



Monitoring report form
(Version 05.1)

Complete this form in accordance with the Attachment "Instructions for filling out the monitoring report form" at the end of this form.

MONITORING REPORT

| | | |
|--|--|---|
| Title of the project activity | Bailongjiang Dalijie Hydropower Station | |
| UNFCCC reference number of the project activity | 2848 | |
| Version number of the monitoring report | 1 | |
| Completion date of the monitoring report | 15/07/2016 | |
| Monitoring period number and duration of this monitoring period | 7 th , 30/12/2014-29/12/2015 | |
| Project participant(s) | China: GEPIC Darong Electric Power Company Ltd Netherlands: Vattenfall Energy Trading Netherlands N.V. | |
| Host Party | China | |
| Sectoral scope(s) | Scope 1 : Energy industries (renewable - / non-renewable sources) | |
| Selected methodology(ies) | ACM0002 ver. 7 - Consolidated methodology for grid-connected electricity generation from renewable sources | |
| Selected standardized baseline(s) | N/A | |
| Estimated amount of GHG emission reductions or net GHG removals by sinks for this monitoring period in the registered PDD | 138,919tCO ₂ e | |
| Total amount of GHG emission reductions or net GHG removals by sinks achieved in this monitoring period | GHG emission reductions or net GHG removals by sinks reported up to 31 December 2012 | GHG emission reductions or net GHG removals by sinks reported from 1 January 2013 onwards |
| | N.A. | 95,081tCO ₂ e |

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

>> The Bailongjiang Dalijie Hydropower Station (hereafter, the project) developed by GEPIC Darong Electric Power Company Ltd. (hereafter, the project owner) is a run-of-river hydropower project in Gansu Province, the People's Republic of China. Total installed capacity of the project is 40.2MW, consisting of three 13.4MW turbines.

The purpose of the project is to utilize the hydrological resources of the Bailongjiang River through construction of a run-of-river hydro project to generate electricity for the Gansu Power Grid, which is a part of the Northwest China Power Grid (hereafter, the NWCPG). The electricity currently generated by the NWCPG is relatively carbon intensive. The project is therefore expected to reduce emissions of greenhouse gases by reducing the need of thermally generated power and reducing needed capacity expansion of fossil fuel-based generation of the NWCPG.

The project installs 3 units of 13.4MW turbine-generators providing a total installed capacity of 40.2MW, with average annual operating hours of 4,075h, and the average annual generation of 163,800MWh, the power supplied is estimated to be 163,472MWh. The implementation of the project is listed in Table A.1.

Table A.1 The implementation of the project

| Key events | Date |
|--|-----------------------|
| Starting date of the project, on which date the project owner signed the construction contract | 10/11/ 2006 |
| Construction started | 12/12/2006 |
| The generator #1 started operation | 04/09/2009 |
| The generator #2 started operation | 22/09/2009 |
| The generator #3 started operation | 17/10/2009 |
| Registration date(Start of crediting period) | 06/12/2009 |
| 1 st monitoring period | 06/12/2009-29/05/2010 |
| 2 nd monitoring period | 30/05/2010-29/01/2011 |
| 3 rd monitoring period | 30/01/2011-28/11/2011 |
| 4 th monitoring period | 29/11/2011-31/12/2012 |
| 5 th monitoring period | 01/01/2013-29/12/2013 |
| 6 th monitoring period | 30/12/2013-29/12/2014 |
| 7 th monitoring period | 30/12/2014-29/12/2015 |

From 30/12/2014-29/12/2015 (total 365 days), the project has a total actual net electricity exported to the grid of 111,886.592MWh, corresponds to the emission reductions of 95,081tCO₂e.

A.2. Location of project activity

>> Lijie Village, Lijie Township, Zhouqu County, Tibetan Autonomous Prefecture of Gannan, Gansu Province, the People's Republic of China.

The geographical coordinates of the dam are 104°02'11" E and 33°53'18" N, and the geographical coordinates of the powerhouse are 104°03'23" E and 33°53'46" N.

A.3. Parties and project participant(s)

| Party involved ((host) indicates a host Party) | Private and/or public entity(ies) project participants (as applicable) | Indicate whether the Party involved wishes to be considered as project participant (yes/no) |
|--|--|---|
| The People's Republic of China (host) | GEPIC Darong Electric Power Company Ltd | No |
| The Netherlands | Vattenfall Energy Trading Netherlands N.V. | No |

A.4. Reference of applied methodology and standardized baseline

>>

1. The baseline and monitoring methodology ACM0002 is used: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" version 07, http://cdm.unfccc.int/filestorage/C/D/M/CDMWF_AM_323M30IDF1IH6AG3GRCJ4PKR9CKM7P/ACM0002_ver07.pdf?t=VUZ8bWdweHkzfDB_8lh0VRzzhpKw-b635j5e.
2. "Tool to calculate the emission factor for an electricity system" version 01.1, <http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v1.1.pdf>.
3. "Tool for demonstration and assessment of additionality", Version 05.2, <http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v5.2.pdf>.

