

El Canadá Hydroelectric Project



**Monitoring Report
01-Jul-07 to 31-Dec-08
Reference No. UNFCCC 0606
Version No. 01
Date: February 17th, 2009**

I n d e x

1. Objective
2. Project Description
3. Technology employed by the project
4. Physical Location
5. Category of the project activity
6. Choice of the crediting period
7. Length of the first crediting period
8. Baseline Emission Rate
9. Personnel responsible
10. Operational and Management Structure
11. Measuring and calculation procedure
 - a. Measuring
 - b. Calculation energy produced and verification
 - c. Calculation of emissions reductions
12. Calibration of the meters of energy
13. Meter of support
14. Training of the Personnel
15. Certification of Records of Measurement
16. Annex
 - a. Contribution to the Sustainable Development

**El Canadá Hydroelectric Project
Monitoring Report of the Emissions Reductions
From July 1st, 2007 to December 31st, 2008
Reference No. UNFCCC 0606**

1. Objective

The objective of the present inform is to assure the complete, consistent, clear, and accurate monitoring and calculation of the emissions reductions, within the El Canadá Hydroelectric boundaries, during the verification period from July 1st, 2007 to December 31st, 2008.

2. Project Description

El Canadá Hydroelectric Project consists of a 43 MW peaking run-of-river hydroelectric plant located on the Samalá River on the west coast of Guatemala, near the town of Santa María de Jesus. The western Guatemala region has 350 MW of demand and 31 MW of installed capacity. Construction began in February 2002 and was completed in December 2003. The Project started commercial operation per the Wholesale Market Norms on November 23rd, 2003. Since its commissioning, it has been producing an average of 175 GWh/year of electricity, which is sold to Guatemala's largest commercial distributor, COMEGSA, under a 10-year Power Purchase Agreement (PPA).

The Project contributes to the sustainable development of Guatemala in various ways. First, it has increased the supply of power to the local grid, improving stability and helping reduce losses in the distribution system. Second, it is reducing greenhouse gas emissions as well as emissions of local pollutants from power generation by using a cleaner energy source than what typically would have been used in the country. Third, it is one of the first renewable energy projects to be developed after the approval of Guatemala's new General Electricity Law. Its development has provided important knowledge and experience for other project developers that are striving to participate in the competitive national and regional market. Fourth, through the agreements the Project Company has entered into with the neighbouring municipalities, the Project is conserving sub-surface water, it has re-forested parts of the land where it was constructed, and it is making annual payments to improve the conditions of the local communities. Finally, it has created 250 jobs, injecting at least US\$ 30 million into the Guatemalan economy over the course of the construction period.

3. Technology employed by the project

Main Project Characteristics

Installed Capacity: 43 MW
Generation: 175 GWh/year
Head: 365 m
Maximum Hydraulic Capacity: 13.4 m³/sec.
Number of Units: 2 x 21.5 MW
Powerline: 69 kV

The Project collects power flows from the tailrace of the existing Santa María power plant that is owned by INDE and also collects spillages from the Santa María dam and local inflow from the area between the Santa María dam and the Project diversion dam. All power flows flow through a desander, located immediately downstream of the diversion dam, and are subsequently diverted through a tunnel, three meters in diameter and approximately 1200 m long, to a regulating pond. The regulating pond is designed to collect water inflows for daily peaking operation, totalling 5 hours. The live storage volume is 184,000 m³, using an 8-meter pond fluctuation. The normal operating level of the reservoir is 1416.90 meters above sea level (masl) and the minimum operating level is 1409 masl. An intake structure on the regulating reservoir is equipped with trash racks and a hydraulically operated gate. The gate is equipped to close during emergency conditions in the event of penstock rupture. The penstock is approximately 2400 m long and conveys the power flows from the regulating reservoir to the powerhouse. The penstock is comprised of a low- and a high-pressure section 1590 and 800 m long, respectively. The penstock is bifurcated into two 1.45-m diameter penstock pipes, approximately 46 m from the powerhouse.

The penstock pipe is buried over its total length. The low-pressure penstock diameter is 2.10 m, and the high-pressure section diameter 1.85 m. El Canadá powerhouse contains two 21.5-MW units. Each generating unit has a Pelton turbine and synchronous generator. The powerhouse crane has a capacity at least equal to the heaviest lift during equipment installation of 65 tons. The control room is be air conditioned and separate from the equipment area of the powerhouse. The output from the El Canadá facility is stepped up from 13.8 kV to 69 kV, before it is transmitted to Santa María substation about 3.6 km away for delivery to the INDE utility grid. The transmission line poles are steel and the guard and the power cables are 636 MCM ACSR. Each pole of the transmission line is grounded to provide a resistance of not more than 10 ohms.

