CBCP, the value of the combined margin emission coefficient of 0.2798tCO_2e/MWh (weighted average of the build and operating margin), calculated ex-ante for 2006 only, shall be applicable for the current version of this Monitoring Report (version 3), which considers the period from January 1st, 2006 to December 31st, 2006.

[5] Available on September 21st, 2007, at UNFCCC website: http://cdm.unfccc.int/Projects/DB/TUEV-SUED1135260671.81/iProcess/DNV-CUK1175088720.03/view

USINA CERRADINHO
AÇÚCAR E ÁLCOOL S/A

3. Dispatched energy to the grid in the Monitoring Periods

Date (DD/MM/YY)		Amount of energy sold to the grid (MWh)	Invoice Number	Invoice date
From	To			
01/01/06	31/01/06	off-crop season	-	-
01/02/06	28/02/06	off-crop season	-	-
01/03/06	31/03/06	33.344	9,245	04/05/06
01/04/06	30/04/06	7,122.377	9,246	04/05/06
01/05/06	31/05/06	12,583.658	12,730	05/06/06
01/06/06	30/06/06	14,136.382	16,168	04/07/06
01/07/06	31/07/06	14,880.000	20,574	03/08/06
01/07/06	31/07/06	6,080.160	21,557	11/08/06
01/08/06	31/08/06	14,880.000	25,237	08/09/06
01/08/06	31/08/06	5,262.144	25,552	11/09/06
01/09/06	30/09/06	10,724.259	28,352	06/10/06
01/09/06	30/09/06	10,052.817	29,041	11/10/06
01/10/06	31/10/06	8,699.489	32,256	08/11/06
01/10/06	31/10/06	7,901.862	32,257	08/11/06
01/11/06	31/11/06	6,630.250	35,934	08/12/06
01/11/06	31/11/06	6,548.857	35,932	08/12/06
01/12/06	31/12/06	2,207.014	38,128	08/01/07
01/12/06	31/12/06	1,712.363	38,129	08/01/07
01/01/06	**31/12/06**	**129,454.976**		

Considering the additional information provided by the "Daily Power Measures (kWh)" (see Annex 1), it was possible to identify, in very few occasions, when the electricity produced by G5 was higher than the electricity used for internal consumption of the sugar mill, as described below.

DATE	DIFFERENCE (MWh) (Internal Consumption – G5)
11/July/2006	-127.743
24/September/2006	-59.725
30/October/2006	-8.742
11 – 15/December/2006	-246.945
TOTAL (MWh)	**-443.155**

For these events and in order to guarantee complete transparency, the additional amount of electricity generated by G5 was subtracted from the energy invoices of the respective month.

Invoices are available with the project participants and are also available with DNV, which was the DOE selected for this current verification process.

There are months where no sugar cane harvest is done. During these months, no energy is produced by the cogeneration system of the mill and, therefore, no electricity was sold to the grid. For these cases, the expression "off-crop season" was used in the table above.

It is important to clarify that, in some cases, more than one invoice could be issued considering the same period and/or month. The reason why this may happen is usually related to specific terms and reasons of the contract (PPA – Power Purchase Agreement), which establishes different monetary values per MWh for different amount of energy.

The Project Participants (PP) affirm that the appropriate documentation was provided to the DOE (DNV – Det Norske Veritas), during the verification site visit at the project location on 06/June/2007, confirming that the power meters have been properly calibrated.

In addition, PP would like to highlight, as it has already been clearly described in the PDD, that the bagasse is a fibrous biomass residue from sugarcane processing (alcohol and sugar production). All the bagasse utilized by Cerradinho is produced internally and used in its cogeneration facility (boilers and steam turbines) for steam and power generation. All the bagasse internally produced by Cerredinho is internally transported to its cogeneration facility through electrical and/or mechanical conveyor belts which operate using electricity and/or steam generated in the biomass residue cogeneration facility of the own mill.

Therefore, PP would like to confirm that there is neither fossil fuel consumption within the project boundary nor any other fossil fuel consumption attributable to the project activity. Consequently, there is no need to monitor fossil fuel consumption of the project activity.

