

MONITORING REPORT FORM (CDM-MR)*
Version 01 - in effect as of: 28/09/2010

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* as contained within the document entitled "Guidelines for completing the monitoring report form (CDM-MR)" (EB 54 meeting report, annex 34).

MONITORING REPORT
Version 01 – 24/05/2011

Saldanha Small Hydroelectric Project
Project 1526
2nd Monitoring period (01/05/2010 - 30/04/2011)

SECTION A. General description of the project activity

A.1. Brief description of the project activity:

1. Purpose of the project activity and the measures taken to reduce greenhouse gas emissions;

The Saldanha Small Hydroelectric Project (hereafter, the Project) developed by Hidroluz Centrais Elétricas Ltda., as project developer and operator of the project, consists of a small run-of-river hydroelectric project that reduces greenhouse gas emissions by generating carbon neutral power that displaces carbon intensive power from the grid. The units are connected to Rondônia-Acre electricity system, which is located in Rondônia State, north region of Brazil. They are located in very remote areas, and bring electricity to develop these areas socially and economically.

2. Brief description of the installed technology and equipments;

The Project is a run of river hydropower project, located at the Saldanha River in the municipality of Alta Floresta d'Oeste, Rondônia state and has an installed capacity of 5.0 MW, consisting of 2 Francis type turbines of 2.5MW capacity each.

3. Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.).

Construction started in April 2004, and continued operation started in March 2006, when it started exporting electricity to the grid. It has been operating since that date. "Operational" in this context includes downtime due to maintenance or technical issues.

4. Total emission reductions achieved in this monitoring period.

26,163 tCO₂e

A.2. Project Participants

Brazil , involved indirectly; Authorized Participants: Hidroluz Centrais Elétricas Ltda.
Netherlands , involved indirectly; Authorized Participants: EcoSecurities Group PLC.

A.3. Location of the project activity:

The Small Hydropower Plant (SHP) is located in Saldanha River, in the municipality of Alta Floresta d'Oeste, Rondônia State (RO), North region of Brazil.

The exact location of the project is defined using GPS coordinates: Latitude 11 ° 59'09" S and Longitude 62 ° 10'38" W.

A.4. Technical description of the project

The project consists of renewable electricity generation from a run-of-river small hydro power plant, supplying electricity to the Rondônia-Acre electricity system. The small hydro power plant has a total installed capacity of 5.0 MW.

Table 1 – Technical description¹

GENERATOR	
Manufacturer	GE
Capacity (kVA)	3300
Power factor	0.8
Power yield	0.962
TURBINE	
Manufacturer	HISA
Type	Francis
Capacity (MW)	2.506

SHP Saldanha uses Brazilian Francis type turbines with a horizontal axis (Hydraulic reactor turbine in which the flow exits the turbine blades in a radial direction) and Brazilian generators. The technology used on SHP Saldanha is environmentally safe and sound, for being a run-of-river power plant requiring a minimum diversion dam which stores sufficient water to generate electricity for short periods of time in a 0.0075 km² reservoir.

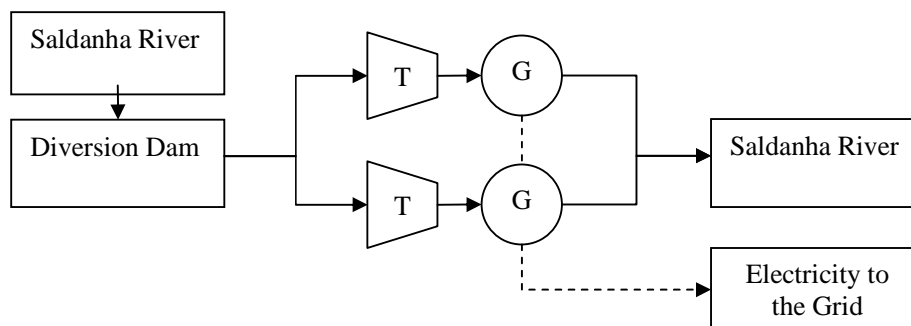


Figure 1 – General layout of the SHP Saldanha

A.5. Title, reference and version of the baseline and monitoring methodology applied to the project activity:

The proposed project activity falls under Type/Category I.D - Grid connected renewable electricity generation – AMS-I.D. Version 13.

A.6. Registration date of the project activity:

Project registered on 16 Mar 09 (PDD version 5.02)

¹Capacities as stated in the equipment plates.