A.5. Crediting period of project activity

>> The crediting period is fixed crediting period (10 years) from 06/12/2009 to 05/12/2019.

A.6. Contact information of responsible persons/entities

>>

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Email:gsdrcdm@163.com

Address: F19, Gansu Investment Building, No.69, Hedong Rd., Chengguan District, Lanzhou, Gansu, China

SECTION B. Implementation of project activity**B.1. Description of implemented registered project activity**

>> The project started to construction from 12/12/2006, and has been commissioning since 04/09/2009 and was put into full operation on 17/10/2009. The generator #1 started operation on 04/09/2009, the generator #2 started operation on 22/09/2009, and the generator #3 started operation on 17/10/2009.

The project is a run-of-river hydropower plant, which is composed of a concrete gravity dam, release sluice, channels, powerhouse, and switch station. The electricity for the project is generated by three units of HLA551C-LJ-272 turbines and three units of SF-J13.4-36/5100 generators. The annual power generation is expected to be approximately 163,800MWh over an expected operational lifetime of 25 years. The power is delivered to the Gansu Power Grid (which is a part of the NWCPG) via 110kV line to a designated transformer station. The technical process is indicated in the Figure B.2.

Table B.1 Key technical data for the equipment of the Project

| Parameter | | Value |
|---|-----------------|--------|
| Installed capacity (MW) | | 40.2 |
| Designed water head (m) | | 29 |
| Designed water flow (m ³ /s) | | 153.42 |
| Model of turbine | | |
| HLA551C-LJ-272 | Units | 3 |
| | Lifetime (year) | 25 |
| Model of generator | | |
| SF-J13.4-36/5100 | Units | 3 |
| | Lifetime (year) | 25 |

No events or situations that occurred during the monitoring period, which may impact on the applicability of the methodology.

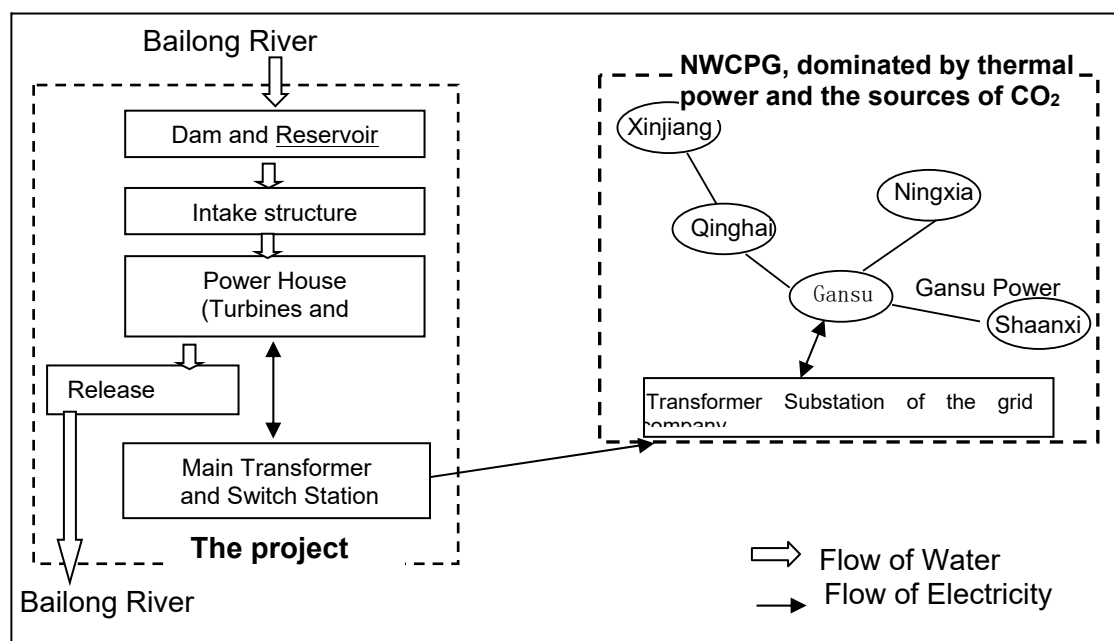


Figure B.1 The diagram of technology of the project

B.2. Post-registration changes

B.2.1. Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline

>> Not any temporary deviations have been applied during this monitoring period.

B.2.2. Corrections

>> Not any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report.

B.2.3. Changes to start date of crediting period

>> Not any changes to the project design of the project activity have been approved during this monitoring period or submitted with this monitoring report.

B.2.4. Inclusion of a monitoring plan to the registered PDD that was not included at registration

>> N.A.