The table below shows the consolidated data from the previous table.

Year	Monitoring Period Date (DD/MM/YY)		Amount of energy sold to the grid (MWh)
	From	To	
2006	01/01/06	31/12/06	129,454.976
Total electricity sold to the grid (MWh)			**129,454.976**

4. Additional information

The Project Participants (PP) affirm that all the bagasse utilized by Cerradinho is only produced internally and used in its cogeneration facility (boilers and steam turbines) for steam and power generation. Therefore, all the bagasse used as the feedstock for cogeneration is supplied from the same facility where the project is implemented.

The increase of the bagasse is strictly connected to the enlargement of the sugar cane crushed by Cerradinho mill, which has been occurring due to the expansion of the market demand in the sugar and alcohol industry. Any increases in the bagasse production could not be attributed to the implementation of the Cerradinho Bagasse Cogeneration Project. This project does not have an impact in processing capacity; Cerradinho will not increase their installed capacity because of this project, but due to the recent and remarkable expansion of the sugar, and mainly, of the ethanol market in Brazil. The offer of ethanol in the Brazilian market is not supplying the rapid increasing demand mainly caused by the use of flex-fuel cars, which can run using gasoline,

ethanol or any blend of the two. Therefore, the implementation of CBCP by itself did not increase the bagasse production in the facility.

The table below shows that the cane crushed by the mill for the production of sugar and alcohol has had an incrementing trend for years, even before the implementation of the project activity.

Data	Year	Sugar cane crushed (tonnes)
Historical Data	2000	1,336,471.44
	2001	1,620,417.71
	2002*	2,133,954.10
	2003	2,365,188.30
	2004	2,739,157.04
	2005	3,425,694.58
	2006	3,615,511.52
Projection	2007	3,741,654.76
	2008	3,979,779.92
	2009	3,951,106.55
	2010	3,945,597.64
	2011	3,948,502.17
	2012	3,989,064.12

(*) Starting year of the project activity.

The data presented in the table above demonstrates the incrementing trend of the cane crushed by the mill. This was only possible because Cerradinho has been implementing several small optimization actions in their process at the facilities of the mill, through the implementation of new and additional equipments and also by increasing the number of days per year of their crop season.

However, as already explained before, the progressive increase of the sugar cane crushing is due to market reasons and not for the development of the CBCP.

Therefore, the increase the cane crushed as well as the bagasse production in the facility can not be associated with the implementation of CBCP by itself.

5. ERs Generated in the Monitoring Periods

Calculation of ERs			
DESCRIPTION	**UNIT**	**2006** **From 01/01/2006 to 31/12/2006**	**TOTAL**
Metered Electricity Supply	**MWh**	129,454.976	129,454.976
Baseline Emission Factor	**tCO2e/MWh**	0.2798	0.2798
Emission Reductions (ERs)	**tCO2e**	36,221.502	**36,221.502**

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In accordance with the formula in section 2, the CBCP has in the monitoring periods generated:

ERs = 129,454.976 MWh * 0.2798 tCO_2e/MWh = **36,221 tCO_2e**

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ANNEX 1

“Daily Power Measures (kWh)”

DAILY POWER MEASURES (kWh)

Mar-06	Electricity Generated (kWh)			Total Electricity Supply (kWh)				Difference
Day	*G3 (kWh)*	*G4 (kWh)*	*G5 (kWh)*	*Generated*	*Sold*	*Bought*	*Consumption*	*(Cons - G5)*
1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
21	505653	0	0	505653	25620	1248660	1728693	1728693
22	129565	0	0	129565	5460	840	124945	124945
23	67111	0	0	67111	420	420	67111	67111
24	939	0	0	939	420	0	519	519
25	137599	0	0	137599	0	420	138019	138019
26	52239	0	0	52239	420	420	52239	52239
27	19910	0	0	19910	420	0	19490	19490
28	46977	0	0	46977	0	420	47397	47397
29	180274	0	0	180274	0	1260	181534	181534
30	199213	0	0	199213	0	1260	200473	200473
31	7894		0	7894	420	0	7474	7474
Total of the month - Mar/06 (kWh)				1,347,374	33,180	1,253,700	2,567,894	

