CDM VERIFICATION REPORT

- "6th Periodic Verification–

"SINDICATO ENERGETICO S.A."

PROJECT: "Poechos I Project."

UNFCCC REFERENCE NUMBER: "0086"

MONITORING PERIOD:

FROM 2011/04/01 TO 2013/03/31

"AENOR Reference nº: 2013/070/CDM/29"

Verification Report:	AENOR Reference nº:		Version of this document:		Date of this rev.:
	2013/070/CDM/29		02		03/12/2013
Project:	Title:		Registration date:		UNFCCC Reference
	Poechos I Project		14/11/2005		0086
Project Participant(s):	Host Party:		Other involved Parties:		
	Republic of Peru				
Applied methodology/ies:	Title:		Code:	Nº revision	Scope:
	"Consolidated baseline methodology for grid-connected electricity generation from renewable sources"		ACM0002	12.1.0	1
Monitoring report:	Title:		Draft version:		Final version:
	6th Monitoring Report Poechos I Project		1 (01/07/2013)		3 (04/11/2013)
Emission reductions:	Monitoring period:	Verified amount	As per draft MR:		As per PDD:
	2011/04/01 to 2013/03/31	90,467	97,310		65,700
Previous versions of this document:			Version:		Date:
			1		26/11/2013
			2		
			3		

Summary of verification:

The Spanish Association for Standardisation and Certification (AENOR) has performed the verification of the emission reductions of "Poechos I Project" (Registration Ref. No. 0086) from 01 April 2011 to 31 March 2013.

"Poechos I Project" is a hydroelectric plant located in Peru, in the North-western Department of Piura. "Poechos I Project" has an installed capacity of 15.2 MW. The objective of the "Poechos I Project" is renewable electricity generation to be supplied to the Peruvian National Inter-connected Electric Grid (SEIN).

A risk-based verification approach was employed to identify key risks to emission reduction estimations.

During the on-site visit the quality assurance of the data concerned in the calculation of the emission reduction was verified. The installation of the project was also verified and the proper use of the meters and procedure controls were also tested.

Calibration evidence allowed the verification team to verify that the energy power meters used for "Poechos I Project" worked correctly during the monitoring period.

AENOR confirms that the project is implemented in accordance with the registered Project Design Document and the approved Monitoring Plan. The monitoring system is in place and the emission reductions are calculated without material misstatements. Therefore, in AENOR's opinion, the GHG emission reductions reported in the latest version of the Monitoring Report are correct.

All corrective action requests (CAR) and clarification actions (CL) have been checked by the verification team and have been adequately resolved.

Based on the information checked and evaluated, AENOR is able to certify that the emission reductions from the "Poechos I Project" project during the period 01 April 2011 to 31 March 2013 amount to 90,467 tonnes of CO2 equivalent.

Report prepared by:	Climate Change Unit. AENOR

Abbreviations

AENOR	Spanish Association for Standardisation and Certification
ACM0002	Consolidated baseline methodology for grid-connected electricity generation from renewable sources (version 12.1.0)
CAR	Corrective action request
CDM	Clean development mechanism
CDM-EB	CDM Executive Board
CER	Certified emission reduction
CL	Clarification request
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
COES	Committee on Economic Operation of the Electricity System
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DOE	Designated operational entity
DNV	Det Norske Veritas
ENOSA	Electro Noroeste S.A
ER	Emission reduction
FAR	Forward action request
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of verification
MP	Monitoring plan
MR	Monitoring report
PDD	Project design document
PP	Project participant
tC	Carbon tonnes
tCO_2eq	Carbon dioxide equivalent tonnes
SEIN	Peruvian National Interconnected Electric Grid
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

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1 INTRODUCTION

Sindicato Energetico S.A. (SINERSA), commissioned AENOR to carry out the verification and certification of the emission reductions generated by the "Poechos I Project" in Peru (the project) for the period 1 April 2011 to 31 March 2013. This report contains the findings from the verification and a certification statement for the certified emission reductions.

1.1 Objective

According to the modalities and procedures for the CDM (Decision 3/CMP1, paragraph 61) the purpose of the verification is the periodic independent review and ex-post determination by the DOE of the monitored reductions in anthropogenic emissions by sources of GHG that have occurred as a result of a registered CDM project activity during the verification period.

Certification is the written assurance by the DOE that, during a specified time period, a project activity achieved the reductions in anthropogenic emissions by sources of greenhouse gases as verified.

1.2 Scope

The verification, as an independent and objective review, shall assess and verify that the implementation of the project activity and the steps taken to report emission reductions comply with the CDM criteria and relevant guidance provided by the CMP and the CDM Executive Board. The verification shall:

1. Ensure that the project activity has been implemented and operated as per the registered PDD /1/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place. It is, therefore, necessary to:
    - Interview relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the PDD/2/.
    - Check the monitoring equipment, including calibration performance and observations of monitoring practices, against the requirements of the PDD and the selected methodology.
    - Check that the manual operating provisions are duly followed (processes, routines, instructions, forms and the like).

2. Ensure that the Monitoring Report /3/ and other supporting documents provided are complete and verifiable and in accordance with applicable CDM requirements. It is, therefore, necessary to:
    - Review relevant documentation and conduct an on-site visit.
    - Review data and information presented to verify their completeness.
    - Review indicators that must be addressed in the monitoring plan.
    - Review the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures.

3. Ensure that current monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology, carrying out:
    - A review of information flows for generating, aggregating and reporting the monitoring parameters.
    - A crosscheck between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources.
    - A review of calculations and assumptions made in determining the GHG data and emission reductions.

- A review of the project documentation provided by the project participant to check that it is based upon both quantitative and qualitative information on emission reductions. Quantitative information comprises the reported numbers in the monitoring report submitted to the DOE. Qualitative information comprises information on internal management controls, calculation procedures, and procedures for transfer of data, frequency of emissions reports, and review and internal audit of calculations.

4. Evaluate the data recorded and stored as per the monitoring methodology, carrying out:
   - An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.
   - Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

5. Identify and inform the project participant of any concerns related to the project's activity and operation conformance with the registered project design document. Project participant shall address the concerns and supply additional relevant information.

6. Provide a verification report to the project participant, the Parties involved and the CDM Executive Board. The report shall be made publicly available.

The verification is not meant to provide any consultancy services to the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring report.

AENOR, based on the specific instruction for validation, verification and certification of clean development mechanism (CDM) project activities (IE/DTC/039) /4/, which is in turn based on the Clean Development Mechanism Validation and Verification Standard version 05.0 /5/, has used a risk-based approach in the verification, focusing on the identification of significant risks for the generation of CERs and verifying the mitigation measures for these issues.

1.3 Description of the Project Activity

Host Country:	Perú
Title of project activity:	Poechos I Project
UNFCCC registration No:	0086
Project Participant:	"Sindicato Energetico S.A. (SINERSA)" "Calle Los Ruiseñores Oeste 277, San Isidro,- LIMA-PERÚ" " (51-1) 421-7359 / 222-4888" "bzdrav@sinersaperu.com"
Location of the project activity:	The coordinates of the project site are: Latitude: -4.68437, Longitude: -80.52519.
Project's crediting period:	"01/04/2011" to "31/03/2018" (second renewable period)
Verification period:	"01/04/2011" to "31/03/2013"
Project starting date:	"01/11/2002"

The validation and previous verifications are summarized below:

Process	DOE	Crediting period	Date	Amount of CERs
Validation	TÜV SÜD	01 Apr 04 - 31 Mar 11	14/11/2005	220,241

1st verification	DNV	01 April 2004 to 31 March 2006	01/02/2007	51,280
2nd verification	DNV	01 April 2006 to 31 March 2007	13/02/2008	30,612
3rd verification	DNV	01 April 2007 to 31 March 2009	21/06/2010	97,126
4th verification	DNV	01 April 2009 to 31 March 2010	02/03/2012	53,119
5th verification	DNV	01 April 2010 to 31 March 2011	07/01/2013	40,085
Validation Opinion-Crediting Period Renewal	DNV	01 Apr 11 - 31 Mar 18	09/06/2012	229, 950

2 METHODOLOGY

2.1 Verification Steps

Preparations: From "05/07/2013" to "31/07/2013"
On-site verification: "01/08/2013"
Reporting: From "02/08/2013" to "03/12/2013"

2.1.1 Appointment of team members and technical reviewers

The list of involved personnel and the qualification status are summarized in the table below:

Name	Qualification	
	Position in the team	Technical areas
Luis Javier ARRIBAS ALONSO	Chief Verifier	TA 1.2
Freddy GARRO FLORES	Trainee Chief Verifier	TA 1.2
Richard GONZALES TOLEDO	Verifier	TA 1.2
Alfonso MEDRANO GUTIERREZ	Technical Reviewer	TA 1.2

Technical areas (TA) mentioned above correspond to the following:

TA code	Technical area
TA 1.1	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX);
TA 1.2	Energy generation from renewable energy sources.
TA 2.1	Electricity distribution;
TA 2.2	Heat distribution
TA 3.1	Energy demand
TA 4. 1	Cement sector (COMPLEX);
TA 4.2	Aluminum (COMPLEX);
TA 4.3	Iron and steel (COMPLEX);
TA 4.4	Refinery (COMPLEX)
TA 5.1	Chemical process industries (COMPLEX).
TA 6.1	Construction.
TA 7.1	Transport.
TA 8.1	Mining and mineral processes, excluding those included in TA 8.2 below;
TA 8.2	Oil and gas industry, coal mine methane recovery and use (COMPLEX).
TA 9.1	Metal production.

TA 10.1	Mining and mineral processes, excluding those included in TA 10.2 below;
TA 10.2	Oil and gas industry, coal mine methane recovery and use (COMPLEX).
TA 11.1	Chemical process industries (COMPLEX);
TA 11.2	GHG capture and destruction.
TA 12.1	Chemical process industries (COMPLEX).
TA 13.1	Waste handling and disposal;
TA 13.2	Animal waste management.
TA 14.1	Forestry
TA 15.1	Agriculture
TA 15.2	Animal waste management.

2.1.2 Publication of the Monitoring Report

On 04 July 2013, the project participant, SINERSA, sent AENOR the sixth monitoring report for the monitoring period 01 April 2011 to 31 March 2013 /6/. The DOE made the monitoring report available to Global Stakeholder Consultation (GSC) on the UNFCCC website on 05 July 2013.

2.1.3 Review of Documentation

Version 01 of the monitoring report was made publicly available for GSC on 05 July 2013. After the on-site visit, and due to the on-site visit conclusions, the monitoring report was updated to address the CARs and/or CLs, and a final version of the monitoring report dated on 04 November 2013 had to be drafted.

The desk review involved a review of:

- Project documentation: registered PDD, Validation Report /7/, Validation Opinion-Crediting Period Renewal /8/ and previous Verification Reports (from first to fifth) /9-13/.
- Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board.
- The monitoring plan and the applied monitoring methodology, paying close attention to the frequency of measurements, the quality of metering equipment and the quality assurance and quality control procedures.
- The data and information presented to verify their completeness, including the monitoring report and the measuring records of the different monitored parameters.
- The influence of data management and the quality assurance and quality control system on the generation and reporting of emission reductions.

A complete list of all documents reviewed is attached in section 6 of this report.