B.2.5. Permanent changes from registered monitoring plan, applied methodology or applied standardized baseline

>> Not any changes to the project design of the project activity have been approved during this monitoring period or submitted with this monitoring report.

B.2.6. Changes to project design of registered project activity

>> Changes (based on the type and parameter of generators and turbines) from project activity as described in the registered PDD has been submitted to the EB with the reference No. of PRC-2848-001, and been accepted on 15/11/2012.

B.2.7. Types of changes specific to afforestation or reforestation project activity

>> N.A.

SECTION C. Description of monitoring system

>>

Data collection procedures:

As the Figure C.1 indicated, monitoring data are monitored at these points.

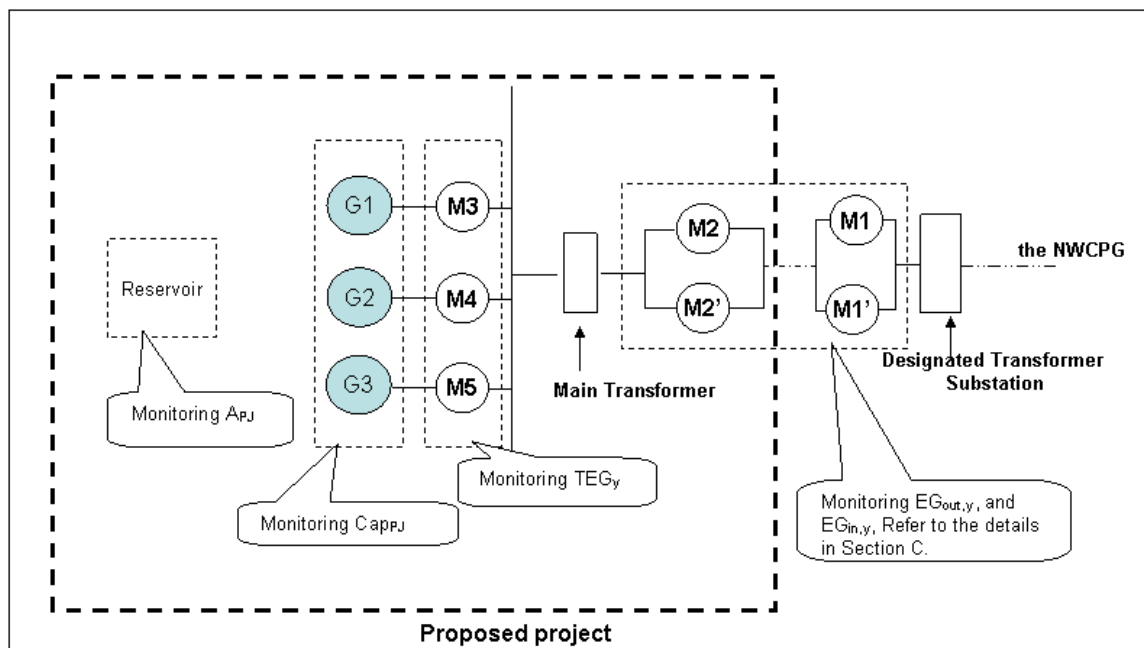


Figure C.1 Diagram of monitoring points

As per the PDD, net electric power exported to the grid (EG_y) is calculated as the difference of the electricity supplied by the project to NWCPG ($EG_{out,y}$) and the electricity imported from the NWCPG to the project ($EG_{in,y}$).

$EG_{out,y}$, the electricity supplied by the project to NWCPG, is measured by two metering systems, a main metering system (M1 and M1') and a check metering system (M2 and M2') to backup. The main metering system which measured the electricity supplied by the project to NWCPG is installed at Designated Transformer Substation. The check metering system is installed at the project site as a reference and backup to the main metering system. The electricity is monitored continuously. The grid company reads and records the meters of the main metering system around 24:00 of the third last day of each month. The plant operation staff reads and records the meters of the check metering system in monthly reading records at the 24:00 of the third last day of each month. (The monitoring period is from 30/12/2014 to 29/12/2015). The readings of the plant operation staff are submitted to the grid company. The grid company compares the readings with theirs and provides sales receipts to the project owner. The project owner confirms the sales receipts.

$EG_{in,y}$, the electricity imported from the NWCPG, is measured by the same systems as the systems to monitor $EG_{out,y}$, as the meters are bidirectional. The electricity is monitored continuously. The grid company reads and records the meters of the main metering system at the 24:00 of the third last day of each month. The plant operation staff reads and records the meters of the check metering system in monthly reading records at the 24:00 of the third last day of each month. (The monitoring period is from 30/12/2014 to 29/12/2015.) The grid company compares the readings with theirs and provides sales receipts for the electricity imported from the NWCPG to the project owner. $EG_{in,y}$ is double checked by receipts of sales.