DAILY POWER MEASURES (kWh)

Apr-06	Electricity Generated (kWh)			Total Electricity Supply (kWh)				Difference
Day	*G3 (kWh)*	*G4 (kWh)*	*G5 (kWh)*	*Generated*	*Sold*	*Bought*	*Consumption*	*(Cons - G5)*
1	5084	156375	0	161459	0	1680	163139	163139
2	48057	148498	0	196555	0	1680	198235	198235
3	35831	306977	0	342808	0	1680	344488	344488
4	64199	322585	0	386784	0	1680	388464	388464
5	49973	317572	0	367545	60480	420	307485	307485
6	168467	168730	0	337197	151620	840	186417	186417
7	154952	31968	0	186920	61740	16380	141560	141560
8	116081	0	0	116081	43260	21420	94241	94241
9	127327	0	0	127327	22680	13440	118087	118087
10	170613	107946	0	278559	71400	0	207159	207159
11	148769	111549	0	260318	129780	0	130538	130538
12	264900	342423	0	607323	240240	0	367083	367083
13	221116	259794	0	480910	231000	0	249910	249910
14	311959	190632	0	502591	272580	0	230011	230011
15	396218	92972	0	489190	240240	0	248950	248950
16	347769	215354	0	563123	304080	0	259043	259043
17	350041	230772	0	580813	312060	840	269593	269593
18	181613	212462	0	394075	145740	0	248335	248335
19	204341	266983	0	471324	212520	0	258804	258804
20	296693	271088	0	567781	297360	0	270421	270421
21	284293	323723	0	608016	336000	0	272016	272016
22	240013	403122	0	643135	369180	0	273955	273955
23	248928	421591	0	670519	387240	0	283279	283279
24	204623	433970	0	638593	359520	0	279073	279073
25	287405	400684	0	688089	409080	0	279009	279009
26	249819	437380	0	687199	403620	0	283579	283579
27	304705	427717	0	732422	442260	0	290162	290162
28	309591	421149	0	730740	435960	0	294780	294780
29	374408	352945	0	727353	427140	0	300213	300213
30	363386	344654	0	708040	410760	0	297280	297280
Total of the month - Apr/06 (kWh)				14,252,789	6,777,540	60,060	7,535,309	

DAILY POWER MEASURES (kWh)

May-06	Electricity Generated (kWh)			Total Electricity Supply (kWh)				Difference
Day	*G3 (kWh)*	*G4 (kWh)*	*G5 (kWh)*	*Generated*	*Sold*	*Bought*	*Consumption*	*(Cons - G5)*
1	341106	374210	0	715316	446040	0	269276	269276
2	358587	136162	0	494749	241500	0	253249	253249
3	452262	0	0	452262	214620	0	237642	237642
4	357327	332088	0	689415	394380	0	295035	295035
5	310814	454042	0	764856	460740	0	304116	304116
6	329349	432820	0	762169	455700	0	306469	306469
7	399395	368430	0	767825	453600	0	314225	314225
8	371266	392769	0	764035	452340	0	311695	311695
9	349433	403189	0	752622	442260	0	310362	310362
10	311113	407188	0	718301	412440	0	305861	305861
11	312488	423176	0	735664	436380	0	299284	299284
12	245674	251808	0	497482	279300	0	218182	218182
13	236037	238497	0	474534	217980	0	256554	256554
14	293994	342575	0	636569	353220	420	283769	283769
15	299959	443697	0	743656	429660	0	313996	313996
16	326919	426844	0	753763	433020	0	320743	320743
17	232024	314371	0	546395	435120	0	111275	111275
18	391338	506728	0	898066	391860	0	506206	506206
19	328770	371611	0	700381	386400	0	313981	313981
20	396115	400675	0	796790	479640	0	317150	317150
21	333567	416132	0	749699	444360	0	305339	305339
22	355062	434167	0	789229	472920	0	316309	316309
23	266277	276841	0	543118	298620	0	244498	244498
24	290067	325448	0	615515	332220	0	283295	283295
25	355629	406595	0	762224	448980	0	313244	313244
26	384136	390176	0	774312	456120	0	318192	318192
27	372404	436249	0	808653	476700	0	331953	331953
28	402246	410271	0	812517	484260	0	328257	328257
29	332973	456594	0	789567	467040	0	322527	322527
30	324770	478843	0	803613	478380	0	325233	325233
31	319435	448874	0	768309	440710	0	327599	327599
Total of the month - May/06 (kWh)				21,881,606	12,616,510	420	9,265,516	