2.1.4 Site Visits

On 01 August 2013, the AENOR's verification team made a visit to the "Poechos I Project" (Registration Ref. No. 0086). The on-site visit included visits to the facilities of the project, such as: Poechos dam, Reservoir, Sullana Substation and Poechos I Power Plant. Furthermore, the verification team made a visit to the Poechos II Power Plant[1]. Also, during the on-site visit the verification team was able to complete:

[1] The project participant used to meter directly the energy of Poechos I in the meter of Sullana. However, the project participant built recently another hydro power plant called Poechos II which its energy is also metered in the energy meter of Sullana. Poechos II also has its own energy meter located in its facility. Now the net electricity of Poechos I is calculated as the electricity metered in the meter of Sullana minus the energy metered in the energy meter of Poechos II.

- An assessment of the implementation and operation of the project activity as per the registered PDD.
- A review of information flows for generating, aggregating and reporting the monitoring parameters.
- A crosscheck between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources.
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PDD and the selected methodology.
- A review of calculations and assumptions made in determining the GHG data and emission reductions.
- An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.
- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan included in the registered PDD.

The persons interviewed are indicated below:

Interviewed organization Person/Position	Interview topics
SINDICATO ENERGÉTICO S.A. Mr. Reddy Risco. Operational Manager. Rolando Senador Supervisor	• Flows for generating, aggregating and reporting the monitoring parameters. • Review of operating and measurement records. • Generation data verification. • Electrical energy generation reports. • Check and calibration of metering equipment. • Calibration of meters. • Testing of monitoring equipment and observation of monitoring practices. • Environmental and social agreements. • Controls established to detect and correct any error or omission in monitoring parameters. • Running of specific checks and trials on data sources and data management practices where risks are detected. • Reliability of internal and external data. • Internal data quality control.
CDM Consultant. Mr. Lorenzo Eguren.	• Monitoring report and emission reduction calculations. • Estimates and assumptions for determining GHG data. • Sufficiency of monitoring plan. • Cross-check between information provided in the monitoring report and data from the monitoring system, plant log books, minutes meeting with stakeholders, purchase records, etc. • Crosschecking of sales receipts • Clarifications related to monitoring procedures.

2.1.5 Findings

As an outcome of the verification process, the team can raise different types of findings according to the CDM Validation and Verification Standard.

Corrective Action Requests (CARs) are issued, where:

(a) Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;

(b) Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;

(c) Issues identified in a FAR during verification to be verified during verification have not been resolved by the project participants.

Clarification Requests (CLs) are issued if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

Forward Action Requests (FARs) are issued for actions if the monitoring and reporting require attention and/or adjustment for the next verification period.

The project participants were requested to address all verification findings and finally provided the verification team with sufficient evidence to determine that the applicable CDM requirements have been met. The project participant modified the initial monitoring report to resolve the verification team concerns and resubmitted a final version. AENOR has prepared this report based on the final monitoring report.

All the verification findings are summarized in section 3 below and documented in more detail in section 5 and in the verification protocol included in Annex 1.

2.1.6 Internal Quality Control

Following the completion of the assessment process by the verification team, all documentation undergoes an internal quality control through a technical review before the request for Issuance of CERs is submitted. The Technical reviewer is a qualified member of AENOR, independent from the team that carried out the verification of the project activity. The technical reviewer or the team appointed for the technical review is qualified in the technical area(s) and sectoral scope(s) of the project activity.

3 VERIFICATION FINDINGS

The summary of CAR, FAR and CL issued are shown in Table below:

	Verification topic	No. of CAR	No. of CL	No. of FAR
1	Project implementation	1,3	1,2,3	-
2	Compliance with monitoring plan	4,5	4,5,7	-
3	Compliance with monitoring methodology	-		-
4	Monitoring Parameters	-	-	-
5	Emission Reduction Calculations	6,7	-	-
6	Quality of Evidence to determine ER	2	-	-
7	Management System and Quality Assurance	-	6	-

	SUM	**7**	**7**	**-**

All raised CARs, CLs and FARs are shortly explained briefly in the following sections. For an in depth evaluation of all verification items it should be referred to the verification protocol *(*see Annex*)*.

In the following paragraphs the findings from the desk review of the monitoring report, the calculation spreadsheet, PDD, the validation report, the monitoring plan and other supporting documents as well as from the on-site assessment and the interviews are summarised. All CARs and CLs raised are briefly explained in the following sections. For an in-depth evaluation of all verification items, refer to the verification protocol *(*see annex 1 and section 5*)*.

3.1 Remaining issues, CARs, FARs from Previous Validation or Verification.

During the previous verification process, the DOE might have raised issues that could not be closed or resolved during the last monitoring period. For this purpose FARs might have been raised. No such issues were identified for this project.

Furthermore no remaining issues such as CARs, CLs or FARs have been raised from previous verification or validation.

3.2 Post Registration Changes

3.2.1 Temporary deviations from the registered monitoring plan or applied methodology

No temporary deviations from the registered monitoring plan or applied methodology as it is described in the revised PDD have been requested.

3.2.2 Corrections

No corrections to the project information or parameters fixed at validation as it is described in the revised PDD have been requested.

3.2.3 Permanent Changes from the registered monitoring plan or applied methodology

No permanent changes from the registered monitoring plan or applied methodology as it is described in the revised PDD have been requested.

3.2.4 Changes to project design of registered project activity

No changes to project design of registered project activity as it is described in the revised PDD have been requested.

3.2.5 Changes to start date of crediting period

No changes to the start date of the crediting period stated in the registered PDD have been requested.

3.3 Implementation of Project Activity

During the on-site visit, the verification team verified that:

- The implementation and operation of the project activity was as per the registered PDD.
- The information provided in the monitoring report was in accordance with data from other sources such as plant logbooks, inventories, purchase records or similar data sources.
- The monitoring equipment, including calibration performance and observations of monitoring practices, complied with the requirements of the PDD and the selected methodology.
- The operational and data collection procedures are implemented in accordance with the monitoring plan and the PDD.

The registered PDD, validation report, previous verification reports and the validation opinion for crediting period renewal are available on the UNFCCC website: http://cdm.unfccc.int/Projects/DB/TUEV-SUED1123850211.52/view

The project was registered on 14 November 2005 against ACM 002 version 02 /14/

The first crediting period was from 01 April 2004 to 31 March 2011. The following issuance of CERs has been previously approved:

- The first issuance of CERs was approved on 01 February 2007, which covers the period from 01 April 2004 to 31 March 2006.
- The second issuance of CERs was approved on 13 February 2008, which covers the period from 01 April 2006 to 31 March 2007.
- The third issuance of CERs was approved on 21 June 2010, which covers the period from 01 April 2007 to 31 March 2009.
- The fourth issuance of CERs was approved on 02 March 2012, which covers the period from 01 April 2009 to 31 March 2010.
- The fifth issuance of CERs was approved on 07 January 2013, which covers the period from 01 April 2010 to 31 March 2011.

The crediting period renewal was approved on 9 June 2012 under the methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" Version 12.1.0 /15/. The second crediting period covers from 01 April 2011 until 30 March 2018.

This is the sixth monitoring period under verification, which began on 01 April 2011 and ended on 31 March 2013 and it corresponds to the second crediting period.

Through the on-site visit and desk-review of documents provided by the PP, it has been verified that project implementation, equipment installation and project boundary are in compliance with the registered PDD.

No fossil fuels were used for power generation by the project during this monitoring period. This has been confirmed by the on-site visit and interview with the project participant. There are no other sources of GHG emissions attributable to the project activity.

The final version of the monitoring report contains a comparison of the actual emission reductions claimed in the monitoring period with the estimate in the registered PDD. The claimed emission reductions for this monitoring period are 90,467 tCO_2e. The estimated annual emission reductions in the PDD are 65,700 tCO2e.

Therefore, the emission reductions achieved during the current monitoring period are higher than the annual emission reduction estimated in the registered CDM-PDD, due to abundant rains that took place during the monitoring period.

According with the evidence of the Chira River Hydrology from year 1976 to 2004 /16/, the average yearly hydrology (excluding the atypical years of 1983 and 1998, when the Niño phenomenon occurred), was 3,314.5 m^3, while the hydrology of year 2012 was 8,698.3 m^3. Then year 2012 had a hydrology 162% above the average.

Furthermore, in accordance with the Hydrology Reports from the Water Authority of Chira-Piura /17/, the higher water availability in Poechos dam has covered in the first place, the agricultural demand while also has increased the water supply for use in power generation. For that reason, the total electricity output of the power plant for the monitoring period was higher than the average.

On the basis of the site visit and the reviewed project documentation it can be confirmed that the technology, the project equipment, and the monitoring and metering equipment have been implemented and operated in line with the registered PDD.

During the on-site visit the audit team verified that the power house currently hosts two Kaplan turbines. The audit team reviewed the technical features of the installed turbines, generators and transformer among other facilities and found the previous information to be correct, which is described and clarified in the final version of the monitoring report.

The audit team verified that the values of the evidence from official sources are rather similar; therefore, they are considered reasonable.

In AENOR's opinion, during the monitoring period 01 April 2011 to 31 March 2013, the project was adequately implemented and it can be confirmed that technology, project equipment and monitoring and metering equipment have been implemented and operated in line with the registered PDD.

3.4 Update on changes and incidents

During the on-site visit and the desk review process, the audit team reviewed information from the operational system of the plant, metering system, communications and other internal reports in order to identify changes or incidents during the operation of the plant during the monitoring period.

The audit team identified two generation stops occurred in June and September 2011. After crosschecking the available information Energy records from meters /18/ and Hydrology Reports from the Water Authority of Chira-Piura, the audit team found the following relevant events summarised in the next table:

Date	Event
14 to 21 of June 2011	Temporally closure of Miguel Checa channel by the local water authority
24 to 29 of September 2011.	Temporally closure of Miguel Checa channel by the local water authority

In accordance with the evidence provided the audit team has verified that the generation stops in June and September 2011 were due to the temporally closures of Miguel Checa channel approved by the water authority.

The audit team verified these dates in the hydrology reports and found that there have not been any other significant problems in the operation of the power plant.

Furthermore, it was verified that were no relevant changes in plant operator personnel. Only minor changes in the personnel included in the ERCP structure have been found.[2] These changes do not affected the implemented monitoring procedures

[2] Mr Arrue was in charge of the Build Margin Calculation; however this factor was calculated ex-ante. In the other hand, Mr Chavez, was in charge of Support activities, however, Mr Balanovic has assumed these responsibilities.

3.5 Compliance of the monitoring plan with the monitoring methodology

The verification team reviewed whether the validated CDM project activity was in accordance with the applied methodology and whether any other monitoring aspect of the project activity that is not specified in the methodology was established.

The monitoring methodology follows the ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" Version 12.1.0.

During the desk review, monitoring parameters included in the applied methodology were compared with those included in the Monitoring report, and they were found consistent

The audit team has verified that SINERSA has monitored all parameters considered in the section B.7.1 of the approved PDD.

Moreover, during the on-site visit, the audit team was able to review different records and found that the most important aspects of the monitoring methodology were adequately considered and documented. Therefore, the audit team considers that the monitoring plan is in compliance with the approved methodology applied by the CDM project activity.