TEG_y, total electricity produced by the project activity, is measured by the sum of the three meters (M3, M4, M5) at the outlet of generators. The data of each meter is automatically measured continuously and be read and recorded at the 24:00 daily by the plant operation staff on the monthly reading records. The sum of the three meters is also recorded on the monthly reading records. The monthly data is recorded electronically.

Cap_{PJ}, installed capacity of the hydro power plant after the implementation of the project activity, is checked and recorded from nameplate of the equipment on the site yearly.

A_{PJ}, the surface area of full reservoir level, is measured by the Northwest Hydro Consulting Engineers, CHECC yearly.

Monitoring Organization and Responsibility

The project owner designated a monitoring team responsible for the monitoring plan. The structure of the monitoring team is outlined in Figure C.2.

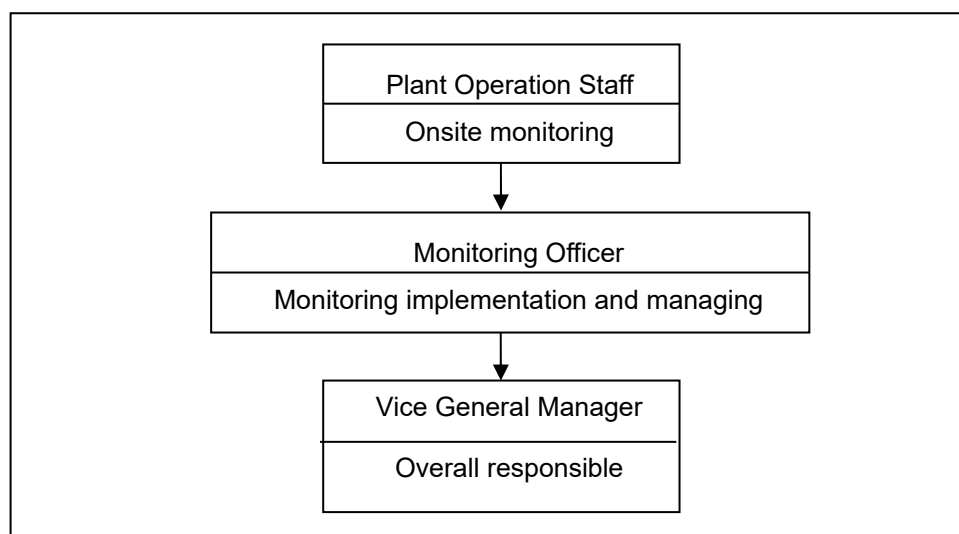


Figure C.2 Structure of the monitoring team

The responsibilities of the team are briefly described as following:

Vice General Manager: hold the overall responsibility for the monitoring process and approval of the monitoring report.

Monitoring Officer: charge of all relevant matters with the monitoring activity, including but not limited to supervision and verification of metering and recording; collection of additional data, sales / billing receipts; Calibration; Calculation of emission reductions; Preparation of monitoring report.

Plant Operation staff: is responsible for the measurement of the monitored data, and assisted the monitoring officer on the plant site.

Training

The project owner with the help from DHV BEEC Co., Ltd. has compiled the CDM Monitoring Manual on monitoring work. The Monitoring Officer has organized training for staffs in relation with monitoring team on CDM knowledge; monitoring methodology and CDM monitoring Manual; data recording and archiving; relevant laws and regulations.

Emergency procedures for the monitoring system

In case metering equipment is damaged and no reliable readings can be recorded the project owner will use the following procedure:

- In case meters recorded by project owner are in malfunction only:

If only M2 exceeds the allowable tolerance or otherwise the meter malfunctioned, M2' will be used to monitor. If both M2 and M2' are in malfunction, the project owner and the grid company will jointly calculate a conservative estimate of the data.

• In case all meters are in malfunction:

The project owner and the grid company will jointly calculate a conservative estimate of all the data. If the project owner and the grid company fail to reach an agreement concerning the correct reading, then the matter will be submitted for arbitration according to agreed procedures.

The monitoring system operated normally during the monitoring period.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante or at renewal of crediting period

| | |
|--|--|
| Data/parameter: | EF_{grid,CM,y} |
| Unit | tCO ₂ /MWh |
| Description | Combined margin CO ₂ emission factor for grid connected power generation in year |
| Source of data | Official data from Chinese DNA: http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File1364.pdf |
| Value(s) applied) | 0.8498. See Annex 3 of its PDD for details |
| Choice of data or measurement methods and procedures | / |
| Purpose of data | Calculation of baseline emissions. |
| Additional comments | N.A. |

| | |
|--|--|
| Data/parameter: | Cap_{BL} |
| Unit | W |
| Description | Installed capacity of the hydro power plant before the implementation of the project activity. For new hydro power plants, this value is zero. |
| Source of data | The status of the project. The project is a new hydro power plant. |
| Value(s) applied) | 0 |
| Choice of data or measurement methods and procedures | / |
| Purpose of data | Calculation of project emissions. |
| Additional comments | N.A. |

| | |
|--|--|
| Data/parameter: | A_{BL} |
| Unit | m ² |
| Description | Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m ²). For new reservoirs, this value is zero. |
| Source of data | The status of the project. There will be a new reservoir for this project. |
| Value(s) applied) | 0 |
| Choice of data or measurement methods and procedures | / |

| | |
|---------------------|-----------------------------------|
| Purpose of data | Calculation of project emissions. |
| Additional comments | N.A. |