A.7. Crediting period of the project activity and related information (start date and choice of crediting period):

16 Mar 09 - 15 Mar 19 (Fixed). There was no post-registration change to the start date of the crediting period.

A.8. Name of responsible person(s)/entity(ies):

Mr. Leandro Noel	EcoSecurities Brazil Ltda.	Project Manager	Leandro.noel@ecosecurities.com
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Address: Rua Lauro Muller, 116/907, Rio de Janeiro, Brazil
Telephone: +552125464150
Email: Leandro.noel@ecosecurities.com

SECTION B. Implementation of the project activity**B.1. Implementation status of the project activity**

1) Starting date of operation

The project started operations on 13 March 2006 when it started exporting electricity to the grid. This project consists of one site only and the implementation is not phased.

2) Actual operation of the project activity during this monitoring period

There were no special events during the monitoring period. No equipment was exchanged or overhauled. The electricity meter was exchanged according to the description provided in section D.2.

3) Events affecting the applicability of the methodology

No events occurred that affected the applicability of the methodology.

B.2. Revision of the monitoring plan

The monitoring plan was not revised and no revision is pending.

B.3. Request for deviation applied to this monitoring period

No request for deviation was applied during this monitoring period.

B.4. Notification or request of approval of changes

No notification or request of approval of changes has been made.

SECTION C. Description of the monitoring system***Data collection procedures***

Data generation: In the power plants (SHP Saldanha) there is a main cumulative meter that records the net electricity exported to the grid. This meter is read monthly o issue sale invoicesand hourly/daily for operation control. **Data recording:** Hourly/daily records are performed by Hidroluz (project participant and operator of the plants). Readings are taken monthly by both CERON and Hidroluz. **Data aggregation:** A monthly reading is taken o issue sale invoices. The electricity generation in a month is

the difference between two consecutive readings, times the constant of the electricity meter. Calculation: see section D.2 and section E. Electricity output is the difference between the cumulative values on the power meter. Net power supplied to the grid times the emission factor are emission reductions. Reporting: The monthly electricity supplied to grid data is recorded on site log sheets. At the end of each month the monitoring data from each site will be transferred to electronic files and reported to EcoSecurities.

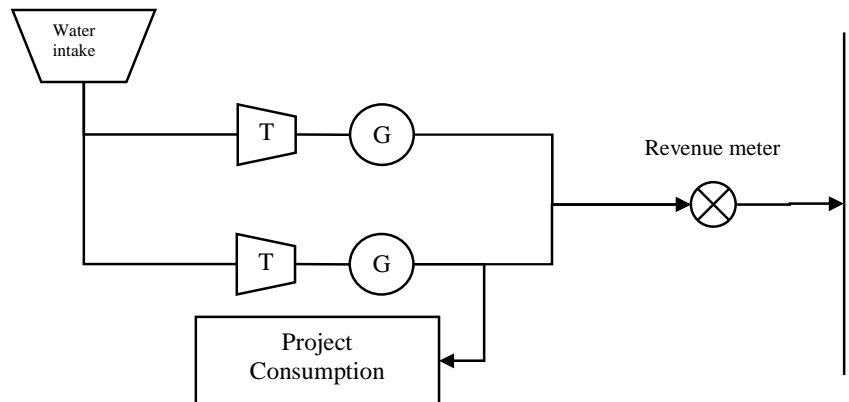
Organizational structure, roles and responsibilities

A CDM manager has been appointed and trained who is responsible for the CDM monitoring system. Monthly recording of power meter falls under the responsibility of the site manager and the grid company.

A monitoring organization has been set up and procedures developed for all the staff involved in the CDM Project.

Emergency procedures for the monitoring system

The site manager will notify the grid company in case there is doubt about the correct functioning of the meter mentioned in the monitoring plan. In that case, the grid company and the operator will check and where necessary replace the meter. If the problem can be solved quickly, no CERs are claimed for the period during which the meter were not functioning correctly. If the problem cannot be solved quickly the grid company and the operator estimate the power delivered to the grid using the gross electricity generation readings taken from the equipment panel, by the plant operator, discounting estimated electricity losses.



Line diagram

Figure 2 – Project Line Diagram

SECTION D. Data and parameters**D.1. Data and parameters determined at registration and not monitored during the monitoring period, including default values and factors**

Data / Parameter:	$EF_{Grid,CM,y}$
Data unit:	tCO ₂ /MWh
Description:	Baseline Emission Factor
Source of data used:	CERON, Termonorte, Eletronorte, Eletrobrás
Value(s) :	0.9421
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions
Additional comment:	Calculated according to the procedure outlined in B.6.1 of the registered PDD

Data / Parameter:	$EF_{Grid,OM,y}$
Data unit:	tCO ₂ /MWh
Description:	Operating Margin Emission Factor
Source of data used:	CERON, Termonorte, Eletronorte, Eletrobrás
Value(s) :	0.8682
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions
Additional comment:	Calculated according to the procedure outlined in B.6.1 of the registered PDD