3.6 Compliance of monitoring with the monitoring plan

Regarding the compliance with the monitoring plan, the verification team confirmed that:

- The monitoring of reductions in GHG emissions to result from the proposed CDM project activity was implemented in accordance with the monitoring plan contained in the registered PDD.
- The monitoring plan and the applied methodology had been properly implemented and followed by the project participant.
- All parameters stated in the monitoring plan, the applied methodology and relevant CDM-EB decisions had been sufficiently monitored and updated.
- The responsibilities and authorities for monitoring and reporting were in accordance with the responsibilities and authorities stated in the monitoring plan.

Furthermore, the audit team reviewed the spreadsheet of emission reduction calculations and found that it follows the procedures stated in the registered PDD and is in compliance with the monitoring plan.

For this monitoring period, the project participant has used three calculation spreadsheets. These spreadsheets are:

- Poechos I DDA-OM 01 Apr 2011 - 31 Dec 2011 /19/
- Poechos I DDA-OM 01 Jan 2012- 31 December 2012 /20/
- Poechos I DDA-OM 01 Jan 2013 - 31 Mar 2013 /21/

Accordingly, as the registered PDD states, the parameters to be monitored in compliance with the applicable methodology are the following:

$EF_{grid, CM,y}$:	Combined margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"
$EF_{OM,y}$:	Operating margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"
***$EG_{m,y}$* and *$EG_{n,h}$*:**	Net electricity generated by the power plant/unit m, or n in year y or hour h

$EG_{PJ,h}$:	Electricity displaced by the project activity in h hour of year y
$n_{m,y}$:	Average net energy conversion efficiency of power unit m in year y (NEC)
$EG_{PJ,y}$:	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y
$EF_{CO2,i,y}$ and $EF_{CO2,m,i,y}$:	CO2 emission factor of fossil fuel type i used in power unit m in year y

These parameters for achieving emission reduction calculation by the prescribed equations for baseline emissions, project emissions, leakage and emissions reduction have been listed in section D of the Monitoring Report in a complete manner.

The audit team verified the information flow (from data generation, aggregation, to recording, calculation and reporting) for these parameters including the values in the monitoring reports, as it is detailed in section 7 of the verification protocol (see annex 1).

According to the applied methodology and tool to calculate the emission factor for an electricity system /22/, the operating margin has been determined ex-post whilst the Build Margin was fixed ex-ante /23/ at the time of request the renewal of the crediting period. For the purpose of determining the operating margin hourly dispatch data from the COES /24/ and merit order data from COES /25/ were used. The audit team checked the spreadsheet of emission reductions calculation against COES website data and found that they are used properly.

In AENOR's opinion, the monitoring system and all applied procedures are in compliance with the monitoring plan contained in the registered PDD and the applied methodology.

3.7 Compliance with calibration Frequency Requirement for measuring instruments

Equipment used for monitoring is adequate and is controlled and calibrated in accordance with the revised monitoring plan.

Since Poechos I has not its own electricity meter, its net electricity delivered to the grid is calculated by the difference between the electricity metered in Sullana minus the energy metered in Poechos II (MWhSullana - MWhPoechos II).

Then, for this monitoring period there is one meter installed in the interconnection point with the National Grid at Sullana Substation and there is another meter installed in "Poechos II hydroelectric plant", another power plant recently built by the Poject Participant which has its own energy meter located in its facility and also delivered energy to Sullana Sustation.

The following table summarises the principal information of the different meters involved in the monitoring process:

Meter	Details of Meter
Poechos II:	• Type: ION 7650 • Accuracy class: 0.2 % • Serial number: PJ-1004A406-02 • Calibration frequency: 3 years • Last calibration dates:

	•April 22, 2010. •May 18, 2012

Sullana substation power meter	• Type: Ion 7600
	• Accuracy class: 0.2%
	• Serial number: PL-0305A001-01
	• Calibration frequency: every three years
	• Last calibration dates:
	  • July 10, 2009
	  • May 18, 2012

The audit team could verify the calibration certificates /26/ provided by the project participant. Therefore, AENOR confirmed that the calibrations were conducted at the frequency specified by the methodology and revised monitoring plan.

3.8 Assessment of data and calculation of greenhouse gas emissions reductions

The audit team carried out a review of information flows for generating, aggregating and reporting the monitoring parameters to assess a completeness of monitoring in line with the registered monitoring plan and the applied methodology, including:

- The measurement/determination method used.
- Relevant monitoring equipment, their features and the control and calibration procedures.
- Significant inaccuracies occurring in case of measured or estimated values of some parameters.
- Measuring, reading and/or recording frequency.
- QA/QC procedures applied to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

Monitoring of reductions in GHG emissions to result from the registered project have been implemented in accordance with the monitoring plan. The monitoring mechanism is effective and reliable. All applicable parameters stated in the monitoring plan, the applied methodology and relevant CDM Executive Board decisions have been sufficiently monitored.

According to the applied methodology and "Tool to calculate the emission factor for an electricity system", the emission reduction *(***ERy***)* by the project activity during year y is the difference between the baseline emissions *(***BEy***)*, project emissions *(***PEy***)* and emissions due to leakage *(***Ly***)*

ERy= BEy- PEy- Ly

Leakage *(Ly)*

According to the applied baseline methodology, the project participant does not need to consider leakage.

Project emissions *(PEy)*

The Project does not lead to any GHG emissions. Hydropower plants built over existing reservoirs where the volume of the reservoir is not increased are classified as zero emission projects, for which there are no associated emissions in the Project boundary.

Baseline emissions *(BEy)*

According to the applied methodology, ACM0002 v.12.1.0, the baseline emissions are calculated as follows:

$$BE_y = EG_{,y} * EF_{,y}$$

Where:

BE_y : Baseline emissions in year y (tCO2/yr)

EG_y : Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year *y* (MWh/yr)

EF_y : Combined margin CO_2 emission factor for grid-connected power generation in year y calculated using the Tool to calculate the emission factor for an electricity system (ver 02.2.1.). (tCO2/MWh)

For this monitoring period there are two meters:

- The meter PL-0305A001-01, installed in the Sullana substation is an ION Power Measurement, model 7600, and has been implemented according to the dispatch centre (COES) requisites, which includes that meters should be a Class 0.2S compliant metering accuracy.
- The meter PJ-1004A406-02, installed at Poechos II facility s an ION Power Measurement, model 7650, and has been implemented according to the dispatch centre (COES) requisites, which includes that meters should be a Class 0.2S compliant metering accuracy.

Both hydro power plants, Poechos I and Poechos II delivered its energy to Sullana Substation. Since Poechos I has not its own electricity meter, its net electricity delivered to the grid is calculated by the difference between the electricity metered in Sullana minus the energy metered in Poechos II (MWhSullana - MWhPoechos II).

These meters are calibrated every three years. These calibrations have been within the normal range of operation, as the audit team could verify in the calibration certificates provided by the project participant. The audit team has reviewed the "CHP 2-Calibration procedure document |27| and considered the calibration has been conducted accordingly.

During the on-site visit, the audit team checked the features of the measurement equipment by reviewing the installed equipment and the calibration registers, and found that they were in compliance with the registered PDD and the monitoring plan. The audit team also verified that the meter had not been exchanged, nor experienced any failures during the monitoring period.

The energy generation of the project is cross-checked monthly against the energy values of the sales records to the Electronoroeste S.A. |28| in a spreadsheet called "Poechos I EGh net Electricity Check April 1st 2011– March 31 2013" |29|.

The audit team was able to verify this during the on-site visit by crosschecking the sales records of the monitoring period (April 1st 2011– March 31 2013) provided by the project participant to the verification team with the meter readings. No differences between meter readings and sales records were found for the monitoring period.

The emissions factor of the grid (EFy) is determined ex-post as a combined margin emission factor, consisting of the combination of operating margin (EFOM,y) and build margin (EFBM,y) emissions factors according to the following formulae:

$$EF_y = w_{OM} * EF_{OM,y} + w_{BM} * EF_{BM,y}$$

Where:

$EF_{OM,2011}$ =	0.65029 tCO2/MWh for the period 01 Apr 2011 -31 Dec 2011
$EF_{OM,2012}$ =	0.67902 tCO2/MWh for the period 01 Jan 2012 -31 Dec 2012
$EF_{OM,2013}$ =	0.69008 tCO2/MWh for the period 01 Jan 2013 -31 Mar 2013
$EF_{BM,y}$ =	0.50665 tCO2/MWh

According to the "Tool to calculate the emission factor for an electricity system (Version 02.2.1)", the weights w_{OM} and w_{BM}, by default, are:

w_{OM}= 0.25

w_{BM}= 0.75

Therefore;

EF_y = 0.25*(0.65029) + 0.75*(0.50665) = 0.54256 tCO2/MWh
EF_y =0.25*(0.67902) + 0.75*(0.50665) = 0.54974 tCO2/MWh
EF_y =0.25*(0.69008) + 0.75*(0.50665) = 0.55250 tCO2/MWh

According to the applied methodology, the operating margin emission factor for the project have been determined ex-post from the dispatch data obtained from the COES, using the calculation spreadsheet in accordance with the monitoring plan of the registered PDD for the corresponding monitoring period.

The OM emission factor of the grid, for each year is determinate with the following calculation spreadsheets:

"Poechos I DDA-OM 01 Apr 2011 - 31 Dec 2011"
"Poechos I DDA-OM 01 Jan 2012- 31 December 2012 "
"Poechos I DDA-OM 01 Jan 2013 - 31 Mar 2013"

The BM emission factor has fixed, in accordance with the PDD

Finally, after reviewing the spreadsheets and all the documents referred to in this report, AENOR was able to verify that the net amount of electricity for the period 01 Abril 2011 to 31 March 2013 was 165,165 MWh, which corresponds to emission reductions of 90,467 tCO2e.

The auditing team has reproduced the calculation made by the PP in spreadsheets and the same results have been obtained. Therefore the calculation is deemed appropriate and consistent with the evidence provided and crosschecked by AENOR. Furthermore, appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been followed, and assumptions and the emission factor correctly applied and justified.

Following the review of the reminder of the monitoring parameters needed to determine the operating margin and build margin emission factors, the verification team verified their information flow (from data generation and aggregation, to recording, calculation and reporting) as described in detail in the verification protocol, included in this report as annex 1.

During the verification of the project activity, AENOR assessed the necessary data to verify the emissions reductions claimed by the project participant for the monitoring period. The verification team checked the following evidence and information:

- Characteristics of turbines and equipment installed; after performing the on-site assessment, AENOR can confirm that these are in accordance with the technical characteristics included in the registered PDD

- Net electricity generation measured on Sullana Substation power meter and Poechos II power meter.

- Cross-check of the energy generation data measured against the monthly energy generation data provided by the regulator in Peru (COES)

In AENOR's opinion, the monitoring process carried out during the current period is deemed appropriate and consistent with the revised monitoring plan and the relevant guidance provided by the CDM Executive Board.

3.9 Quality of Evidence to Determine Emission Reductions

The verification team confirmed that:

- The reported emission reductions were supported by sufficient evidence and records, with the adequate frequency and covering the full monitoring period, in accordance with the requirements established in the monitoring plan and the approved monitoring methodology.
- The source and nature of the evidence was adequate, verifiable and correctly defined or identified.
- Information provided in the monitoring report is correct because it was cross-checked against comparable data from other sources such as plant log books, inventories, purchase records or similar data sources.