D.2. Data and parameters monitored

| | | | | | | | |
|--|--|--------|----------|---------------|-----------------------|---------------------|-----------------------|
| Data/parameter: | EG _{out,y} | | | | | | |
| Unit | MWh | | | | | | |
| Description | Annual on-grid electricity supplied to NWCPG by the project. | | | | | | |
| Measured/calculated/default | Measured. Measured continuously by M1 and M1', and checked by M2 and M2'. | | | | | | |
| Source of data | Sales receipts of the grid company and monthly reading records of the project owner | | | | | | |
| Value(s) of monitored parameter | 112,008.204 MWh from 30/12/2014 to 29/12/2015, see Table E.1 for details. | | | | | | |
| Monitoring equipment | The meters are bi-direction. M1 is the main meter. M1' is the auxiliary meter for the M1, which could check the data and will replace the M1 in case of the failure of M1. M2 is the main check meter and M2' is the auxiliary check meter for the M2, which could check the data and will replace the M2 in case of the failure of M2. Locations of these meters are indicated in Figure C.1. | | | | | | |
| | No. | Type | Accuracy | Serial Number | Calibration Frequency | Date of calibration | Validity Period |
| | M1 | SL7000 | 0.2S | 51000047 | 1 year | 12/03/2014 | 12/03/2014-11/03/2015 |
| | | | | | | 11/03/2015 | 11/03/2015-10/03/2016 |
| | M1' | SL7000 | 0.2S | 51000048 | 1 year | 12/03/2014 | 12/03/2014-11/03/2015 |
| | | | | | | 11/03/2015 | 11/03/2015-10/03/2016 |
| | M2 | SL7000 | 0.2S | 51000045 | 3 year | 22/03/2013 | 22/03/2013-21/03/2016 |
| | | | | | | 21/03/2014 | 21/03/2014-20/03/2017 |
| | M2' | SL7000 | 0.2S | 51000046 | 3 year | 22/03/2013 | 22/03/2013-21/03/2016 |
| | | | | | | 21/03/2014 | 21/03/2014-20/03/2017 |
| Measuring/reading/recording frequency: | Measured continuously, read and recorded monthly. | | | | | | |
| Calculation method (if applicable): | N.A. | | | | | | |
| QA/QC procedures: | <ul style="list-style-type: none">– M1 and M1' are calibrated every year.– M2 and M2' are calibrated once three years.– Power is double checked with sales receipts.– Data record and relevant documents will be archived for a period of 2 years after the crediting period.– Special CDM project team has been set up.– A detailed rule on monitoring management has been made. | | | | | | |
| Purpose of data: | Calculation of baseline emissions. | | | | | | |
| Additional comments: | To calculate $EG_y=EG_{out,y}-EG_{in,y}$ $EG_{y,Net}$ electricity exported to the NWCPG by the project, is calculated by $EG_v= EG_{out,v}-EG_{in,v}$ | | | | | | |

| | |
|------------------------|--------------------------|
| Data/parameter: | EG_{in,y} |
| Unit | MWh |

| | |
|--|--|
| Description | Annual on-grid electricity imported from NWCPG by the project for the plant operation. |
| Measured/calculated/default | Measured. Measured continuously by M1 and M1', and checked by M2 and M2'. |
| Source of data | Sales receipts and monthly reading records of the project owner |
| Value(s) of monitored parameter | 121.612MWh from 30/12/2014 to 29/12/2015, see Table E.1 for details. |
| Monitoring equipment | Same as the part of EG_{out,y} . |
| Measuring/reading/recording frequency: | Measured continuously, read and recorded monthly. |
| Calculation method (if applicable): | N.A. |
| QA/QC procedures: | <ul style="list-style-type: none"> – M1 and M1' are calibrated every year. – M2 and M2' are calibrated once a year. – Power is double checked with sales receipts. – Data record and relevant documents will be archived for a period of 2 years after the crediting period. – Special CDM project team has been set up. – A detailed rule on monitoring management has been made. |
| Purpose of data: | Calculation of baseline emissions. |
| Additional comments: | To calculate $EG_y = EG_{out,y} - EG_{in,y}$ EG_y , Net electricity exported to the NWCPG by the project, is calculated by $EG_y = EG_{out,y} - EG_{in,y}$ |