All equipment utilized in the El Canadá Project is proven technology that has been successfully applied worldwide. Each of the two 21.5-MW generating units has a Pelton turbine and a synchronous generator. The rubber dam used in the diversion dam is a new technology introduced to Guatemala. Rubber dam technology was chosen in order to properly regulate the level at the diversion dam considering the operational restrictions due to being down stream from the Santa María powerhouse. This technology also has an added advantage during high volume situations during the wet season, the rubber dam can be deflated in order to avoid diverting mud, rocks, tree trunks, and other garbage into the desander.

4. Physical Location

The Project is located on the Samalá River, 12 kilometers south of the Quetzaltenango Municipality and 198 kilometers due west from Guatemala City. Quetzaltenango is Guatemala's second largest city and is responsible for a large portion of the 350 MW maximum demand of the western region. The Samalá River is nearly 130 kilometers in length, and has relatively high flows, due to intense rainstorms over the western slopes of the volcanic mountain ranges that act as the river's basin. The slopes around the Project are very steep, with small plateaus. The Project is located immediately downstream from the existing Santa María hydro powerhouse owned by the national utility, Instituto Nacional de Electrificación (INDE), and utilizes some of the existing infrastructure.

**El Canadá
Hydroelectric
Project**



5. Category of the project activity

Grid-connected electricity generation from renewable energy sources.

6. Choice of the crediting period

Renewable crediting period.

7. Length of the first crediting period

7 years.

8. Baseline Emission Rate

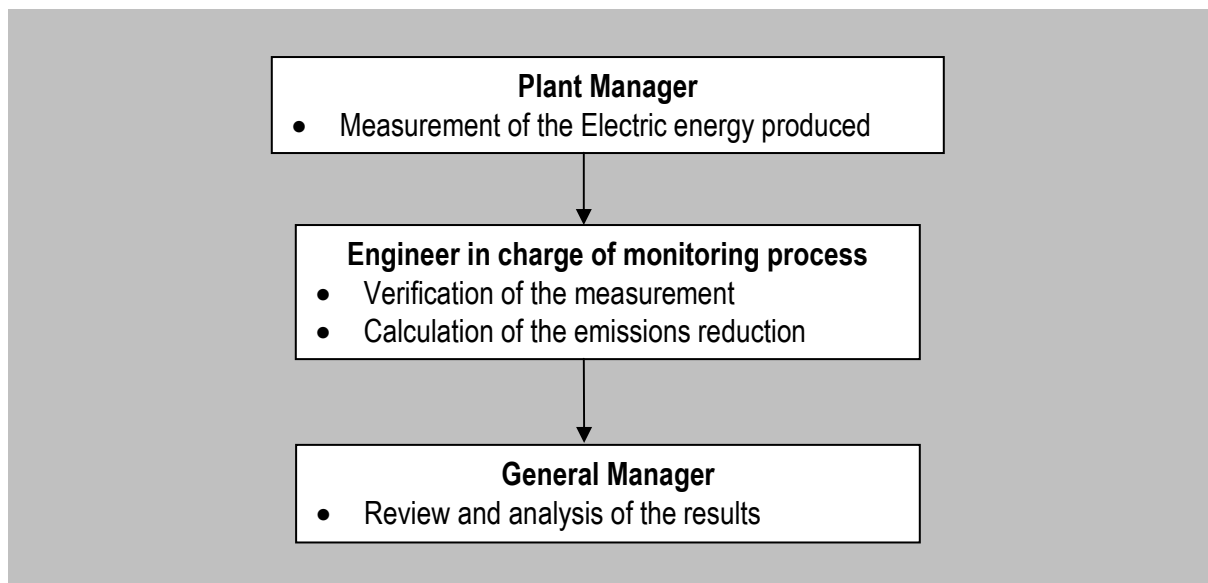
0.71 tCO₂/MWh. The baseline emission rate is calculated *ex-ante*.

9. Personnel responsible

- The Plant Manager of El Canadá Hydroelectric Project is responsible of the electric energy measurement.
- The Marketing Analyst engineer of Generadora de Occidente, Ltda. is in charge of the monitoring process.
- The General Manager is responsible of the Monitoring Plan.

10. Operational and Management Structure

The monitoring of the emissions reductions was done according to the operational structure shown in the below chart. The first step is measuring process, followed by verification of the measurement, calculation of the emissions reductions, and finally, review and analysis of results. Generadora de Occidente, Ltda. General Manager will be the responsible for the monitoring process.