In the desk review and during the on-site visit, the audit team cross-checked all information provided in the monitoring report and in the calculation spreadsheets against data from other sources such as the plant log book, technical documents from the manufacturers of different facilities, purchase records of different equipment, and other similar data sources included in the references section of this report (section 6), and found that the quality of evidence and the data collection system used to determine emission reductions of the project activity were in accordance with the monitoring plan of the registered PDD and the applied methodology.

3.10 Management System and Quality Assurance

During the on-site visit, the verification team performed an identification of quality control and quality assurance procedures to prevent or identify and correct any errors or omissions in the reported monitoring parameters, and verified the level of implementation of the management system and quality assurance required by the monitoring plan.

During the on-site visit, the audit team was able to verify that monitoring systems and all applied procedures are in compliance with the monitoring plan and the approved methodology. The different QA/QC procedures established in the monitoring plan are applied.

According to the monitoring plan, an internal audit will be performed once a year by the ERCP Steering Committee to see if the monitoring plan has been performed according to the guidelines established in the PDD. The audit team has verified through the internal annual audit report 2012-2013 /30/ that the last internal audit was performed by the ERCP Steering Committee on 10 April 2013 and the previous internal audit (2011-2012) was performed on 10 April 2012 /31/

AENOR confirmed that the management system and quality assurance procedures have been implemented during operation through the Emission Reductions Calculation Procedure–ERCP. Those management system and quality assurance procedures include troubleshooting procedures, maintenance procedures and reporting procedures, according to the revised monitoring plan and electrical national or manufacturer requirements.

After the audit team reviewed the evidence of the fulfilment of data collection and processing, data quality control system and daily recording of reservoirs provided by the project participant, it found that the

worksheet applied in the spreadsheet for emission reduction calculation was in accordance with the QA/QC procedure of the monitoring plan.

All roles and positions are well defined and implemented. Qualified personnel are involved in the monitoring procedures (monitoring plan, job descriptions, and organisation chart). Moreover, training for personnel involved in the monitoring procedures was held /32/. All above statements were verified during the on-site visit and document review.

3.11 Hints for next periodic Verification

No FAR has been raised during this verification.

4 VERIFICATION AND CERTIFICATION STATEMENT

Reporting period: From "01/04/2011" to "31/03/2013"

Verified emission reductions in the above reporting period:

Emission reductions: " 90,467" tCO_2equivalent

AENOR has performed the verification of the emission reductions of the "Poechos I Proyect" for the period "01/04/2011" to "31/03/2013."

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakech accord, Montreal COP/MOP 1, Nairobi COP/MOP 2 as well as those defined by the CDM Executive Board.

We planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that the amount of GHG emission reductions for the reporting period, prepared on the basis of both the monitoring plan included in the registered PDD /1/ and the monitoring report version "3º" /3/, are fairly stated.

We conducted our verification having regard to the monitoring plan included in the Project Design Document /1/, and the applied baseline as registered for the project. This assessment included:

- Collection of evidence supporting the reported data
- Checking whether the provisions of the monitoring plan, were consistently and appropriately applied.

We have verified whether the information included in the monitoring report version "3º" /3/ is correct and that the emissions reductions achieved have been determined correctly.

In our opinion, GHG emissions reported for the project in monitoring report version "3º" /3/ are fairly stated

The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology "ACM0002 Version "12.1.0" and the monitoring plan and formulae provided in the registered PDD /1/.

AENOR is able to certify that the emission reductions from the "Poechos I Project" for the period "01/04/2011" to "31/03/2013 amount to **"90,467" tCO_2** equivalent.

Madrid, 03 December 2013".

Luis Javier Arribas Alonso — Chief Verifier

Luis Robles Olmos — Authorized person

5 CLARIFICATION, CORRECTIVE ACTION REQUESTS AND FORWARD ACTION REQUEST

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 1**		
Classification	**CAR** ☒	**CL** ☒	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to provide an updated monitoring report with correct description of the project activity in accordance with the technical information of the installed technology. In particular, the nominal capacities of the installed turbines are not in accordance with the nameplate capacities verified during the on-site visit.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	In the PDD it was established a power capacity of 7.6MW although the nominal capacity was 7.8. That value was referential and was considered the appropriate power capacity according to the design of the project. In order to have the expected power capacity of 7.6 it was necessary to considered a nominal capacity of the turbines of 7.8 MW. Nevertheless, as the nominal plate shows a nominal power capacity of 7.8 MW per each unit; the table with the characteristics of the project in the monitoring report has been corrected accordingly.		
It shall provide and indentified the evidences proposed (if applicable)			
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The revised monitoring report correctly states in section B.1 "*The powerhouse has two generating units each of* 7.6 *MW capacity*", and the table with the characteristics of the project in the monitoring report has been corrected accordingly. However, the project description in section A.1 has not been corrected. Furthermore, the footnote nº 2 is not consistent with the PDD. **This CAR is still open.**		
PP RESPONSE #2	*This section shall be filled by the PP.*		
Corrective action	It has occurred a misunderstanding in our side. Now the MR has been corrected. In section A.1 the power capacity of the turbines has been corrected to 7.8 MW. In section, B.1 the foot note number 2 has been erased.		
Evidences proposed			
DOE Assessment #2	Project description has been corrected. **CAR is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

FINDING	Nº 2		
Classification	**CAR** ☒	**CL** ☐	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to provide updated supporting documents in accordance with latest applicable version of the Issuance information and reporting checklist. In particular, the monitoring period dates stated in the spreadsheet "Poechos I EGh net electricity check" are not consistent with the current monitoring period.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	The spreadsheet now only includes data corresponding for the monitoring period 01/04/2011-31/03/2013. In addition the spreadsheet now is called "Poechos I EGh net electricity check April 1st 2011 – March 31 2013"		
It shall provide and indentified the evidences proposed (if applicable)	See spreadsheet: Poechos I EGh net electricity check April 1st 2011 – March 31 2013		
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The spreadsheet "Poechos I EGh net electricity check April 1st 2011 – March 31 2013" has been revised and now is consistent with the current monitoring period. PP has provided supporting documents in accordance with the latest applicable version of the "Issuance Information and Reporting Checklist". **CAR is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 3**		
Classification	**CAR** ☒	**CL** ☐	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to update the monitoring report in accordance with the latest applicable version of the Guidelines for completing the monitoring report form. The audit team has detected the following issues:** • **The PP "International Bank for Reconstruction and Development (IBRD) as Trustee of the Netherlands CDM Facility (NCDMF)" stated in the MR is not a PP.** • **The actual GHG emission reductions stated in the first page of the MR shall be separated in two periods until December 2012 and after January 2013 in accordance with the guideline.** • **Data that are not fixed at the renewal of crediting period shall not be included in section D.1 of the MR.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	The PP "International Bank for Reconstruction and Development (IBRD) as Trustee of the Netherlands CDM Facility (NCDMF) has been deleted from the MR. Now in the first page of the MR has been separated in two periods The actual GHG emission reductions. One period is until December 2012 and the other after January 2013, in accordance with the guidelines for completing the monitoring report form. Also the total amount has been written. Now, data that are not fixed at the renewal of crediting period have been excluded in section D.1 of the MR.		
It shall provide and indentified the evidences proposed (if applicable)			
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The monitoring report has been updated in accordance with the latest applicable version of the Guidelines for completing the monitoring report form. **CAR is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 4**		
Classification	**CAR** ☒	**CL** ☐	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to address the following issues in the monitoring report:** • **The calibration date (2009) of the meter located at Sullana substation is not consistent with the calibration certificate provided as supporting evidence.** • **The provisional meter of Poechos II shall not be included in the monitoring report since this meter has not been used during the current monitoring period.** • **The electricity imports from other grid shall be stated in the monitoring report.** • **The value of $EG_{pj,y}$ shall be stated in section D.2 of the monitoring report.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	Now the calibration date has been corrected to 10/07/2009. The provisional meter data now has been deleted. Now the electricity imports from other grid are stated in the monitoring report in section E.1.. The value of $EG_{pj,y}$ has been stated in section D.2 of the monitoring report as the total net electricity generation of the monitoring period.		
It shall provide and indentified the evidences proposed (if applicable)			
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The identified misstatements have been corrected. **CAR is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 5**		
Classification	**CAR** ☒	**CL** ☐	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to update the monitoring report considering the correct default values for W_{OM} and W_{BM} for the calculation of $EF_{grid,CM,y}$ in accordance with the monitoring plan.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	In section E.1 of the monitoring report the default values have been corrected according to the monitoring plan.		
It shall provide and indentified the evidences proposed (if applicable)			
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The default valued for W_{OM} and W_{BM} has been revised correctly. **CAR is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 6**		
Classification	**CAR** ☒	**CL** ☐	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to correct the following issues in the pre-programmed spreadsheets:** • **Some power plants, Las Pizarras, Tamburco, Urpipata, Cachimayo; that not generate electricity have been included in the ER spreadsheet of 2013.** • **The hourly electricity generation of some power plants is not accordance with raw generation data of COES: Poechos II in June 2011, Majes solar in August 2012, Mollendo 123 and Piura 2 in June 2012, Tablazo in April 2012.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	• Now, The power plants of Las Pizarras, Tamburco, Urpipata, Cachimayo; are excluded from the ER spreadsheet of 2013. • The hourly electricity generation of Poechos II in June 2011 is correct • Majes solar in August 2012 has been corrected • Mollendo 123 and Piura 2 in June 2012, Tablazo in April 2012 have been corrected accordingly in the ER spreadsheet of 2012. • The Monitoring report has been updated to show the new values in the emission reduction calculation.		
It shall provide and indentified the evidences proposed (if applicable)			
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The revised spreadsheet has been corrected. **CAR is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 7**		
Classification	**CAR** ☒	**CL** ☐	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to update the calculation spreadsheets for emission reductions in accordance with latest applicable version of the Issuance information and reporting checklist. The audit team has detected the following issues:** • **The names of the ER spreadsheets are not consistent with the names stated in the monitoring report.** • **The COEF of Kallpa TG1 power plant from March to December 2011 is not correct.** • **The calculation of ERs for year 2011 is not conservative.** • **The merit order of Tablazo power plant is not conservative.** • **The period of merit order used in the ER calculation is not consistent with the monitoring period.** • **The merit order of June 2012 does not include the CTE Mollendo power plant.** • **The merit order of June, September and December 2011 is not consistent with the merit order provided by COES.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	• Now the names of the ER spreadsheets are consistent with the names stated in the monitoring report • The COEF of Kallpa TG1 power plant from April to December 2011 has been corrected. • Now the calculation of ERs for year 2011 is conservative as its decimals were rounded to zero. • Tablazo is a new natural gas turbine, therefore its merit order is not public available. Therefore, it was decided to place it next to the power plant of Malacas as they share similar technology, fuel and location. (In the end of natural gas thermal plants. • Now the period of merit order used in the ER calculation of year 2011 is consistent with the monitoring period. • The merit order of June 2012 now includes the CTE Mollendo power plant • Now the merit order of June, September and December 2011 is consistent with the merit order provided by COES • The Monitoring report has been updated to show the new values in the emission reduction calculation.		
It shall provide and indentified the evidences proposed (if applicable)	See Spreadsheets: • Poechos I DDA-OM 01 Apr 2011 -31 Dec 2011.xlsx • Poechos I DDA-OM 01 Jan 2012 -31 Dec 2012.xlsx • Poechos I DDA-OM 01 Jan 2013 -31 Mar 2013.xlsx		

DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The merit order of Tablazo power plant in February 2013 is not in accordance with the PP explanation. **CAR is still open.**	
PP RESPONSE #2	*This section shall be filled by the PP.*	
Corrective action	Now the explanation has changed to in order to say that this plant is placed next to the top of dispatch of Natural gas thermal plants. In addition, The merit order of Tablazo power plant in February 2013 has been corrected accordingly.	
Evidences proposed		
DOE Assessment #2	The spreadsheet has been corrected. **CAR is closed.**	
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 1**		
Classification	**CAR** ☐	**CL** ☒	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to clarify how the higher water availability in Poechos dam has increased the electricity output of the power plant. According to the PDD the electricity generation has lower priority than agricultural needs. In addition, the justification in section E.6 of the MR shall be improved.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	HPP Poechos I Energy production is directly related to the following main Poechos reservoir operational factors: *(i)* general availability of water, related to specific hydrology parameters of each year *(ii)* specific operational conditions of the reservoir during the flood period *(iii)* irrigational demand. HPP Poechos I estimate of the energy production has been made assuming that the plant will operate only using irrigation demand, which could in general provide annual energy production of close to 58 GWh. The water used in the HPP Poechos I comes from a tunnel that brings water from Poechos reservoir and then is discharged to Miguel Checa channel. The water that passes through the tunnel depends on the irrigation demand of Miguel Checa Chanel. Only in cases of abundance of water the water could be used independently of the irrigation demand. In the case of very wet years, Poechos reservoir is spilling over considerable volumes of water, which provides conditions for maximum energy output, during these flood months, with extra volume of overflow water available for energy production. Being average energy daily production close to 160 MWh/day, during months with overflowing, HPP Poechos I is capable of producing close to maximum daily output, of 365 MWh/day. The longer the period of overflows, the higher production of HPP Poechos I, for the year. If you analyze specific data for the years in question you will find that additional production exactly occurred during months with overflows. Therefore, specific increase of energy production during years in question is a direct consequence of very favorable hydrology conditions but also of specific operation of Poechos reservoir that resulted in prolonged overflow of water and consequently maximum energy output during flood period. In The monitoring report the explanation of E.6 has been reinforced considering the explanation above.		
It shall provide and indentified the evidences proposed (if applicable)	• Official data sources of hydrology: See file HYDROLOGY REPORTS WATER AUTHORITY CHIRA-PIURA • Analysis of energy production vs hydrology: See worksheet " Hydrology vs Energy"		
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The audit team has confirmed that in year 2012 the hydrology behavior was 162% above the average; however the scenario is different for the other years of the monitoring period. The explanation shall be improved. More details about the managed by the Agricultural Authority of the region shall be explained. **CL still open**		
PP RESPONSE #2	*This section shall be filled by the PP.*		
Corrective action	In the graph provided to AENOR regarding hydrology vs energy production, It is possible to see that in April, June and July of year 2011 there were overflow of water in some days and that contribute		

	to produce more energy than the average during those days. In year 2012, it was clear that was a very wet year and the first months of 2013 were the main months of the Peruvian rainy season that occurs all years between December and April. Therefore, in summary year 2012 was a very wet year, the first months of 2013 are wet because occurred in the rainy season and year 2011 had some days of overflow of water, all this together provoke that in this monitoring period more energy was produced than the estimated in the PDD. It is important to remember, as explained before, that HPP Poechos I estimated its energy production assuming that the plant will operate only using irrigation demand as the purpose of the water authority and the reservoir is to provide water for irrigation, it was not considered overflows of water. This is how works the hydrology for Poechos I: The water used in the HPP Poechos I comes from a tunnel that brings water from Poechos reservoir and then is discharged to Miguel Checa channel or to a discharge channel. The water that passes through Miguel Checa Chanel depends on the agricultural irrigation demand of the valley and the water that passes through the discharge channel receives water from overflow periods (After meet irrigation demand). In all cases the water authority Chira Piura rules the water management of the reservoir. In the case of very wet years, Poechos reservoir spills over considerable volumes of water, which provides conditions for maximum energy output, during these flood months. Being average energy daily production close to 160 MWh/day (or around 58GWh per year as stated in the PDD), during months with overflowing, HPP Poechos I is capable of producing close to maximum daily output, of 365 MWh/day (or around 133 GWh per year). The longer the period of overflows, the higher production of HPP Poechos I, for the year. If it is analyzed specific data for the years in question you will find that additional production exactly occurred during months with overflows(not only in year 2012 but also in years 2011 and 2013). Therefore, specific increase of energy production during years in question is a direct consequence of very favorable hydrology conditions that allowed Poechos I hydro power plant produce maximum energy output during flood periods.	
Evidences proposed		
DOE Assessment #2	In accordance with the evidence provided (local water authority), project participant has explained that in several months of the monitoring period the increase in water availability has covered in the first place, the agricultural demand while also increased the water supply for use in power generation. For that reason, the total energy production for the verification period was higher than the average. **CL 1 is closed.**	
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 2**		
Classification	**CAR** ☐	**CL** ☒	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to clarify the reasons of generation stops occurred in June and September 2011 and how they have been addressed.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	As it can be seen in the hydrology reports of the water authority of Chira –Piura of June and September, there was a closure of Miguel Checa channel approved by the water authority and therefore there was no demand for water in the feeder tunnel other than for ecological purposes. This closure occurred during the days of 14 to 21 of June 2011 and 24 to 29 of September 2011.		
It shall provide and indentified the evidences proposed (if applicable)	See hydrology reports of the water authority of the months of June 2011 and September 2011. See ducuments: 2011-06 Informe Mensual Junio 2011 and 2011-09 Informe Mensual SETIEMBRE 2011		
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	In accordance with the evidence provided the audit team has verified that the generation stops in June and September 2011 were due to the temporally closures of Miguel Checa channel approved by the water authority. **CL is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 3**		
Classification	**CAR** ☐	**CL** ☒	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to clarify if changes in the personnel have affected the implemented monitoring procedures. In particular, the PP shall describe how the current responsibilities and authorities for monitoring and reporting are ensured and also if they are in accordance with the ones stated in the registered monitoring plan.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	All main personal in charge (B. Zdravkovic, M. Boljsakov, R. Risco, R. Belanovic), is completely the same and is continuing to execute all scheduled activities. Therefore, there were no any changes of personnel that might influence negatively a monitoring procedure. Only persons with lower level of responsibility (H. Arrue, Douglas Chavez), have been changed, since both of them opted to work for another company. Anyhow, new persons assuming their places, continued to work on the same scheduled activities.		
It shall provide and indentified the evidences proposed (if applicable)			
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The ERCP structure chart in the Monitoring Report is not in accordance with the PP explanation. Furthermore, PPs is requested to indicate the new personal and clarify if this new personnel have been previously trained. **CL is still open.**		
PP RESPONSE #2	*This section shall be filled by the PP.*		
Corrective action	Rajco Balanovic have assumed the responsibilities of the personnel who left the company. Horacio Arrue was in charge of the ex-ante calculation of the Build Margin.		
Evidences proposed			
DOE Assessment #2	Minor changes in the personnel included in the ERCP structure do not affected the implemented monitoring procedures. **CL is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 4**		
Classification	**CAR** ☐	**CL** ☒	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to provide the internal audits performed by the ERCP steering committee.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details			
It shall provide and indentified the evidences proposed (if applicable)	See documents: Internal Audits 2011-2012 HPP Poechos-ERCP steering committee and Internal Audits 2012-2013 HPP Poechos-ERCP steering committee		
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The internal audit reports have been provided to the verification team. **CL is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 5**		
Classification	**CAR** ☐	**CL** ☒	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to provide the raw data of the electricity meters since the data provided is the measure of power production every 15 minutes.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	There no any other data than already presented. HPP Poechos I SCADA, is measuring and providing register of average 15 minute output power, according to COES requirements. Anyhow, these data could be easily transferred into energy data, by simply multiplying average power output for the period of 15 minutes, with time interval of 15 minutes, defining in that way an average energy production during the same period.		
It shall provide and indentified the evidences proposed (if applicable)			
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	According to provided evidence, net energy corresponds to the average power output multiplied by 15 minutes time interval. The measures of the energy are performed in accordance with dispatch centre (COES) requirements. Moreover, after reviewing the invoices, COES valorization report and the crosscheck between electricity metered in Poechos II, COES valorization and invoices, it can be concluded that the net energy of Poechos II has been properly performed. **CL is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 6**		
Classification	**CAR** ☐	**CL** ☒	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to provide the calibration procedure "CHP2-Procedimiento calibración de medidores".**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	Now the calibration procedure "CHP2-Procedimiento calibración de medidores is provided".		
It shall provide and indentified the evidences proposed (if applicable)	The document is: CHP2-Procedimiento calibracion de medidores		
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	The calibration procedure "CHP2-Procedimiento calibración de medidores" has been provided. **CL is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

PROJECT ACTIVITY	Poechos I Project		
FINDING	**Nº 7**		
Classification	**CAR** ☐	**CL** ☒	**FAR** ☐
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	**The PP is requested to provide the evidence of the training activities for engineers and technician.**		
PP RESPONSE #1	*This section shall be filled by the PP.*		
It shall address the corrective action taken in details	Evidence of the training activities to the people involved in the operation of Poechos I and Poechos II now are available to the DOE		
It shall provide and indentified the evidences proposed (if applicable)	See documents: "Training Activities PLCs y SCADA Attendace register", "Training Activities Securities Issues Attendace register" and "Training Activities TECSUP Certificates Operation and Maintence of Pumping Equipments"		
DOE Assessment #1 *The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added*	Trainings were carried out for personnel working in the plant. Minutes of the attendance have been provided to the audit team **CL is closed.**		
Conclusion *Tick the appropriate checkbox*	**CAR/CL CLOSED** ☒	To be checked during the periodic verification ☐	

6 REFERENCES

|1| Registered PDD Poechos I Project. (24/10/2011)

|2| Monitoring Plan

|3| Final version of the Monitoring Report (04/11/2013)

|4| Instruction for Validation, Verification and Certification of CDM Project Activities (IE-DTC-039)

|5| Clean Development Mechanism Validation and Verification Standard version 05.0

|6| Monitoring report (version 01) (01/07/2013)

|7| Validation Report

|8| Validation Opinion-Crediting Period Renewal

|9-13| First – Fifth Verification Reports

14 ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" Version 2.0

15 ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" Version 12.1.0

16 Chira River Flow Meter Station of Ardilla (Poechos Damn)

17 Hydrology Reports from the Water Authority of El Chira-Piura

18 Energy records from meters

19 Poechos I DDA-OM 01 Apr 2011 - 31 Dec 2011

20 Poechos I DDA-OM 01 Jan 2012- 31 December 2012

21 Poechos I DDA-OM 01 Jan 2013 - 31 Mar 2013

22 Tool to calculate the emission factor for an electricity system. Ver. 02.2.1

23 Spreadsheet 0086-Poechos I-BM 2009

24 Dispatch data from COES

25 Merit order data from COES

26 Calibration certificates

27 Calibration procedure document

28 Sale records to the Electronoroeste S.A.

29 Poechos I EGh net Electricity Check April 1st 2011– March 31 2013

30 Internal annual audit report 2012-2013

31 Internal annual audit report 2011-2012

32 Registers of training activities

ANNEX 1. CDM VERIFICATION PROTOCOL

VERIFICATION PROTOCOL

PROJECT: "Poechos I Project"

