

MONITORING REPORT

COTE HYDROELECTRIC PROJECT (CDM Registration Reference Number 0251)

Monitoring Periods:

April 1st, 2003 to March 31st, 2004

April 1st, 2004 to March 31st, 2005

and

April 1st, 2005 to March 31st, 2006

**Prepared by
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1. Introduction

This document reports the Emission Reductions (ERs) generated by the Cote Hydroelectric Project (Project), CDM Registration Reference Number 0251 in the following monitoring periods:

- April 1st, 2003 (start date of the 1st crediting period) to March 31st, 2004;
- April 1st, 2004 to March 31st, 2005; and
- April 1st, 2005 to March 31st, 2006.

The Project operation has been monitored in accordance with requirements described and established in the project Monitoring and Verification Protocol (MVP) as well as those contented in the Monitoring Plan described in the PDD approved by the Executive Board of the CDM. Methodology and ER calculations are based on rules set by the Emissions Reduction Calculation Procedure (ERCP) set on Annex 4, Monitoring Plan, of approved PDD, taking into consideration the Base Line Emission Factor set and approved for the project

Being a CDM activity, the project must meet the requirements of The Kyoto Protocol Article 12 for CDM Projects, which states that the CDM activity must assist the host country in achieving sustainable development. Monitoring includes Sustainable Development indicators established in the PDD.

2. ER Calculation Formula

Emission Reductions generated by the Project are calculated as follows:

ERs (measured in tCO₂) = Project generation in KWh (or MWh) times 0.48835 in KgCO₂/KWh (or tCO₂/MWh)

3. ERs Generated in the Monitoring Period

In accordance with the Emissions Reductions Calculation Procedure and Required Spreadsheets, the Project would have yielded the following ER's for the periods indicated:

3.1 First Operation Period (2003 - 2004)

As shown in Table below, ER calculation for First Crediting Period would have been:
8,374.23

Compañía Nacional de Fuerza y Luz
Monthly Energy Generation for Cote H.P.
Period: April 2003 - March 2004
Generation Projects Department

Year	Month	Peak	Valley	Night	Total Generation-MWh	Emission Factor according to registered PDD	ERs generated using approved methodology
2003	April	510,45	104,77	6,64	621,86	0,48835	303,69
2003	May	460,52	88,68	-	549,21	0,48835	268,20
2003	June	735,78	774,57	515,91	2.026,26	0,48835	989,53
2003	July	858,73	793,09	277,65	1.929,47	0,48835	942,26
2003	August	622,59	641,53	82,31	1.346,43	0,48835	657,53
2003	September	722,59	959,53	87,83	1.769,95	0,48835	864,35
2003	October	728,38	641,11	112,36	1.481,85	0,48835	723,66
2003	November	654,46	283,60	71,25	1.009,31	0,48835	492,90
2003	December	812,57	772,67	514,20	2.099,44	0,48835	1.025,26
2004	January	634,73	793,11	674,00	2.101,83	0,48835	1.026,43
2004	February	573,09	48,96	19,89	641,94	0,48835	313,49
2004	March	726,33	538,20	305,93	1.570,45	0,48835	766,93
					TOTAL	17.148,00	8.374,23

Source : Energy Control Center

3.2 Second Operation Period (2004 – 2005)

As shown in following, ER calculation for second Crediting Period would have been:
8,931.03

Compañía Nacional de Fuerza y Luz
Monthly Energy Generation for Cote H.P.
Period: April 2004 - March 2005
Generation Projects Department

Year	Month	Total Generation-MWh	Emission Factor according to registered PDD	ERs generated using approved methodology
2004	April	639,55	0,48835	312,32
2004	May	2.134,80	0,48835	1.042,53
2004	June	1.526,39	0,48835	745,41
2004	July	1.735,26	0,48835	847,41
2004	August	1.836,56	0,48835	896,88
2004	September	1.128,95	0,48835	551,32
2004	October	1.344,78	0,48835	656,72
2004	November	1.981,17	0,48835	967,50
2004	December	2.147,76	0,48835	1.048,86
2005	January	2.163,52	0,48835	1.056,55
2005	February	1.042,90	0,48835	509,30
2005	March	606,56	0,48835	296,21
		18.288,17		8.931,03