11. Measuring and calculation procedure

a. Measuring

The Plant Manager collects electronically and monthly the generation data from the commercial energy meter installed in the El Canadá Substation, which measures the energy produced by El Canadá Hydroelectric Project. The generation data is reported in a spreadsheet for measuring control and register. The commercial meter data collection of the monitored month takes place during the first week of the following month. From the period July 1st, 2007 to December 31st, 2008, the energy produced by El Canadá Hydroelectric Project registered the following information:

EI Canadá Hydroelectric Project	
Year: 2007	
Month	Generation (MWh)
January	-
February	-
March	-
April	-
May	-
June	-
July	14,601
August	14,968
September	24,210
October	26,698
November	15,715
December	11,760
Total	107,951

EI Canadá Hydroelectric Project	
Year: 2008	
Month	Generation (MWh)
January	11,364
February	10,333
March	8,944
April	9,935
May	10,846
June	21,586
July	24,554
August	26,782
September	29,939
October	29,373
November	16,915
December	14,105
Total	214,677

b. Calculation energy produced and verification

The person in charge of the monitoring process verifies the accuracy of the recorded energy data. For this purpose, is necessary to compare the data recorded against the information of the commercial measurement published by the *Administrador del Mercado Mayorista* (AMM) in Certificates emitted by them.

The measuring verification is carried out as below shown:

EI Canadá Hydroelectric Project Measurement Control			
Year: 2007			
Month	EI Canada Generation (MWh)	AMM Comercial Measurement (MWh)	EI Canada validated generation
January	-	-	Validated
February	-	-	Validated
March	-	-	Validated
April	-	-	Validated
May	-	-	Validated
June	-	-	Validated
July	14,601	14,601	Validated
August	14,968	14,968	Validated
September	24,210	24,210	Validated
October	26,698	26,698	Validated
November	15,715	15,715	Validated
December	11,760	11,760	Validated
Annual Total	107,951	107,951	

EI Canadá Hydroelectric Project Measurement Control			
Year: 2008			
Month	EI Canada Generation (MWh)	AMM Comercial Measurement (MWh)	EI Canada validated generation
January	11,364	11,364	Validated
February	10,333	10,333	Validated
March	8,944	8,944	Validated
April	9,935	9,935	Validated
May	10,846	10,846	Validated
June	21,586	21,586	Validated
July	24,554	24,554	Validated
August	26,782	26,782	Validated
September	29,939	29,939	Validated
October	29,373	29,373	Validated
November	16,915	16,915	Validated
December	14,105	14,105	Validated
Annual Total	214,677	214,677	

c. Calculation of emissions reductions

The person responsible of perform the Monitoring Process calculated the emissions reductions from July 1st, 2007 to December 31st, 2008 using the *ex ante* emission factor according to the Table A.3.5 on the PDD.

The chart prepared for the calculation is:

EI Canadá Hydroelectric Project. First Crediting Period.			
Year	Annual validated generation (MWh)	Emission factor (ton CO2/MWh)	Emissions reductions (ton CO2)
2003	12,663	0.71	8,991
2004	142,918	0.71	101,472
2005	174,432	0.71	123,847
2006	162,889	0.71	115,651
2007 - a	66,786	0.71	47,418
2007 - b	107,951	0.71	76,645
2008	214,677	0.71	152,420
2009	-	0.71	-
2010	-	0.71	-
Total	882,315		626,444

From July 1st, 2007 to December 31st, 2008 the El Canadá Hydroelectric Project has reduced 229,065 tones of CO₂ by using renewable resources for the generation of electrical energy.

12. Calibration of the meters of energy

According to the NCC-14 clause 14.12 "Periodic Verifications" the participant will verify his meters to fulfill the requirement of the Administrador del Mercado Mayorista, AMM (Wholesale Market Administrator) or of the manufacturer. Because of this, Generadora de Occidente, Ltda. last July 30th, 2008, proceeded to the calibration of his meters of energy, the principal meter and the support meter; giving as result that both meters fulfill with the requirements of the norm ANSI C12.20 and they were certified by the company AMELEC.

The certificates delivered by the calibration of both meters of energy of Generadora de Occidente, Ltda. of the company AMELEC are the following ones:

	AMELEC ASESORIA Y MEDICION ELECTRICA	21 Calle 12-57 zona 1, Apt. A Teléfax: (502) 2251 2670 Tel: (502) 5308 5740 E-mail: amelecqt@gmail.com Guatemala, Centro América
---	--	--

CERTIFICACION DE CALIBRACION

TIPO DE MEDIDOR: ION 8600 – Marca Power Measurement

No. SERIE MEDIDOR: PT-0511A048-00

Descripción: Medidor Principal

Ubicación del Medidor: Planta Hidroeléctrica El Canadá

COMPAÑIA: Generadora de Occidente, Limitada

FECHA DE CALIBRACIÓN: 30 de Julio de 2,008

Certificamos que los resultados adjuntos obtenidos en las pruebas de exactitud realizadas al medidor arriba indicado muestran valores dentro de los límites requeridos por la norma ANSI C12.20 en la tabla No.4 y 7, por lo tanto éste medidor CUMPLE con los requisitos de exactitud de dicha norma.