DAILY POWER MEASURES (kWh)

Jun-06	Electricity Generated (kWh)			Total Electricity Supply (kWh)				Difference
Day	*G3 (kWh)*	*G4 (kWh)*	*G5 (kWh)*	*Generated*	*Sold*	*Bought*	*Consumption*	*(Cons - G5)*
1	328940	469758		798698	464100	0	334598	334598
2	326126	485214		811340	474180	0	337160	337160
3	332972	475844		808816	475860	0	332956	332956
4	341869	480809		822678	497700	0	324978	324978
5	355438	467146		822584	488880	0	333704	333704
6	323939	476434		800373	467040	0	333333	333333
7	330415	438288		768703	445200	0	323503	323503
8	331231	471049		802280	472920	0	329360	329360
9	262916	425652		688568	346020	0	342548	342548
10	298756	424561		723317	400000	0	323317	323317
11	306532	511006		817538	456000	0	361538	361538
12	310975	501219		812194	484000	0	328194	328194
13	269561	515942		785503	456000	0	329503	329503
14	272643	434945		707588	399000	0	308588	308588
15	324620	373374	2988	700982	484000	0	216982	213994
16	294377	620667	0	915044	466000	0	449044	449044
17	293494	528402	25347	847243	514000	0	333243	307896
18	326816	490463	119859	937138	596000	0	341138	221279
19	369668	273649	1372	644689	339000	0	305689	304317
20	513343	0	0	513343	270000	0	243343	243343
21	496226	55690	0	551916	289000	0	262916	262916
22	364134	499529	33895	897558	568000	0	329558	295663
23	324262	499491	76333	900086	586000	0	314086	237753
24	300772	544526	288244	1133542	772000	0	361542	73298
25	309419	543998	287133	1140550	804000	0	336550	49417
26	327134	543999	237266	1108399	758000	0	350399	113133
27	263404	487728	56848	807980	489000	0	318980	262132
28	312319	308098	63641	684058	575000	0	109058	45417
29	196071	516715	6055	718841	284000	0	434841	428786
30	139954	290240	0	430194	127000	29	303223	303223
Total of the month - Jun/06 (kWh)				23,901,743	14,247,900	29	9,653,872	

DAILY POWER MEASURES (kWh)

Jul-06	Electricity Generated (kWh)			Total Electricity Supply (kWh)				Difference
Day	G3 (kWh)	G4 (kWh)	G5 (kWh)	Generated	Sold	Bought	Consumption	(Cons - G5)
1	216913	334020	29167	580100	283000	0	297100	267933
2	211067	379017	16935	607019	307000	0	300019	283084
3	206948	382793	22080	611821	282000	0	329821	307741
4	337733	427687	131187	896607	567000	0	329607	198420
5	355794	527763	178175	1061732	722000	0	339732	161557
6	326634	550344	225890	1102868	760000	0	342868	116978
7	306414	527389	268623	1102426	768000	0	334426	65803
8	325615	544834	259157	1129606	765000	0	364606	105449
9	341020	535812	257015	1133847	787000	0	346847	89832
10	341602	537366	254635	1133603	773000	0	360603	105968
11	215972	333185	143904	693061	679000	2100	16161	-127743
12	283315	461899	164130	909344	568000	420	341764	177634
13	429269	686919	331432	1447620	801000	0	646620	315188
14	337147	474797	240394	1052338	694000	0	358338	117944
15	360077	540530	284726	1185333	819000	0	366333	81607
16	344494	534793	294081	1173368	813000	0	360368	66287
17	341811	562973	198222	1103006	747000	0	356006	157784
18	353202	535464	255792	1144458	780000	0	364458	108666
19	336003	544554	256824	1137381	779000	0	358381	101557
20	329618	570275	71793	971686	623000	0	348686	276893
21	335942	536221	180640	1052803	704000	0	348803	168163
22	332774	528924	271763	1133461	765000	0	368461	96698
23	350301	530411	204569	1085281	731000	0	354281	149712
24	345578	523973	250149	1119700	761000	0	358700	108551
25	318183	560865	224401	1103449	738000	0	365449	141048
26	337161	571131	222344	1130636	765000	0	365636	143292
27	335774	563932	253536	1153242	784000	0	369242	115706
28	330004	577949	144716	1052669	695000	0	357669	212953
29	355353	574366	276566	1206285	837000	0	369285	92719
30	371308	413252	198057	982617	776000	0	206617	8560
31	208771	389823	22252	620846	222000	0	398846	376594
Total of the month - Jul/06 (kWh)				31,818,213	21,095,000	2,520	10,725,733	