| | | | | | | | |
|--|--|---------|----------|----------------|--------------------------|---------------------|------------------------|
| Data/parameter: | TEG_y | | | | | | |
| Unit | MWh | | | | | | |
| Description | Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y. | | | | | | |
| Measured/calculated/default | Calculated. Calculated as the sum of M3, M4 and M5. | | | | | | |
| Source of data | Monthly reading records | | | | | | |
| Value(s) of monitored parameter | 113,149.200 MWh from 30/12/2014 to 29/12/2015, table in the Section E.2 for details. | | | | | | |
| Monitoring equipment | M3, M4, M5 are used to monitor the electricity produced by the each generator. Locations of these meters are indicated in Figure C.1. | | | | | | |
| | No. | Type | Accuracy | Serial number | Frequency of calibration | Date of calibration | Validity Period |
| | M3 | DTSD341 | 0.5S | 20080352030008 | 3 year | 25/03/2015 | 25/03/2015 -24/03/2018 |
| | M4 | DSSD331 | 0.5S | 20080352030007 | 3 year | 25/03/2015 | 25/03/2015 -24/03/2018 |
| | M5 | DSSD331 | 0.5S | 20080352030004 | 3 year | 27/09/2015 | 27/09/2015 -26/09/2018 |
| Measuring/reading/recording frequency: | Measured continuously, read and recorded monthly. | | | | | | |
| Calculation method (if applicable): | Calculated as the sum of M3, M4 and M5. | | | | | | |
| QA/QC procedures: | <ul style="list-style-type: none"> – M3, M4 and M5 are calibrated once three years. – Data record and relevant documents will be archived for a period of 2 years after the crediting period. – Special CDM project team has been set up. A detailed rule on monitoring management has been made. | | | | | | |
| Purpose of data: | Calculation of project emissions. | | | | | | |
| Additional comments: | N.A. | | | | | | |

| | |
|--|--|
| Data/parameter: | Cap_{PJ} |
| Unit | MW |
| Description | Installed capacity of the hydro power plant after the implementation of the project activity. |
| Measured/calculated/default | Measured. |
| Source of data | Check the nameplate of the equipment on the site. |
| Value(s) of monitored parameter | 40.2 |
| Monitoring equipment | N.A. |
| Measuring/reading/recording frequency: | Check the nameplate of the equipment on the site, yearly. |
| Calculation method (if applicable): | N. A. |
| QA/QC procedures: | <ul style="list-style-type: none"> – Data record and relevant documents will be archived for a period of 2 years after the crediting period. – Special CDM project team has been set up. A detailed rule on monitoring management has been made. |
| Purpose of data: | Calculation of project emissions. |
| Additional comments: | N. A. |

| | |
|--|---|
| Data/parameter: | A_{PJ} |
| Unit | m² |
| Description | Area of the reservoir measured at the surface of the water, after the implementation of the project activity, when the reservoir is full. |
| Measured/calculated/default | Measured. |
| Source of data | Survey Report on Surface Area of the Reservoir, by Northwest Hydro Consulting Engineers, CHECC. |
| Value(s) of monitored parameter | 471,600 |
| Monitoring equipment | Equipments of Northwest Hydro Consulting Engineers, CHECC. |
| Measuring/reading/recording frequency: | Measured and recorded yearly. |
| Calculation method (if applicable): | N.A. |
| QA/QC procedures: | N. A. |
| Purpose of data: | Calculation of project emissions. |
| Additional comments: | N.A. |

D.3. Implementation of sampling plan

>>N.A.

SECTION E. Calculation of emission reductions or GHG removals by sinks

E.1. Calculation of baseline emissions or baseline net GHG removals by sinks

>>

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity, calculated as follows:

$$BE_y = EG_y \bullet EF_{grid,CM,y} \quad (E.1-1)$$

Where:

BE_y = Baseline emissions in year y (tCO₂/yr).

EG_y = Net electricity exported to the grid by the project activity (MWh), as indicated in the Table E.1.

EF_{grid,CM,y} = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the “Tool to calculate the emission factor for an electricity system”. The value has been calculated ex ante as 0.8498tCO₂/MWh and there is no need for monitor and recalculation.

Baseline emissions during this monitoring period is shown in the Table E.1 and the detail data can be referred to the ER calculation sheet.