Data / Parameter:	$EF_{Grid,BM,y}$
Data unit:	tCO ₂ /MWh
Description:	Build Margin Emission Factor
Source of data used:	CERON, Termonorte, Eletronorte, Eletrobrás
Value(s) :	1.0160
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions
Additional comment:	Calculated according to the procedure outlined in B.6.1 of the registered PDD

D.2. Data and parameters monitored

Data / Parameter:	EG_y
Data unit:	MWh
Description:	Net electricity supplied to the grid
Measured /Calculated /Default:	Measured
Source of data:	Power meter. Recorded by CERON and project developer
Value(s) of monitored parameter:	27,771
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions

calculations)	
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	<p>The calibration frequency of once every 3 years is based on the “Indicative Simplified Baseline and Monitoring Methodologies for Selected Small-Scale CDM Project Activity Categories”.</p> <p>Period from 01/05/2010 to 07/06/2010: Power meter serial number: 4999304 (manufacturer: Elster, model: ALPHA A2R, class: 0.2, installations date: 13/03/2006). This is a two-way meter. Measuring the electricity supplied to the grid and discounting automatically the electricity consumed from the grid. This electricity consumption from the grid only occurs when there is no generation in the plant. The meter was used during the entire monitoring period but was only calibrated afterwards on the 13 September 2010. Hence to comply with the “Guidelines for Assessing Compliance with the Calibration Frequency Requirements” (version 1) a discount was applied to the monitored data for the monitoring period 01/05/2010 - 30/06/2010. During the calibration done by the National Institute of Metrology, Standardization and Industrial Quality – INMETRO, on 13 September 2010 (report number 20/2010), the observed error was found to be within the limit for class 0.2, therefore the maximum permissible error of the meter (0.2%) was applied to the measured values in May 2010 and June 2010.</p> <p>Period from 07/06/2010 to 30/04/2011: Power meter serial number: 5049637 (manufacturer: Elster, model: ALPHA A3RBR, class: 0.2). This is a two-way meter. Measuring the electricity supplied to the grid and discounting automatically the electricity consumed from the grid. This electricity consumption from the grid only occurs when there is no generation in the plant. The operation of this meter is covered by the initial calibration done by the meter manufacturer.</p>
Measuring/ Reading/ Recording frequency:	Continuous measurement, hourly recording, monthly aggregated.
Calculation method (if applicable):	N/A
QA/QC procedures applied:	Data collected has low uncertainty levels and to guarantee its accuracy it will be cross checked with the electricity sales receipts obtained from the grid operator.
Any comment:	Data will be archived at least for two years after crediting period

SECTION E. Emission reductions calculation

E.1. Baseline emissions calculation

The calculation of baseline emissions in a monthly basis, including formulae used and the plant load factor is also included in the spreadsheet provided together with this Monitoring Report.

Calculation of baseline emissions	Symbol	Amount	Unit	Formula
Net Electricity supplied to the grid	EG_y	27,771	MWh	N/A
Emission factor	$EF_{grid,CM,y}$	0.9421	tCO ₂ e/MWh	Please see the formulae provided in the approved PDD
Total Baseline emissions	BE_y	26,163	tCO ₂ e	$BE_y = EF_{grid,CM,y} * EG_y$

E.2. Project emissions calculation

According to the methodology and PDD, Project Emissions for this Project is zero.

E.3. Leakage calculation

According to the methodology and PDD, Leakage Emissions for this Project is zero.

E.4. Emission reductions calculation / table

Calculation of emissions reductions	Symbol	Amount	Unit	Formula
Total Baseline emissions	BE _y	26,163	tCO ₂ e	BE _y = EF _{grid,CM,y} * EG _y
Total Project emissions	PE _y	0	tCO ₂ e	-
Total Leakage emissions	LE _y	0	tCO ₂ e	-
Total Emissions Reductions	ER _y	26,163	tCO ₂ e	ER _y = BE _y - PE _y - LE _y

E.5. Comparison of actual emission reductions with estimates in the CDM-PDD

Item	Values applied in ex-ante calculation of the registered CDM-PDD	Actual values reached during the monitoring period
Emission reductions (tCO ₂ e)	28,059	26,163

E.6. Remarks on difference from estimated value in the PDD

When the estimated value from the PDD and the value reached during this monitoring period are proportionally reported to a daily value, the two values compare as presented in the table below:

Item	Ex-ante value from registered CDM-PDD	Actual values reached during the monitoring period
Period considered (number of days)	365	365
Daily average emission reductions (tCO ₂ e)	76.87	71.68

As shown in the table above, there is **no increase** from the ex-ante calculation of the registered CDM-PDD during this monitoring period.

History of the document

Version	Date	Nature of revision
01	EB 54, Annex 34 28 May 2010	Initial adoption.
Decision Class: Regulatory Document Type: Guideline, Form Business Function: Issuance		