DAILY POWER MEASURES (kWh)

Aug-06	Electricity Generated (kWh)			Total Electricity Supply (kWh)				Difference
Day	G3 (kWh)	G4 (kWh)	G5 (kWh)	Generated	Sold	Bought	Consumption	(Cons - G5)
1	235702	324038	11996	571736	262000	0	309736	297740
2	315038	548363	194868	1058269	702000	0	356269	161401
3	302742	547659	246099	1096500	741000	0	355500	109401
4	296702	539073	282489	1118264	764000	0	354264	71775
5	307639	572911	211205	1091755	732000	0	359755	148550
6	320183	561206	250889	1132278	768000	0	364278	113389
7	306289	585553	113548	1005390	653000	0	352390	238842
8	320981	584406	45483	950870	603000	0	347870	302387
9	335391	583646	45284	964321	619000	0	345321	300037
10	311870	578508	45552	935930	584000	0	351930	306378
11	283876	566758	8538	859172	521000	0	338172	329634
12	301904	567678	125139	994721	649000	0	345721	220582
13	309302	573417	173189	1055908	712000	0	343908	170719
14	308751	546537	204692	1059980	704000	0	355980	151288
15	305022	518080	176947	1000049	662000	0	338049	161102
16	284641	529506	160973	975120	650000	0	325120	164147
17	275131	527719	241512	1044362	695000	0	349362	107850
18	290058	525274	255869	1071201	716000	0	355201	99332
19	297427	535061	294914	1127402	771000	0	356402	61488
20	278058	526734	291593	1096385	737000	0	359385	67792
21	299559	551309	262584	1113452	747000	0	366452	103868
22	288754	549419	267144	1105317	742000	0	363317	96173
23	248463	452912	82735	784110	450000	0	334110	251375
24	257058	324917	9323	591298	280000	0	311298	301975
25	312034	460503	188567	961104	633000	0	328104	139537
26	314901	478564	263872	1057337	714000	0	343337	79465
27	292038	501300	217357	1010695	667000	0	343695	126338
28	275622	513343	271512	1060477	714000	0	346477	74965
29	215526	264585	40316	520427	245000	0	275427	235111
30	273987	498187	260696	1032870	689000	0	343870	83174
31	304005	546736	213186	1063927	701000	0	362927	149741
Total of the month - Aug/06 (kWh)				30,510,627	19,827,000	0	10,683,627	

DAILY POWER MEASURES (kWh)