UNFCCC REFERENCE NUMBER: 0086

MONITORING AND REPORTING PERIOD:

FROM 2011/04/01 TO 2013/03/31

6th Periodic Verification

Verification Team: Luis Javier Arribas Alonso – Chief Verifier Freddy Garro Flores – Trainee Chief Verifier Richard Gonzales Toledo - Verifier	
Version of this Verification Protocol: 02	Date: 26/11/2013

TABLE 1 Verification requirements based on the Validation and Verification Standard (VVS) version 05.0

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
1. Project history				
Open issues from validation *Check (in case of 1st periodic verification) whether there are any open issues indicated in the validation report (e.g. FAR) Have they been addressed appropriately?*	1.1.	This is the 1st verification of the 2nd creating period (6th verification). The audit team verified that there are not remaining issues from the validation opinion for renewal of crediting period.	OK	OK
Open issues from previous verification *Check (in case of further periodic verifications) whether there are any open issues indicated in previous verification (FAR) Have they been addressed appropriately?*	1.2.	The verification team has verified that there are not remaining issues from the previous verification.	OK	OK
Requests for Deviations/Revisions of Monitoring Plan *Check if there have been any requests for deviations from the monitoring methodology or requests for revisions of the monitoring plan. If any, make sure that they are considered during verification*	1.3.	Although there have been minor changes in the personnel included in the ERCP structure those changes do not affected the implemented monitoring procedures. Then, there have not been any requests for deviation from the monitoring methodology or request for revisions of the monitoring plan.	**CL 3**	OK
2. Project implementation in accordance with the registered project design document				
Has the CDM project activity been implemented as per the registered PDD?	2.1.	Yes, the verification team confirms that the project activity has been implemented in accordance with the registered PDD. During the on-site visit, the audit team verified that the installed capacity of the project activity is 15.2 MW in accordance with the installed capacity of the two generation units of 7.6 MW each one. In addition, the project activity is connected to the national grid through the Sullana substation.	OK	OK
Are all physical features of the CDM project activity proposed in the registered PDD, in place?	2.2.	Yes, all the generation equipments stated in the registered PDD are in place. The audit team verified during the on-site visit that the project consists of two generation units each of 7.6 MW capacity. The generation units consist of two Kaplan turbines coupled to synchronous	**CAR 1**	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
All figures and features included in the registered PDD shall be checked during the on-site visit. Any discrepancy found shall be reported and the post registration changes procedure shall be applied.		generators (3-phase) each of 9.5 MVA nominal capacity and 0.8 power factor. The power plant is connected to the national grid through a 60 kV overhead transmission line. The transmission line has a length of 38-km and is connected to the Sullana substation. **CAR 1: The PP is requested to provide an updated monitoring report with correct description of the project activity in accordance with the technical information of the installed technology. In particular, the nominal capacities of the installed turbines are not in accordance with the nameplate capacities verified during the on-site visit.** The updated monitoring report correctly states "*The powerhouse has two generating units each of 7.6 MW capacity*", in accordance with the PDD and the nameplate capacities verified during the on-site visit. The table with the characteristics of the project in the monitoring report has been corrected accordingly. No discrepancies were found. **CAR 1 is closed.**		
Have the project participants operated the CDM project activity as per the registered PDD?	2.3.	After review the hourly generation records, the verification team confirm that the project activity is operating as per the registered PDD.	OK	OK
Actual status of installation works *Project installation should be finished at time of initial verification in so far as the project should be ready to generate emission reductions afterwards.* *It shall be clearly described the starting date of operation and the progress of the project activity? Is the implementation delayed? What were the reasons for the delay?*	2.4.	The second crediting period started on 01 April 2011 and the plant started to supply electricity to the grid on 01 April 2004. No events or situations that occurred during the monitoring period that may impact the applicability of the applied methodology have been detected. However, the verification team detected an increase in emission reductions in the current monitoring period due to higher water availability than expected in the PDD. **CL 1: The PP is requested to clarify how the higher water availability in Poechos dam has increased the electricity output of the power plant. According to the PDD the electricity generation has lower priority than agricultural needs. In addition, the justification in section E.6 of the MR shall be improved.** In accordance with the evidence provided (reports from local water authority), project participant has explained that in several months of the monitoring period the increase in water availability has covered in the first place, the agricultural demand while also increased the water supply for use in power generation. For that reason, the total energy production for the verification period was more than average. **CL 1 is closed.**	**CL 1**	**OK**
Contractors for equipment and installation works	2.5.	During the on-site visit, the audit team verified the turbine montage was done by ALSTOM BRASIL	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
Who has installed the equipment? Who was contracted for planning etc.?		LTDA and the rest of the works were carried out by SINERSA.		
Project boundaries *Check whether the project boundaries are still in compliance with the ones indicated by the PDD.*	2.6.	Yes. During the on site visit, the audit team confirmed the project boundaries are in compliance with the ones indicated by the PDD.	OK	OK
On-site visit *Was an on-site visit conducted?* *If not, justify the rationale of the decision.*	2.7.	Yes, the on site visit was conducted on 01 August 2013. The following personnel was interviewed: • Redy Risco, • Rolando Senador	OK	OK
3. Update on Changes and Incidents (during the Monitoring Period)				
Incidents *Identify if there have been any significant incidents, deviant operation modes and|or downtimes of the equipment? Consider e.g. interviews with operational personnel, operational log sheets and analysis of performance data.*	3.1.	The audit team has reviewed the daily generation records and detected that there are two stops of the plant during the current monitoring period. In June 2011 and September 2011, the plant was stopped for 166 hours and 126 hours respectively. **CL 2: The PP is requested to clarify the reasons of generation stops occurred in June and September 2011 and how they have been addressed.** In accordance with the evidence provided the audit team has verified that the generation stops in June and September 2011 were due to the temporally closures of Miguel Checa channel approved by the local water authority. Therefore there was no flow of water in the feeder tunnel other than for ecological purposes. **CL 2 is closed**	**CL 2**	OK
Is the information (data and variables) provided in the monitoring report different from that stated in the registered PDD? Has it caused an increase in estimates of the emission reductions in the current monitoring period or is highly likely to increase the estimates of emission reductions in the future monitoring periods?	3.2.	The information (data and variables) provided in the monitoring report is not different from that stated in the registered PDD.	**CL 1**	OK
Personnel *Find out, if relevant monitoring personnel*	3.3.	The audit team detected that personnel involved in the ERCP Organizational Structure has been exchanged.	**CL 3**	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
have been exchanged? *In case of changes, assure that the implemented monitoring procedures have not been affected.*		**CL 3: The PP is requested to clarify if changes in the personnel have affected the implemented monitoring procedures. In particular, the PP shall describe how the current responsibilities and authorities for monitoring and reporting are ensured and also if they are in accordance with the ones stated in the registered monitoring plan.** Minor changes in the personnel included in the ERCP structure do not affected the implemented monitoring procedures. In this sense, Mr Arrue, who leaves the company, was in charge of the Build Margin ex-ante calculation. In the other hand, Mr. Belanovic still in charge of support activities covering also the responsibilities of Mr. Chavez. There's no new personal included in the ERCP structure. **CL 3 is closed.**		
Legislation *Find out whether relevant legislation with effect on the project activity in the host country has been changed.*	3.4.	No relevant legislation has been changed during the monitoring period.	OK	OK
4. Monitoring Report – General				
Is the monitoring report (and other supporting documents) provided complete in accordance with latest applicable version of the Issuance information and reporting checklist?	4.1.	**CAR 2: The PP is requested to provide updated supporting documents in accordance with latest applicable version of the Issuance information and reporting checklist. In particular, the monitoring period dates stated in the spreadsheet "Poechos I EGh net electricity check" are not consistent with the current monitoring period.** The spreadsheet "Poechos I EGh net electricity check April 1st 2011 – March 31 2013" has been updated and is consistent with the current monitoring period. PP has provided supporting documents in accordance with the latest applicable version of the "Issuance Information and Reporting Checklist". **CAR2 is closed.**	**CAR 2** **CL 1** **CL 3**	OK
Is the Monitoring Report Form (CDM-MR) used by the Project participants in the monitoring report?	4.2.	Yes, the PP has used the latest applicable version of the Monitoring Report Form. During the verification process the Monitoring Report Form v. 03.2 has been released and the monitoring report was updated by the PP accordingly.	OK	OK
Is the monitoring report and other supporting documents provided complete in accordance with latest applicable version of the Guidelines for completing the monitoring report form (CDM-MR?	4.3.	**CAR 3: The PP is requested to update the monitoring report in accordance with the latest applicable version of the Guidelines for completing the monitoring report form. The audit team has detected the following issues:** • **The PP "International Bank for Reconstruction and Development (IBRD) as Trustee of the**	**CAR 3**	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
		Netherlands CDM Facility (NCDMF)" stated in the MR is not a PP. • **The actual GHG emission reductions stated in the first page of the MR shall be separated in two periods until December 2012 and after January 2013 in accordance with the guideline.** • **Data that are not fixed at the renewal of crediting period shall not be included in section D.1 of the MR.** The monitoring report has been updated in accordance with the latest applicable version of the Guidelines for completing the monitoring report form. **CAR3 is closed.**		
Monitoring period *Check if the monitoring period is in line with a) the crediting period and/or b) previous monitoring periods?*	4.4.	Yes, the current monitoring period is in line with the second crediting period.	OK	OK
Publication of Monitoring Report *Check if the monitoring report has been made publicly available on the UNFCCC website before the verification commenced.*	4.5.	Yes, the monitoring report has been published on the UNFCCC website on 05 July 2013.	OK	OK
Transparency *Assess if the monitoring report is transparent, i.e. clear and unequivocal*	4.6.	Yes, the monitoring report is transparent.	OK	OK
Misstatements on general issues *Assess whether the monitoring report is free of material misstatements regarding issues other than the monitoring parameters.* *Discuss the monitoring parameters in detail in chapter "Monitoring Parameters".*	4.7.	The audit team has detected some material misstatements in the monitoring report. **CAR 4: The PP is requested to address the following issues in the monitoring report:** • **The calibration date (2009) of the meter located at Sullana substation is not consistent with the calibration certificate provided as supporting evidence.** • **The provisional meter of Poechos II shall not be included in the monitoring report since this meter has not been used during the current monitoring period.** • **The electricity imports from other grid shall be stated in the monitoring report.** • **The value of $EG_{pj,y}$ shall be stated in section D.2 of the monitoring report.** The identified misstatements have been corrected.	**CAR 4**	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
		CAR is closed.		
5. *Compliance of the monitoring plan with the monitoring methodology.*				
Is the validated monitoring plan of the proposed CDM project activity in accordance with the applied methodology?	5.1.	Yes, the monitoring plan is in accordance with the applied methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" version 12.1.0.	OK	OK
Are there any monitoring aspects of the project activity that are not specified in the methodology, particularly in the case of small-scale methodologies (e.g. additional monitoring parameters, monitoring frequency and calibration frequency)?	5.2.	All the monitoring aspects of the project activity are specified in the applied methodology.	OK	OK
6. *Compliance of monitoring with the monitoring plan*				
Is the monitoring of reductions in GHG emissions to result from the proposed CDM project activity implemented in accordance with the monitoring plan contained in the registered PDD or the accepted revised monitoring plan?	6.1.	Yes, the monitoring of emissions reductions from the proposed CDM project activity has been implemented in accordance with the monitoring plan contained in the registered PDD.	**CL 5**	OK
Have the monitoring plan and the applied methodology been properly implemented and followed by the project participants?	6.2.	**CL 4: The PP is requested to provide the internal audits performed by the ERCP steering committee.** The internal audit reports have been provided to the verification team. **CL is closed.** The monitoring of emissions reductions from the proposed CDM project activity has been implemented in accordance with the monitoring plan contained in the registered PDD.	**CL 4** **CL 5**	OK
Have all parameters stated in the monitoring plan, the applied methodology and relevant CDM Executive Board decisions been sufficiently monitored and updated as applicable (Project emission, baseline emission, leakage, management and operational system and environmental and social	6.3.	Yes, all parameters stated in the monitoring plan the applied methodology and relevant CDM Executive Board decisions have been sufficiently monitored and updated. • The project activity does not lead to any GHG emissions. • All baseline emission parameters have been monitored. • No leakage emissions were considered as part of the applied methodology.	**CL 5**	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
parameters)				
Are the responsibilities and authorities for monitoring and reporting in accordance with the responsibilities and authorities stated in the monitoring plan?	6.4.	Yes, the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan.	**CL 3**	OK
7. Monitoring Parameters *(List all parameters of the PDD chapter B.7.1; pl. copy the lines below for each parameter)*				
7.1. "Symbol of parameter: $EF_{grid,CM,y}$"	**7.1.**	**"Description: Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"**		
Measurement / Determination method *Describe how the monitoring parameter was measured / determined.* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.* *Assess whether the measurement or determination method (data generation, frequency, aggregation, equipment, recording, reporting, standards) is in line with the registered monitoring plan of the PDD and the applied methodology.*	7.1.1.	The audit team has detected that this parameter has been calculated as a weighted sum of the $EF_{OM,y}$ and $EF_{BM,y}$ factors. **CAR 5: The PP is requested to update the monitoring report considering the correct default values for W_{OM} and W_{BM} for the calculation of $EF_{grid,CM,y}$ in accordance with the monitoring plan.** No monitoring equipment is necessary. The default valued for WOM and WBM has been updated correctly. **CAR5 is closed.** This data is calculated based on COES data with pre-programmed spreadsheets. Calculated as a weighted sum of the OM and BM emission factors. The proportion of data is monitored 100% and the data have been archived electronically. This parameter was determined in line with the registered monitoring plan of the PDD and the applied methodology.	**CAR 5**	OK
Monitoring Equipment *Is the equipment of used for monitoring (quality, type, accuracy, calibration requirements) in accordance with the relevant guidance provided by the CDM Executive Board and is equipment controlled and calibrated in accordance with the monitoring plan?*	7.1.2.	No special monitoring equipment is needed. The PP follows the ERCP Quality Control Procedure and uses the pre-programmed spreadsheets.	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.*	7.1.3.	Inaccuracies were not detected.	**CAR 5** **CL 5**	OK
Monitoring results *Are monitoring results consistently recorded as per approved frequency?*	7.1.4.	Yes, monitoring results were recorded as per approved frequency in the monitoring plan.	OK	OK
Quality assurance and quality control procedures *Have quality assurance and quality control procedures been applied in accordance with the monitoring plan to prevent or identify and correct any errors or omissions in the reported monitoring parameters?*	7.1.5.	The Emission Reductions Calculation Procedure (ERCP) Quality Control has been applied in accordance with the monitoring plan.	OK	OK
Verification *Describe how the value and the information flow (from data generation, aggregation, to recording, calculation and reporting) were verified. Consider the measurement | determination procedure, accuracies,* *QA|QC procedure, source and nature of the evidences. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences covering the full monitoring period.*	7.1.6.	Data in the monitoring report and spreadsheet "*Poechos I DDA-OM* 01 *Apr* 2011 -31 *Dec* 2011", "*Poechos I DDA-OM* 01 *Jan* 2012 -31 *Dec* 2012" and "*Poechos I DDA-OM* 01 *Jan* 2013 -31 *Mar* 2013" have been checked against the data provided by the COES on its webpage.	**CAR 5** **CL 5**	OK
7.2. "Symbol of parameter:	**7.2.**	**"Description: Operating margin CO_2 emission factor for grid connected power generation in year y**		