Table E.1 Baseline emission reduction calculation

| Period | EGout,y MWh | | | EGin,y MWh | | | EGy MWh | EFgrid,CM y ,tCO ₂ e/ MWh | BEy tCO ₂ e |
|----------------------------------|-----------------|-----------------|-------------------------|-----------------|-----------------|------------|-------------|--|---------------------------|
| | A ^{*1} | B ^{*2} | C=Min (A,B) | D ^{*1} | E ^{*2} | F=Max(D,E) | G=C-F | H | I=G*H |
| 30/12/2014-29/01/2015 | 1,655.940 | 1,669.140 | 1,655.940 ^{*3} | 42.9 | 42.94 | 42.940 | 1,613.000 | 0.8498 | 1,371 |
| 30/01/2015-26/02/2015 | 1,504.800 | 1,499.982 | 1,499.982 | 50.16 | 50.213 | 50.213 | 1,449.769 | 0.8498 | 1,232 |
| 27/02/2015-29/03/2015 | 3,991.020 | 3,991.812 | 3,991.020 ^{*3} | 15.18 | 15.246 | 15.246 | 3,975.774 | 0.8498 | 3,379 |
| 30/03/2015-28/04/2015 | 5,443.020 | 5,440.644 | 5,440.644 | 11.88 | 11.893 | 11.893 | 5,428.751 | 0.8498 | 4,613 |
| 29/04/2015-29/05/2015 | 10,455.060 | 10,445.028 | 10,445.028 | 0 | 0 | 0.000 | 10,445.028 | 0.8498 | 8,876 |
| 30/05/2015-28/06/2015 | 15,868.380 | 15,859.206 | 15,859.206 | 0 | 0 | 0.000 | 15,859.206 | 0.8498 | 13,477 |
| 29/06/2015-29/07/2015 | 21,889.560 | 21,889.560 | 21,889.560 | 0 | 0 | 0.000 | 21,889.560 | 0.8498 | 18,602 |
| 30/07/2015-29/08/2015 | 10,911.780 | 10,910.592 | 10,910.592 | 0 | 0 | 0.000 | 10,910.592 | 0.8498 | 9,272 |
| 30/08/2015-28/09/2015 | 12,772.980 | 12,742.422 | 12,742.422 | 0 | 0 | 0.000 | 12,742.422 | 0.8498 | 10,829 |
| 29/09/2015-29/10/2015 | 14,366.880 | 14,361.666 | 14,361.666 | 0 | 0 | 0.000 | 14,361.666 | 0.8498 | 12,205 |
| 30/10/2015-28/11/2015 | 8,114.040 | 8,111.334 | 8,111.334 | 0 | 0 | 0.000 | 8,111.334 | 0.8498 | 6,893 |
| 29/11/2015-29/12/2015 | 5,109.060 | 5,100.810 | 5,100.810 | 1.32 | 1.32 | 1.320 | 5,099.490 | 0.8498 | 4,334 |
| Total (30/12/2014-29/12/2015) | 112082.52 | 112022.196 | 112,008.204 | 121.440 | 121.612 | 121.612 | 111,886.592 | - | 95,081 |

Please get details in the calculation spreadsheets.

Note :

*1, Data is from monthly reading records of the project owner and monitored by M2/M2’.

*2, Data is from the sales receipts of the grid company and monitored by M1/M1'. Data of monthly reading records has been crosschecked with the receipts and the conservative data has been used.
 *3, For Jan and Mar of 2015, data reading time of the grid company are later than that of the project owner, which lead to the data in the sales receipts(in Colum B) are bigger than that in the monthly reading records(in Column A). In this case, conservative data has been used.

E.2. Calculation of project emissions or actual net GHG removals by sinks

>>

According to the ACM0002, if the power density (PD) of the power plant is greater than 10 W/m²:
 $PE_y = 0$

The power density of the project activity is calculated as follows:

$$PD = \frac{Cap_{PJ} - Cap_{BL}}{A_{PJ} - A_{BL}} \quad (E.2)$$

Where:

PD = Power density of the project activity (W/m²).

Cap_{PJ} = Installed capacity of the hydro power plant after the implementation of the project activity (W).

Cap_{BL} = Installed capacity of the hydro power plant before the implementation of the project activity (W). For new hydro power plants, this value is zero.

A_{PJ} = Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m²).

A_{BL} = Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m²). For new reservoirs, this value is zero.

For this project: $PD = (40,200,000 - 0)W \div (471,600 - 0)m^2 = 85.24W/m^2$, is greater than 10 W/m² (A_{PJ} in the PDD is 520,000m², which is estimated data in its FSR and is not accurate. Even using this estimated data, $PD = (40,200,000 - 0)W \div (520,000 - 0)m^2 = 77W/m^2$ is still above 10W/m²). So the Project emission is zero. i.e. $PE_y = 0$.