Source : Energy Control Center

3.3 Third Operation Period (2005 – 2006)

As shown in Table below, ER calculation for third Crediting Period would have been:
5,500.42

Compañía Nacional de Fuerza y Luz
Monthly Energy Generation for Cote H.P.
Period: April 2005 - March 2006
Generation Projects Department

Year	Month	Total Generation-MWh	Emission Factor according to registered PDD	ERs generated using approved methodology
2005	April	573,712	0,48835	280,17
2005	May	363,864	0,48835	177,69
2005	June	614,667	0,48835	300,17
2005	July	803,939	0,48835	392,60
2005	August	1297,167	0,48835	633,47
2005	September	1258,773	0,48835	614,72
2005	October	1167,659	0,48835	570,23
2005	November	1495,079	0,48835	730,12
2005	December	1126,593	0,48835	550,17
2006	January	816,821	0,48835	398,89
2006	February	948,618	0,48835	463,26
2006	March	796,379	0,48835	388,91
		11.263,27		5.500,42

Source : Energy Control Center

4. Monitoring Tables and Data

Detailed monitoring tables shown above were used to calculate Emission Reductions for the project.

5. Sustainable Development Monitoring, Recording and Reporting

The environmental sustainability indicators are based on the agreed Environmental Management Plan (EMP) of the project. Monitoring process has taken place previous, during, and after construction. According to EMP, Monitoring process continuous during operation stage of the project.

Table shown below shows the worksheet for recording and reporting on sustainable development impacts expected for the project.

Sustainable Development Indicators

Sustainable Development Indicators										
Sub-Project Name:	Cote Hydro-Power Project									
Year:			Project performance (unit)							
Performance Indicator	Performance indicator (unit)	Monitoring schedule	Project expectation (unit)	2002	2003	2004	2005	2006	Project performance (unit)	Net performance (unit, yes/no)
Environmental indicators										
Reforestation and revegetation	Revegetated/reforested area as % of the total area devegetated/ deforested	During first 4 years of operation	250 trees in first 4 years of operation	Project under construction	Stabilization works in project surroundings	100 trees planted	50 trees planted	100 trees planted	250 trees planted in 3500m2 (0,35 ha)	Yes
Minimum ecological flow	m3/s	Annually during operation	Not applicable	N.A	N.A	N.A	N.A	N.A		
Water quality	BOD, TSS, DO	Annually during operation	2 times per year (dry and rainy season)	February and August	February and August	February and September	November**	March and November	2 seasonal monitoring per year	Yes
Biodiversity	Number of key bioindicator species, frequency of sightings	Annually during operation	2 times per year(dry and rainy season) fauna bentónica, ictiofauna, zooplankton y fitoplancton	February and August	February and August	April and October	December**	May and December	2 seasonal monitoring per year	Yes
Payment for environmental services to protect watershed forests	US\$ payments	During first 10 years of operation	US\$36,000/year (\$40/ha for 900ha)*	Project under construction	\$26,526	\$23523,5	\$23523,5	\$23523,5	US\$20,020/ year (\$40/ha for 500,5ha)	Yes
Socio-economic indicators										
Economic activity	Number of permanent jobs created by the project	Annually during operation	20	Project under construction	14	14	14	14	14	Yes
Infrastructure	Quality of access ways and roads maintained by SP	Annually during operation	Good	Project under construction	Good conditions	Good conditions	Good conditions	Good conditions	Good	Yes
Signature / Date:										

*Includes legal expenses paid to Financiamiento Forestal (FONAFIFO)

**In 2005 rainy season monitoring are restarted por a 3 year additional period.