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
$EF_{grid,OM,y}$"		**calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"**		
Measurement / Determination method *Describe how the monitoring parameter was measured / determined.* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.* *Assess whether the measurement or determination method (data generation, frequency, aggregation, equipment, recording, reporting, standards) is in line with the registered monitoring plan of the PDD and the applied methodology.*	7.2.1.	Calculated yearly in base of COES data and ENOSA data. The proportion of data monitored has been 100% and the data are archived electronically. Calculated according to the procedures stated in the "tool to calculate the emission factor for an electricity system". No monitoring equipment is necessary.	OK	OK
Monitoring Equipment *Is the equipment of used for monitoring (quality, type, accuracy, calibration requirements) in accordance with the relevant guidance provided by the CDM Executive Board and is equipment controlled and calibrated in accordance with the monitoring plan?*	7.2.2.	No special monitoring equipment is needed. The PP follows the ERCP Quality Control Procedure and uses the pre-programmed spreadsheets.	OK	OK
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.*	7.2.3.	Inaccuracies were not detected.	**CL 5**	OK
Monitoring results	7.2.4.	Yes, monitoring results were recorded as per approved frequency in the monitoring plan.	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
Are monitoring results consistently recorded as per approved frequency?				
Quality assurance and quality control procedures *Have quality assurance and quality control procedures been applied in accordance with the monitoring plan to prevent or identify and correct any errors or omissions in the reported monitoring parameters?*	7.2.5.	The Emission Reductions Calculation Procedure (ERCP) Quality Control has been applied in accordance with the monitoring plan.	OK	OK
Verification *Describe how the value and the information flow (from data generation, aggregation, to recording, calculation and reporting) were verified. Consider the measurement | determination procedure, accuracies, QA|QC procedure, source and nature of the evidences. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences covering the full monitoring period.*	7.2.6.	Data in the monitoring report and spreadsheets Data in the monitoring report and spreadsheet "*Poechos I DDA-OM* 01 *Apr* 2011 -31 *Dec* 2011", "*Poechos I DDA-OM* 01 *Jan* 2012 -31 *Dec* 2012" and "*Poechos I DDA-OM* 01 *Jan* 2013 -31 *Mar* 2013" have been checked against the data provided by the COES on its webpage.	**CL 5**	OK
7.3. "Symbol of parameter: $EG_{m,y}$ and $EG_{n,h}$"	**7.3.**	**"Description: Net electricity generated by power plant / unit m, or n in year y or hour h"**		
Measurement / Determination method *Describe how the monitoring parameter was measured | determined.* *Check if relevant equipment has been exchanged and if in cases of failures |*	7.3.1.	This parameter is directly measured every 15 minutes by power plants energy meters and reported to the dispatch center COES. The proportion of data monitored is 100% and the data is archived electronically. The hourly electricity generation data is public available in the statistics 2011, 2012 and 2013 of COES.	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
downtimes of standard equipment other measurement | determination methods have been used. *Assess whether the measurement or determination method (data generation, frequency, aggregation, equipment, recording, reporting, standards) is in line with the registered monitoring plan of the PDD and the applied methodology.*		The information is provided by COES web page, no monitoring equipment is necessary.		
Monitoring Equipment *Is the equipment of used for monitoring (quality, type, accuracy, calibration requirements) in accordance with the relevant guidance provided by the CDM Executive Board and is equipment controlled and calibrated in accordance with the monitoring plan?*	7.3.2.	No special monitoring equipment is needed. The PP follows the ERCP Quality Control Procedure and uses the pre-programmed spreadsheets.	OK	OK
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.*	7.3.3.	The audit team has detected some inaccuracies between the data used and raw data of COES. **CAR 6: The PP is requested to correct the following issues in the pre-programmed spreadsheets:** • **Some power plants, Las Pizarras, Tamburco, Urpipata, Cachimayo; that not generate electricity have been included in the ER spreadsheet of 2013.** • **The hourly electricity generation of some power plants is not accordance with raw generation data of COES: Poechos II in June 2011, Majes solar in August 2012, Mollendo 123 and Piura 2 in June 2012, Tablazo in April 2012.** Inaccuracies have been corrected. **CAR 6 is closed.**	**CAR 6**	OK
Monitoring results *Are monitoring results consistently recorded as per approved frequency?*	7.3.4.	Yes, monitoring results were recorded as per approved frequency.	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
Quality assurance and quality control procedures *Have quality assurance and quality control procedures been applied in accordance with the monitoring plan to prevent or identify and correct any errors or omissions in the reported monitoring parameters?*	7.3.5.	Data has been taken from COES official information. The audit team reviewed the "*Poechos I DDA-OM* 01 *Apr* 2011 -31 *Dec* 2011", "*Poechos I DDA-OM* 01 *Jan* 2012 -31 *Dec* 2012" and "*Poechos I DDA-OM* 01 *Jan* 2013 -31 *Mar* 2013" spreadsheets provided by the project participant and verified that the QA|QC procedures established in the monitoring plan have been applied accordingly.	**CAR 6**	OK
Verification *Describe how the value and the information flow (from data generation, aggregation, to recording, calculation and reporting) were verified. Consider the measurement | determination procedure, accuracies,* *QA|QC procedure, source and nature of the evidences. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences covering the full monitoring period.*	7.3.6.	Data in the monitoring report and spreadsheets Data in the monitoring report and spreadsheet "*Poechos I DDA-OM* 01 *Apr* 2011 -31 *Dec* 2011", "*Poechos I DDA-OM* 01 *Jan* 2012 -31 *Dec* 2012" and "*Poechos I DDA-OM* 01 *Jan* 2013 -31 *Mar* 2013" have been checked against the data provided by the COES on its webpage.	**CAR 6**	OK
7.4. "Symbol of parameter: $EG_{PJ,h}$"	**7.4.**	**"Description: Electricity displaced by the project activity in hour h of year y"**		
Measurement | Determination method *Describe how the monitoring parameter was measured | determined.* *Check if relevant equipment has been exchanged and if in cases of failures | downtimes of standard equipment other measurement | determination methods have been used.*	7.4.1.	**CL 5: The PP is requested to provide the raw data of the electricity meters since the data provided is the measure of power production every 15 minutes.** No failures neither downtimes of monitoring equipment has been detected by the audit team during the on site visit and in accordance with the calibration certificates. According to provided evidence, net energy corresponds to the average power output multiplied by 15 minutes time interval. The measures of the energy are performed in accordance with dispatch centre (COES) requirements. Moreover, after reviewing the invoices, COES valorization report and the crosscheck between electricity metered in Poechos II, COES valorization and invoices, it can	**CL 5**	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
Assess whether the measurement or determination method (data generation, frequency, aggregation, equipment, recording, reporting, standards) is in line with the registered monitoring plan of the PDD and the applied methodology.		be concluded that the net energy of Poechos II has been properly performed. **CL 5 is closed.**		
Monitoring Equipment *Is the equipment of used for monitoring (quality, type, accuracy, calibration requirements) in accordance with the relevant guidance provided by the CDM Executive Board and is equipment controlled and calibrated in accordance with the monitoring plan?*	7.4.2.	Yes, the monitoring equipment has been controlled and calibrated in accordance with the monitoring plan. **Sullana meter** Type: ION 7600 Accuracy class: 0.2 Serial number: PL-0305A001-01 Calibration frequency: 3 years Date of previous calibration: 10 July 2009 Date of last calibration: 18 May 2012 Validity: OK **Poechos II meter** Type: ION 7650 Accuracy class: 0.2 Serial number: PJ-1004A406-02 Calibration frequency: 3 years Date of previous calibration: 22 April 2010 Date of last calibration: 18 May 2012 Validity: OK	OK	OK
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure*	7.4.3.	Inaccuracies were not detected.	**CL 5**	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
that appropriate discounts have been considered for ER calculation.				
Monitoring results *Are monitoring results consistently recorded as per approved frequency?*	7.4.4.	Yes, monitoring results were recorded as per approved frequency in the monitoring plan.	**CL 5**	OK
Quality assurance and quality control procedures *Have quality assurance and quality control procedures been applied in accordance with the monitoring plan to prevent or identify and correct any errors or omissions in the reported monitoring parameters?*	7.4.5.	**CL 6: The PP is requested to provide the calibration procedure "CHP2-Procedimiento calibración de medidores".** The calibration procedure "CHP2-Procedimiento calibración de medidores" have been provided. **CL 6 is closed.** Sales records to ENOSA, the final client, have been used to cross check and ensure consistency. Quality assurance and quality control procedures have been applied in accordance with the monitoring plan.	**CL 6** **CL 5**	OK
Verification *Describe how the value and the information flow (from data generation, aggregation, to recording, calculation and reporting) were verified. Consider the measurement | determination procedure, accuracies, QA|QC procedure, source and nature of the evidences. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences covering the full monitoring period.*	7.4.6.	Data of electricity generation included in the Monitoring Report, the spreadsheets of grid emission factor and emission reductions calculation and the cross-check of the generation supplied by the project activity to the grid have been checked against the meters lectures and the invoices of sales to ENOSA.	**CL 5**	OK
7.5. "Symbol of parameter: $n_{m,y}$"	**7.5.**	**"Description: Average net energy conversion efficiency of power unit m in year y"**		
Measurement / Determination method	7.5.1.	Directly measured based on the information published by COES. This parameter is monitored yearly by the officially dispatch centre COES. Every year this data is checked with the last available COES	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