Los datos fueron obtenidos utilizando un Sistema de Calibración Computarizado modelo 441 marca UTEC. El Modelo 441 incorpora un patrón de referencia modelo RM-10-06 calibrado el 25 de Septiembre de 2,007 por Radian Research contra un patrón primario RD-20-432 certificado por Radian Research y trazable al Instituto Nacional de Patrones y Tecnología (N.I.S.T.) de los Estados Unidos de América. La calibración de Radian Research tiene una incertidumbre de 0.005% para todos los rangos. Para obtener el factor de potencia atrasado, la corriente se retrasó del voltaje.

La clase de exactitud global del Sistema de Calibración Computarizado modelo 441 marca UTEC es $\pm 0.01\%$ con factor de potencia igual a la unidad y $\pm 0.05\%$ con factor de potencia igual a 0.5.

El Sistema de Calibración Computarizado modelo 441 marca UTEC utilizado tiene el número de serie B0201. El mismo tiene el patrón de referencia interno modelo RM-10-06 marca Radian Research con número de serie 508071.

Prueba realizada por: Mario Tóchez

Aprobado por:

Homero Arias
Gerente





ASESORIA Y MEDICION ELECTRICA
21 calle 12-57 Zona 1 Apt. A, Tel. 2251-2670
Guatemala, C.A.

Single Meter Record

8/5/2008 10:06:59 AM

Meter Owner: GENERADORA DE OCCIDENTE

S/N	PT-0511A048-00	Type	SolidState	TA	20.00
Alt		Form	9	Volts	120
Mfg	Power Measurement	Base	S	Kh	1.8
Model	ION 8800	Class	20	Reg.	
Service		Accuracy	+/- 0.20%	KWh Multiplier	0.00
Circuit				KW Multiplier	0.00
Desc	Medidor de Principal, Planta Hidroelectrica El Canada			Dial Type	
Lot		Assigned Test Set			
Status	InService	AMM120V 20A ANSI			
Retire		120V, 20A, 1.8Kh, Rr7, Base-S, Srx-4WW/y			
Create Date	2/21/2007	Edit Date	2/21/2007	Version Date	2/20/2008 8:22:46 AM

Test Results:

TestSet AMM120V 20A ANSI
 Descriptio 120V, 20A, 1.8Kh, Rr7, Base-S, Srx-4WW/y
 Version Date 2/20/2008 8:22:46 AM

Meter	Read In	Read Out
	AF Begin	AL End
	7/30/2008 12:18:19 PM	7/30/2008 12:52:18 PM

SubTest 1

Wh Del(Entregado)

AF

AL

Test

	AF	AL
FL20.0A, 120V, PF=1.0	99.95068	99.92727
PF-20.0A, 120V, PF=0.5	99.97315	100.0062
FL15.0A, 120V, PF=1.0	99.97037	99.96363
FL10.0A, 120V, PF=1.0	99.95243	99.94355
PF-10.0A, 120V, PF=0.5	99.94030	99.95072
FL5.0A, 120V, PF=1.0	99.97278	99.97334
PF-5.0A, 120V, PF=0.5	99.93892	99.94836
FL2.5A, 120V, PF=1.0	99.92172	99.92283
PF-2.5A, 120V, PF=0.5	99.90730	99.91308
FL1.5A, 120V, PF=1.0	99.93728	99.93948
PF-1.0A, 120V, PF=0.5	99.93589	99.92727
FL0.5A, 120V, PF=1.0	99.94281	99.94725
FL0.25A, 120V, PF=1.0	99.95057	99.95057
PF-0.25A, 120V, PF=0.5	99.92618	99.92081
FL0.15A, 120V, PF=1.0	99.95890	99.95890
FL2.5A, 108V, PF=1.0	99.92006	99.92949
FL2.5A, 132V, PF=1.0	99.93171	99.92561

Single Meter Record

8/5/2008 10:05:51 AM

Extra Data:

<u>Data Name</u>	<u>Data Value</u>
Standard ID:	RM-10-06
Standard:	Radian Research
Test realized by:	Raul Tuche
Calibrator ID:	UTEC 441
Standard S/N:	506071
Calibrator S/N:	B0201



ASOCIACIÓN Y MEDICIÓN ELÉCTRICA
21 calle 12-57 Zona 1 Aptto. A. Tel. 2291-3470
Guatemala, C.A.

CERTIFICACION DE CALIBRACION

TIPO DE MEDIDOR: **Maxsys 2510 – Marca Siemens**

No. SERIE MEDIDOR: **85 762 983**

Descripción: **Medidor de Respaldo**

Ubicación del Medidor: **Planta Hidroeléctrica El Canadá**

COMPANÍA: **Generadora de Occidente, Limitada**

FECHA DE CALIBRACIÓN: **30 de Julio de 2,008**

Certificamos que los resultados adjuntos obtenidos en las pruebas de exactitud realizadas al medidor arriba indicado muestran valores dentro de los límites requeridos por la norma ANSI C12.20 en la tabla No.4 y 7, por lo tanto este medidor CUMPLE con los requisitos de exactitud de dicha norma.