The monitoring data of the TEG_y is 113,149.200MWh from 30/12/2014 to 29/12/2015, as indicated in the following table. These data weren't used for the calculation of ERs in this monitoring period for $PD > 10W/m^2$ as calculation above.

| Period | Electricity produced by G1, MWh | Electricity produced by G2, MWh | Electricity produced by G3, MWh | Total electricity produced by the project activity(TEG _y), MWh |
|-------------------------------|---------------------------------|---------------------------------|---------------------------------|--|
| Total (30/12/2014-29/12/2015) | 34,995.600 | 36,022.800 | 42,130.800 | 113,149.200 |

Please get details in the calculation spreadsheets.

E.3. Calculation of leakage

>> According to the ACM0002 methodology, the leakage in the project is neglected, i.e. $LE_y = 0$.

E.4. Summary of calculation of emission reductions or net GHG removals by sinks

| Item | Baseline emissions or baseline net GHG removals by sinks (t CO ₂ e) | Project emissions or actual net GHG removals by sinks (t CO ₂ e) | Leakage (t CO ₂ e) | GHG emission reductions or net GHG removals by sinks (t CO ₂ e) achieved in the monitoring period | | |
|--------------|--|---|-------------------------------|--|-----------------|--------------|
| | | | | Up to 31/12/2012 | From 01/01/2013 | Total amount |
| Total | 95,081 | 0 | 0 | N.A. | 95,081 | 95,081 |

E.5. Comparison of actual emission reductions or net GHG removals by sinks with estimates in registered PDD

| Item | Values estimated in ex ante calculation of registered PDD | Actual values achieved during this monitoring period |
|--|---|--|
| Emission reductions or GHG removals by sinks (t CO ₂ e) | 138,919 | 95,081 |

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

>> From 30/12/2014-29/12/2015 (total 365 days), the project has a total actual net electricity exported to the grid of 111,886.592MWh, corresponds to the emission reductions of 95,081tCO₂e, which is about 31.56% lower than the designed value of 138,919tCO₂e.

Appendix 1. Contact information of project participants and responsible persons/entities

| | |
|--|--|
| Project participant and/or responsible person/ entity | <input checked="" type="checkbox"/> Project participant <input type="checkbox"/> Person/entity responsible for completing the CDM-MR-FORM |
| Organization name | GEPIC Darong Electric Power Company Ltd. |
| Street/P.O. Box | 69, Hedong Rd., Chengguan District |
| Building | Gansu Investment Building |
| City | Lanzhou |
| State/region | Gansu Province |
| Postcode | 730046 |
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| Telephone | +86 0931 8378861 |
| Fax | +86 0931 8378899 |
| E-mail | gsdrctdm@163.com |
| Website | http://www.dtdr.cn |
| Contact person | Hu Bo |
| Title | PM of CDM |
| Salutation | Mr. |
| Last name | Bo |
| Middle name | - |
| First name | Hu |
| Department | Planning & Development Department |
| Mobile | +86 13466709793 |
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| | |
|--|--|
| Project participant and/or responsible person/ entity | <input checked="" type="checkbox"/> Project participant <input type="checkbox"/> Person/entity responsible for completing the CDM-MR-FORM |
| Organization name | Vattenfall Energy Trading Netherlands N.V. |
| Street/P.O. Box | Hoekenrode 8 |
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| City | Amsterdam |
| State/region | --- |
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| Country | The Netherlands |
| Telephone | T +31 888380064 |
| Fax | --- |
| E-mail | francisco.grajales@vattenfall.com |
| Website | www.vattenfall.com |
| Contact person | Francisco Grajales Cravioto |
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| Salutation | Mr. |
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Document information

| <i>Version</i> | <i>Date</i> | <i>Description</i> |
|---|-----------------|--|
| 05.1 | 4 May 2015 | Editorial revision to correct version numbering. |
| 05.0 | 1 April 2015 | Revisions to: <ul style="list-style-type: none"> • Include provisions related to delayed submission of a monitoring plan; • Provisions related to the Host Party; • Remove reference to programme of activities; • Overall editorial improvement. |
| 04.0 | 25 June 2014 | Revisions to: <ul style="list-style-type: none"> • Include the Attachment: Instructions for filling out the monitoring report form (these instructions supersede the "Guideline: Completing the monitoring report form" (Version 04.0)); • Include provisions related to standardized baselines; • Add contact information on a responsible person(s)/ entity(ies) for completing the CDM-MR-FORM in A.6 and Appendix 1; • Change the reference number from <i>F-CDM-MR</i> to <i>CDM-MR-FORM</i>; • Editorial improvement. |
| 03.2 | 5 November 2013 | Editorial revision to correct table in page 1. |
| 03.1 | 2 January 2013 | Editorial revision to correct table in section E.5. |
| 03.0 | 3 December 2012 | Revision required to introduce a provision on reporting actual emission reductions or net GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB70, Annex 11). |
| 02.0 | 13 March 2012 | Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20). |
| 01 | 28 May 2010 | EB 54, Annex 34. Initial adoption. |
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