Sep-06	Electricity Generated (kWh)			Total Electricity Supply (kWh)				Difference
Day	G3 (kWh)	G4 (kWh)	G5 (kWh)	Generated	Sold	Bought	Consumption	(Cons - G5)
1	306898	524748	251950	1083596	738000	0	345596	93646
2	321227	506405	297923	1125555	786000	0	339555	41632
3	194744	178190	11481	384415	130000	0	254415	242934
4	279828	450983	243005	973816	647000	0	326816	83811
5	299561	531509	286438	1117508	789000	0	328508	42070
6	291925	476036	107002	874963	573000	420	302383	195381
7	272307	427066	139689	839062	557000	2100	284162	144473
8	311713	564483	231095	1107291	753000	0	354291	123196
9	257530	568016	230826	1056372	723000	0	333372	102546
10	305727	552276	196581	1054584	724000	0	330584	134003
11	302887	537649	239662	1080198	756000	0	324198	84536
12	309941	495541	287273	1092755	757000	0	335755	48482
13	307544	504247	310616	1122407	786000	0	336407	25791
14	304255	497179	300943	1102377	787000	0	315377	14434
15	303399	491088	302614	1097101	764000	0	333101	30487
16	322474	529755	290057	1142286	812000	0	330286	40229
17	317001	544795	219212	1081008	751000	0	330008	110796
18	311894	493465	258405	1063764	729000	0	334764	76359
19	304975	480523	276748	1062246	730000	0	332246	55498
20	313901	477186	263128	1054215	719000	0	335215	72087
21	321971	542298	168055	1032324	719000	0	313324	145269
22	215559	259270	4876	479705	224000	0	255705	250829
23	275297	334909	36553	646759	514000	0	132759	96206
24	328946	234329	103309	666584	623000	0	43584	-59725
25	327678	1036212	228468	1592358	733000	0	859358	630890
26	313961	544620	272932	1131513	786000	0	345513	72581
27	332199	566823	224738	1123760	785000	0	338760	114022
28	333851	553180	257909	1144940	802000	0	342940	85031
29	334375	541934	285963	1162272	813000	0	349272	63309
30	340947	540531	252629	1134107	771000	0	363107	110478
Total of the month - Sep/06 (kWh)				30,629,841	20,781,000	2,520	9,851,361	

DAILY POWER MEASURES (kWh)

Oct-06	Electricity Generated (kWh)			Total Electricity Supply (kWh)				Difference
Day	G3 (kWh)	G4 (kWh)	G5 (kWh)	Generated	Sold	Bought	Consumption	(Cons - G5)
1	343274	534353	257451	1135078	789000	42	346120	88669
2	272577	436479	76217	785273	555000	18	230291	154074
3	51796	7289	0	59085	30000	33	29118	29118
4	300527	413195	162489	876211	563000	0	313211	150722
5	299067	511265	236973	1047305	720000	0	327305	90332
6	299867	567852	94320	962039	624000	0	338039	243719
7	277584	548489	153127	979200	652000	0	327200	174073
8	324410	517779	189423	1031612	686000	0	345612	156189
9	281743	494522	234257	1010522	682000	0	328522	94265
10	229293	521281	96062	846636	524000	0	322636	226574
11	249034	529559	66552	845145	510000	0	335145	268593
12	295600	430813	100697	827110	498000	0	329110	228413
13	322397	314696	0	637093	327000	0	310093	310093
14	454402	1495	0	455897	319000	0	136897	136897
15	173748	563044	0	736792	292000	0	444792	444792
16	348759	168515	0	517274	193000	0	324274	324274
17	205756	345544	0	551300	250000	0	301300	301300
18	379203	226061	84383	689647	382000	0	307647	223264
19	588444	0	263892	852336	539000	0	313336	49444
20	440509	281390	275026	996925	677000	0	319925	44899
21	295650	432640	272524	1000814	676000	0	324814	52290
22	235744	497785	248302	981831	655000	0	326831	78529
23	218317	439985	108539	766841	487000	10	279851	171312
24	298348	478079	0	776427	476000	0	300427	300427
25	273916	546840	127060	947816	631000	0	316816	189756
26	271217	523221	133725	928163	653000	0	275163	141438
27	243543	489399	288762	1021704	697000	0	324704	35942
28	259666	500291	225249	985206	657000	0	328206	102957
29	252250	498713	218121	969084	656000	0	313084	94963
30	273699	492559	249610	1015868	775000	0	240868	-8742
31	254958	439808	262417	957183	553000	0	404183	141766
Total of the month - Oct/06 (kWh)				26,193,417	16,728,000	103	9,465,520	

DAILY POWER MEASURES (kWh)