Los datos fueron obtenidos utilizando un Sistema de Calibración Computarizado modelo 441 marca UTEC. El Modelo 441 incorpora un patrón de referencia modelo RM-10-06 calibrado el **25 de Septiembre de 2,007** por Radian Research contra un patrón primario RD-20-432 certificado por Radian Research y trazable al Instituto Nacional de Patrones y Tecnología (N.I.S.T.) de los Estados Unidos de América. La calibración de Radian Research tiene una incertidumbre de 0.005% para todos los rangos. Para obtener el factor de potencia atrasado, la corriente se retrasó del voltaje.

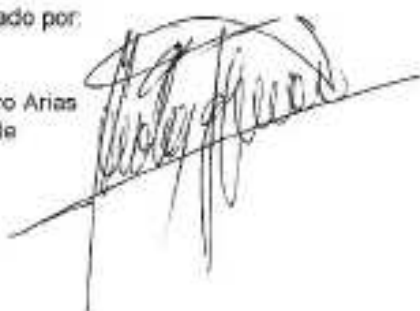
La clase de exactitud global del Sistema de Calibración Computarizado modelo 441 marca UTEC es $\pm 0.01\%$ con factor de potencia igual a la unidad y $\pm 0.05\%$ con factor de potencia igual a 0.5.

El Sistema de Calibración Computarizado modelo 441 marca UTEC utilizado tiene el número de serie **B0201**. El mismo tiene el patrón de referencia interno modelo RM-10-06 marca Radian Research con número de serie **508071**.

Prueba realizada por: **Mario Túchez**

Aprobado por:

Homero Arias
Gerente



Single Meter Record

8/5/2008

Meter Owner: GENERADORA DE OCCIDENTE

S/N 85 762 983	Type SolidState	TA 2.50
Alt	Form 9	Volts 120
Mfg SIEMENS	Base S	Kh 1.8
Model Maxsys2510	Class 20	Reg.
Service	Accuracy +/- 0.20%	\ KWh Multiplier 0.00
Circuit		KW Multiplier 0.00
Desc HIDRO EL CANADA, MEDIDOR RESPALDO		Dial Type
Lot	Assigned Test Set	
Status InService	AMM120V 20A ANSI	
Retire	120V, 20A, 1.8Kh, Rr?, Base-S, Srv-4WWys	
Create Date 1/26/2007	Edit Date 1/26/2007	Version Date 2/20/2008 8:22:46 AM

Test Results:

TestSet AMM120V 20A ANSI
 Descriptio 120V, 20A, 1.8Kh, Rr?, Base-S, Srv-4WWys
 Version Date 2/20/2008 8:22:46 AM

Meter	Read In	Read Out
	AF Begin	AL End
	7/30/2008 10:54:40 AM	7/30/2008 11:24:00 AM

SubTest 1

Wh Del(Entregado)

AF

AL

Test

	AF	AL
FL20.0A, 120V, PF=1.0	99.91119	99.93800
PF-20.0A, 120V, PF=0.5	99.95835	99.97926
FL15.0A, 120V, PF=1.0	100.0711	100.0907
FL10.0A, 120V, PF=1.0	99.98870	100.0109
PF-10.0A, 120V, PF=0.5	99.99092	99.95835
FL5.0A, 120V, PF=1.0	100.0856	99.94503
PF-5.0A, 120V, PF=0.5	100.0233	99.87111
FL2.5A, 120V, PF=1.0	100.0055	99.98722
PF-2.5A, 120V, PF=0.5	100.0389	100.0239
FL1.5A, 120V, PF=1.0	100.0489	100.0333
PF-1.5A, 120V, PF=0.5	100.0939	100.0945
FL0.5A, 120V, PF=1.0	100.0383	100.0216
FL0.25A, 120V, PF=1.0	100.0281	100.0244
PF-0.25A, 120V, PF=0.5	100.1201	100.1195
FL0.15A, 120V, PF=1.0	100.0144	100.0127
FL2.5A, 108V, PF=1.0	99.96055	100.0683
FL2.5A, 132V, PF=1.0	100.0418	100.0585



Single Meter Record

8/5/2008 9:40:15 AM

Extra Data:

<u>Data Name</u>	<u>Data Value</u>
Standard ID:	RM-10-05
Standard:	Radian Research
Test realized by:	Raul Tuche
Calibrator ID:	UTEC 441
Standard S/N:	508071
Calibrator S/N:	80201



ASISTORIA Y ASISTENCIA ELECTRONICA
21 calle 12-57 Zona 1 Aptdo A Tel 2251-2470
Guatemala, C.A.

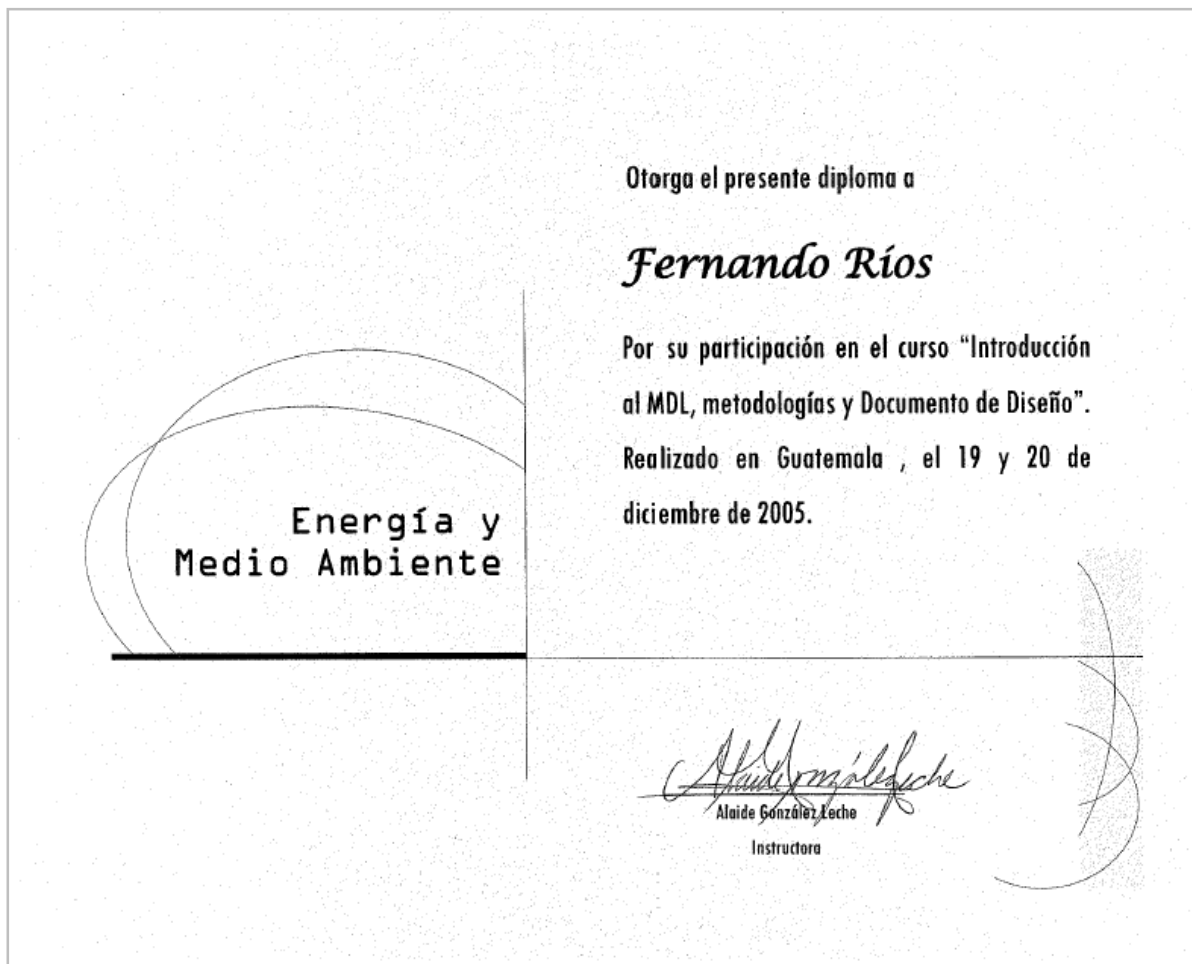
13. Meter of support

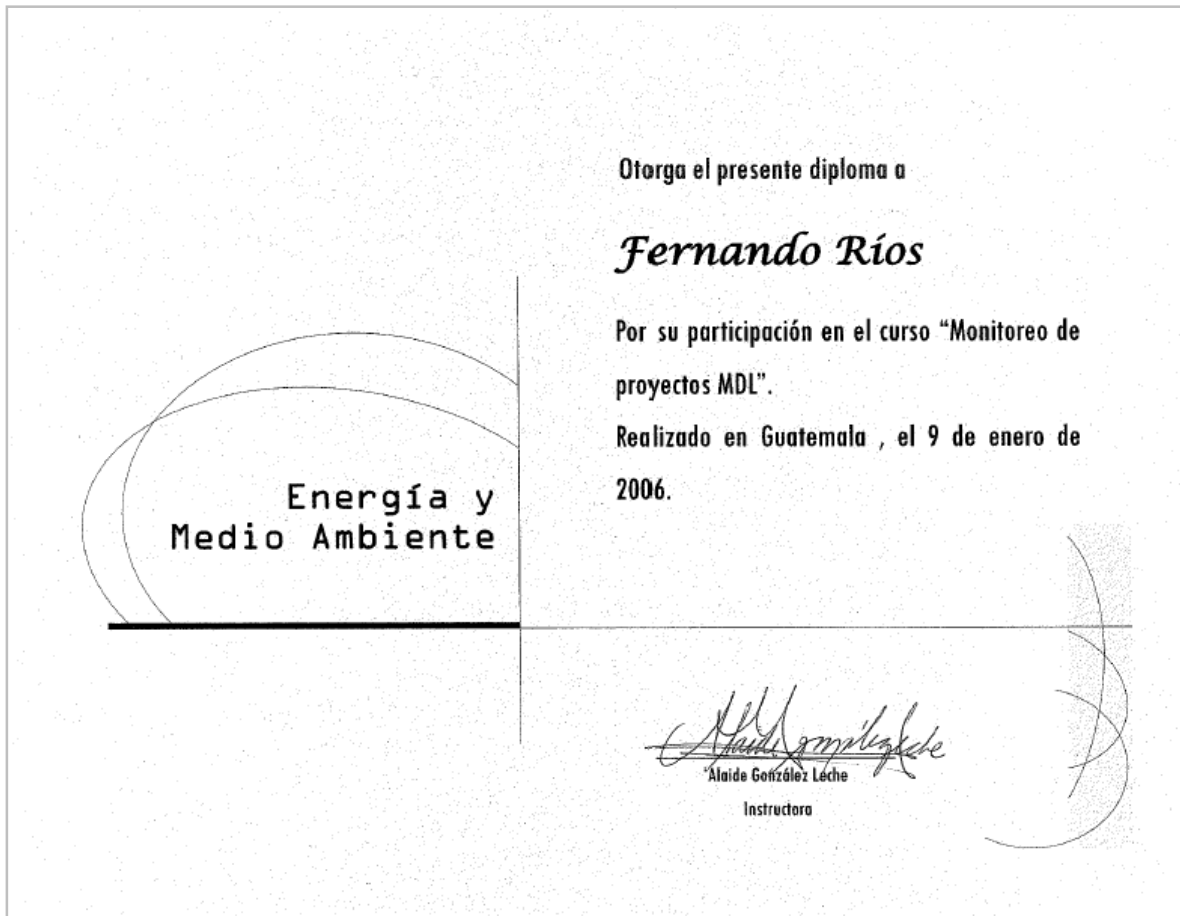
The Hydroelectric Project El Canadá has a meter of principal energy that is used to obtain the readings of commercial measurement of the plant and a meter of support which is used to obtain the readings of commercial measurement in case that the principal meter trumps or is damaged, according to the stipulated in the regulation NCC-14 of the Administrador del Mercado Mayorista, AMM (Wholesale Market Administrator) in the clauses 14.6.1, 14.10 bis and 14.10 tris.

14. Training of the Personnel

The engineer in charge of monitoring process received training on introduction to the CDM, the different methodologies and project design document, given by the instructing Alaide Gonzalez of the company Energy and Environment on December 19th and 20th, 2005. Likewise the engineer in charge of monitoring process received a training of CDM project monitoring, given by the instructing Alaide Gonzalez of the company Energy and Environment on January 9th, 2006.

The certificates delivered by the company Energy and Environment of these trainings are the following ones:





15. Certification of Records of Measurement

In January 15th, 2009 the Administrador del Mercado Mayorista, AMM (Wholesale Market Administrator) delivered the certification of records of measurement from January 1st to December 31st, 2008 of Generadora de Occidente, Ltda.

In February 17th, 2009 the Administrador del Mercado Mayorista, AMM (Wholesale Market Administrator) delivered the certification of records of measurement from July 1st to December 31st, 2007 of Generadora de Occidente, Ltda.

The certificates delivered by the Wholesale Market Administrator of this measurement are the following ones:



Administrador del Mercado Mayorista

ME-013-2009

Guatemala, 15 de Enero de 2009

Fernando Rios
Analista de Mercados, S.A.
Pte.

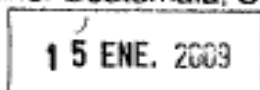
Estimado Sr. Rios:

De acuerdo a su requerimiento de fecha 12 de Enero de 2009, por este medio le adjunto el certificado de los datos de generación mensual del año 2008 para la central Hidroeléctrica Canada.

Sin otro particular, me suscribo muy atentamente,

Ing. Omar E. Maldonado Arévalo
Coordinador Departamento Medición –AMM-

Enel Guatemala, S.A.