Nov-06	Electricity Generated (kWh)			Total Electricity Supply (kWh)				Difference
Day	G3 (kWh)	G4 (kWh)	G5 (kWh)	Generated	Sold	Bought	Consumption	(Cons - G5)
1	277939	455886	228078	961903	656000	0	305903	77825
2	259612	497995	152050	909657	586000	0	323657	171607
3	273303	458973	123795	856071	550000	2000	308071	184276
4	222012	413468	255745	891225	578000	0	313225	57480
5	221935	391084	232276	845295	536000	0	309295	77019
6	207069	490030	160934	858033	530000	0	328033	167099
7	121619	263407	132732	517758	299000	26000	244758	112026
8	150358	332195	30210	512763	257000	11000	266763	236553
9	208169	304825	90382	603376	314000	3000	292376	201994
10	267228	405817	39700	712745	401000	0	311745	272045
11	184856	538324	74830	798010	472000	0	326010	251180
12	208363	497609	98377	804349	482000	0	322349	223972
13	226463	519316	182482	928261	604000	0	324261	141779
14	223082	520760	164779	908621	575000	0	333621	168842
15	204385	525693	136552	866630	534000	0	332630	196078
16	194353	537721	134169	866243	531000	0	335243	201074
17	206954	509417	129688	846059	517000	0	329059	199371
18	213229	486053	157912	857194	545000	0	312194	154282
19	219727	506661	127306	853694	527000	0	326694	199388
20	216914	484841	143551	845306	523000	0	322306	178755
21	108771	242389	85221	436381	266000	35000	205381	120160
22	127022	260247	60447	447716	253000	25000	219716	159269
23	234119	563143	66310	863572	521000	0	342572	276262
24	248544	541849	132685	923078	576000	0	347078	214393
25	204542	421878	57470	683890	414000	18000	287890	230420
26	180903	239812	21049	441764	181000	12000	272764	251715
27	139360	395535	11644	546539	279000	10000	277539	265895
28	124769	338874	73516	537159	297000	13000	253159	179643
29	186552	411252	31552	629356	304000	0	325356	293804
30	173105	322879	28691	524675	240000	0	284675	255984
Total of the month - Nov/06 (kWh)				22,277,323	13,348,000	155,000	9,084,323	

DAILY POWER MEASURES (kWh)

Dec-06	Electricity Generated (kWh)			Total Electricity Supply (kWh)				Difference
Day	G3 (kWh)	G4 (kWh)	G5 (kWh)	Generated	Sold	Bought	Consumption	(Cons - G5)
1	162296	350932	199293	712521	427000	0	285521	86228
2	183572	404115	143641	731328	421000	0	310328	166687
3	198153	494244	66593	758990	444000	0	314990	248397
4	221986	493279	36794	752059	441000	0	311059	274265
5	178748	435770	22172	636690	372000	1000	265690	243518
6	138441	181676	83364	403481	230000	10000	183481	100117
7	85844	189103	66796	341743	192000	14000	163743	96947
8	226703	125485	175401	527589	332000	0	195589	20188
9	186471	167511	88286	442268	190000	0	252268	163982
10	243381	24774	80526	348681	192000	0	156681	76155
11	135849	0	196840	332689	194000	0	138689	-58151
12	203485	0	214929	418414	265000	0	153414	-61515
13	241124	0	206430	447554	290000	0	157554	-48876
14	185618	0	222369	407987	263000	0	144987	-77382
15	168979	0	105403	274382	191000	21000	104382	-1021
16				0	0	0	0	0
17				0	0	0	0	0
18				0	0	0	0	0
19				0	0	0	0	0
20				0	0	0	0	0
21				0	0	0	0	0
22				0	0	0	0	0
23				0	0	0	0	0
24				0	0	0	0	0
25				0	0	0	0	0
26				0	0	0	0	0
27				0	0	0	0	0
28				0	0	0	0	0
29				0	0	0	0	0
30				0	0	0	0	0
31				0	0	0	0	0
Total of the month - Dec/06 (kWh)				7,536,376	4,444,000	46,000	3,138,376	