RECIBIDO

Diagonal 6, 10-65 zona 10. Centro Gerencial Las Margaritas, Torre 1, Nivel 15
Teléfono 2327-3900 Fax: 2327-3907. E-Mail: amm@amm.org.gt



ADMINISTRADOR DEL MERCADO MAYORISTA
DEPARTAMENTO DE MEDICION
CERTIFICACIÓN DE REGISTROS DE MEDICION

GENERADOR	Generadora de Occidente, Ltda.
Ubicación	Km.197 carretera a Zunil, Quetzaltenango
MES \ AÑO	Energia Generada KW h
Ene-08	11,364,094
Feb-08	10,333,320
Mar-08	8,944,164
Abr-08	9,934,997
May-08	10,846,158
Jun-08	21,585,964
Jul-08	24,553,501
Ago-08	26,782,463
Sep-08	29,938,589
Oct-08	29,373,306
Nov-08	16,914,846
Dic-08	14,105,173
Los presentes datos son energias mensuales en kwh	
Depto Medición:	 Ing. Omar E. Maldonado A. Coordinador Depto. Medición
Fecha emisión:	13/01/2009



Ing. OMAR E. MALDONADO AREVALO
COORDINADOR DEPTO. MEDICION

Nota: Los datos consignados en la presente, son los registros reportados por el Agente y que el AMM toma como oficiales.



Administrador del Mercado Mayorista

ME-034-2009

Guatemala, 17 de Febrero de 2009

Fernando Rios
Analista de Mercados
ENEL
Pte.

Estimado Sr. Rios:

De acuerdo a su requerimiento, por este medio le adjunto el certificado de los datos de energía generada mensualmente en el segundo semestre del año 2007 por la central Hidroeléctrica Canada.

Sin otro particular, me suscribo muy atentamente,

Ing. Omar E. Maldonado Arévalo
Coordinador Departamento Medición –AMM–

enel Guatemala, S.A.

18 FEB. 2009

RECIBIDO



**ADMINISTRADOR DEL MERCADO MAYORISTA
DEPARTAMENTO DE MEDICION
CERTIFICACIÓN DE REGISTROS DE MEDICION**

GENERADOR	Generadora de Occidente, Ltda.
Ubicación:	Km. 197 carretera a Zunil, Quetzaltenango
MES Y AÑO	Energía Generada KW h
Jul-07	14,601,018
Ago-07	14,968,316
Sep-07	24,209,967
Oct-07	26,697,641
Nov-07	15,714,514
Dic-07	11,759,726
-----	-----
-----	-----
-----	-----
-----	-----
-----	-----
-----	-----
-----	-----

Los presentes datos son energías mensuales en kw/h

Depto Medición:

[Firma manuscrita]

Ing. Omar E. Maldonado
Coordinador Depto. Medición



LA UNIÓN EL MERCADO MAYORISTA
COORDINADOR DEPTO. MEDICION

Fecha emisión:

14/01/2008

Nota: Los datos consignados en la presente, son los registros reportados por el Algodor y que el Algodor firma como oficiales.

16. Annex

a. Contribution to the Sustainable Development

In February 22nd, 2008 El Canadá Hydroelectric Project support the School Official Rural Mixed “Santa María de Jesús”, Zunil, Quetzaltenango. The contribution consisted in help for low-income families whose children attend the public education establishment. The school was supported by donating ten computers that serve to improve the education of the children, supporting the research and learning.

The contribution benefit to 400 students in the School Official Rural Mixed “Santa María de Jesús”, providing a computer center that can be used to improve their learning.

Acta No. 13-2008
51
En la Aldea Santa María de Jesús, municipio de Zunil, departamento de Quetzaltenango, siendo los diez de la mañana del día once de agosto del año dos mil ocho, constituido en la Dirección de la Escuela Oficial Rural Mixta de la Aldea Santa María de Jesús, municipio de Zunil, el Director Lic. Edgar Quirós Delgado - Rosales, para dejar constancia de lo siguiente: Primero: Que el día viernes veintidos de febrero del año en curso (dos mil ocho) recibí en calidad de donación, para la escuela, diez computadoras pantalla plana LCD de monitor de quince pulgadas, cinco 512 de ram y 80 giga bytes de disco duro. Dichas máquinas fueron entregadas por parte de los gerentes de Enel Guatemala - Ingeniero Florencio Gramaje gerente de plantas Canabán y Monte Cristo y el Ingeniero Osvaldo Amist de Enel Guatemala. - Segundo: Dichas máquinas fueron recibidas en acto público con presencia de niños y niñas de la escuela, maestros, directores y padres de familia, e instalados en un aula acondicionada para que funcione como Centro de Tecnología, para que sean utilizados, para que la población escolar se inicie en el mundo de la tecnología. Tercero: Toda la comunidad educativa agradece a ENEL Guatemala y a sus representantes Ingeniero Florencio Gramaje y Osvaldo Amist por -

52
proyección, y apoyo que están brindando en beneficio de la zona de Santa María de Jesús. Quarto: No habiendo nada más que hacer constar se da por finalizada la presente en el mismo lugar y fecha cuarenta minutos después de su inicio, firmando y sellando de conformidad - - - - -
[Firma]
DIRECCIÓN
Escuela Oficial Rural Mixta
Santa María de Jesús
Quetzaltenango

Acknowledgment of receipt by the Director of School



The Director of the School directs words of thanks on behalf of the students and parents of the donation



Computer center view



Students using the Computer Center



Students and teachers using the Computer Center