Describe how the monitoring parameter was measured | determined. *Check if relevant equipment has been exchanged and if in cases of failures | downtimes of standard equipment other measurement | determination methods have been used.* *Assess whether the measurement or determination method (data generation, frequency, aggregation, equipment, recording, reporting, standards) is in line with the registered monitoring plan of the PDD and the applied methodology.*		annual report. 2011 and 2012 annual average net energy conversion efficiency of power units is used to determine the grid emission factor since the data of 2013 is not available. The information is provided by COES, no monitoring equipment is necessary.		
Monitoring Equipment *Is the equipment of used for monitoring (quality, type, accuracy, calibration requirements) in accordance with the relevant guidance provided by the CDM Executive Board and is equipment controlled and calibrated in accordance with the monitoring plan?*	7.5.2.	N/A. This parameter is monitored yearly by the official dispatch centre COES.	N/A	N/A
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.*	7.5.3.	N/A. This parameter is monitored yearly by the official dispatch centre COES.	N/A	N/A
Monitoring results *Are monitoring results consistently recorded as per approved frequency?*	7.5.4.	Yes, monitoring results were recorded as per approved frequency.	OK	OK
Quality assurance and quality	7.5.5.	The dispatch centre COES officially monitors and publishes the efficiency of thermal plants of the	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
control procedures *Have quality assurance and quality control procedures been applied in accordance with the monitoring plan to prevent or identify and correct any errors or omissions in the reported monitoring parameters?*		Peruvian grid. Quality assurance and quality control procedures have been applied in accordance with the monitoring plan.		
Verification *Describe how the value and the information flow (from data generation, aggregation, to recording, calculation and reporting) were verified. Consider the measurement | determination procedure, accuracies, QA|QC procedure, source and nature of the evidences. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences covering the full monitoring period.*	7.5.6.	Data included in the ER spreadsheets has been checked against the official data provided by the COES in the Annual Statistics 2011 and 2012, Chart No 6.8. Net Efficient %. No discrepancies were found. The audit team verified that Annual Statistics 2013 is not available; therefore, data of 2012 is used for 2013.	OK	OK
7.6. "Symbol of parameter: $EG_{PJ,y}$"	**7.6.**	**"Description: Quantity of net electricity generation supplied by the project plant/unit to the grid in year y"**		
Measurement | Determination method *Describe how the monitoring parameter was measured | determined.* *Check if relevant equipment has been exchanged and if in cases of failures | downtimes of standard equipment other measurement | determination methods have been used.* *Assess whether the measurement or*	7.6.1.	No failures neither downtimes of monitoring equipment has been detected by the audit team during the on site visit and in accordance with the calibration certificates.	**CL 5**	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
determination method (data generation, frequency, aggregation, equipment, recording, reporting, standards) is in line with the registered monitoring plan of the PDD and the applied methodology.				
Monitoring Equipment *Is the equipment of used for monitoring (quality, type, accuracy, calibration requirements) in accordance with the relevant guidance provided by the CDM Executive Board and is equipment controlled and calibrated in accordance with the monitoring plan?*	7.6.2.	Yes, the monitoring equipment has been controlled and calibrated in accordance with the monitoring plan. **Sullana meter** Type: ION 7600 Accuracy class: 0.2 Serial number: PL-0305A001-01 Calibration frequency: 3 years Date of previous calibration: 10 July 2009 Date of last calibration: 18 May 2012 Validity: OK **Poechos II meter** Type: ION 7650 Accuracy class: 0.2 Serial number: PJ-1004A406-02 Calibration frequency: 3 years Date of previous calibration: 22 April 2010 Date of last calibration: 18 May 2012 Validity: OK	OK	OK
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been*	7.6.3.	Inaccuracies were not detected.	**CL 5**	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
considered for ER calculation.				
Monitoring results *Are monitoring results consistently recorded as per approved frequency?*	7.6.4.	Yes, monitoring results were recorded as per approved frequency in the monitoring plan.	**CL 5**	OK
Quality assurance and quality control procedures *Have quality assurance and quality control procedures been applied in accordance with the monitoring plan to prevent or identify and correct any errors or omissions in the reported monitoring parameters?*	7.6.5.	Yes, quality assurance and quality control procedures have been applied in accordance with the monitoring plan. Sales records to ENOSA, the final client, have been used to cross check and ensure consistency.	**CL 5** **CL 6**	OK
Verification *Describe how the value and the information flow (from data generation, aggregation, to recording, calculation and reporting) were verified. Consider the measurement | determination procedure, accuracies,* *QA|QC procedure, source and nature of the evidences. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences covering the full monitoring period.*	7.6.6.	Data of electricity generation included in the Monitoring Report, the spreadsheets of grid emission factor and emission reductions calculation and the cross-check of the generation supplied by the project activity to the grid have been checked against the meters lectures and the invoices of sales to ENOSA.	**CL 5**	OK
7.7. "Symbol of parameter: $EF_{CO2,i,y}$ and $EF_{CO2,m,i,y}$"	**7.7.**	**"Description: CO_2 emission factor of fossil fuel type i used in power unit m in year y"**		
Measurement / Determination method *Describe how the monitoring parameter*	7.7.1.	The data of this parameter is obtained from table 1.4 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories.	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
*was measured	determined.* *Check if relevant equipment has been exchanged and if in cases of failures	downtimes of standard equipment other measurement	determination methods have been used.* *Assess whether the measurement or determination method (data generation, frequency, aggregation, equipment, recording, reporting, standards) is in line with the registered monitoring plan of the PDD and the applied methodology.*				
Monitoring Equipment *Is the equipment of used for monitoring (quality, type, accuracy, calibration requirements) in accordance with the relevant guidance provided by the CDM Executive Board and is equipment controlled and calibrated in accordance with the monitoring plan?*	7.7.2.	N/A. The data of this parameter is obtained from IPCC Guidelines on National GHG Inventories.	OK	OK
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.*	7.7.3.	N/A. The data of this parameter is obtained from IPCC Guidelines on National GHG Inventories.	OK	OK
Monitoring results *Are monitoring results consistently recorded as per approved frequency?*	7.7.4.	The information of this parameter is obtained from the IPCC Guidelines on National GHG Inventories.	OK	OK
Quality assurance and quality	7.7.5.	The information of this parameter is obtained from the IPCC Guidelines on National GHG Inventories.	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
control procedures *Have quality assurance and quality control procedures been applied in accordance with the monitoring plan to prevent or identify and correct any errors or omissions in the reported monitoring parameters?*				
Verification *Describe how the value and the information flow (from data generation, aggregation, to recording, calculation and reporting) were verified. Consider the measurement | determination procedure, accuracies, QA|QC procedure, source and nature of the evidences. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences covering the full monitoring period.*	7.7.6.	Data included in the monitoring report and spreadsheet has been checked against the data of table 1.4 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories.	OK	OK
8. Compliance with the calibration frequency requirements for measuring instruments				
Has the calibration been delayed and the calibration has been implemented after the monitoring period in consideration (results of delayed calibration are available)? *If so, which conservative approach has been adopted:* *a) Applying the maximum permissible error of the instrument to the measured values taken during the*	8.1	N/A. The calibration of the monitoring equipment has been carried out as per the monitoring plan.	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
period between the schedule date of calibration and the actual date of calibration, if the results of the delayed calibration do not show any error, or if the error is smaller than maximum permissible error, or *b) Applying the error identified in the delayed calibration test, if the error is beyond the maximum permissible error.*				
Has the error been applied: *a) In a conservative manner, such that the adjusted measured values of the delayed calibration has result in fewer claimed emission reductions?, and* *b) For all measures taken during the period between the scheduled date of calibration and the actual date of calibration.*	8.2	N|A	N|A	N|A
If the results of the delayed calibration are not available, or the calibration has not been conducted at the time of the verification; has been request to the project participants to conduct the required calibration? If so, has the project participants calculated the emission reductions conservatively?	8.3	N|A	N|A	N|A
If it is not possible for the project participant to conduct the calibration at a frequency specified by either the applied methodology, guidance provided by the Board, and|or registered monitoring plan due to reasons beyond the control of project participants; has been followed the requirements for post registration	8.4	N|A	N|A	N|A

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
changes in accordance with VVS?				
If calibration frequency for measuring equipments are not specified neither the monitoring methodology nor the monitoring plan; has the equipments been calibrated in accordance with specifications of the local|national standards, or as manufacturer´s specification, or international standards?	8.5	N/A	N/A	N/A
Has the project participant provided information regarding the accreditation of the entity performing the test of the measurement equipment and|or standard|regulation against which calibration was done and|or acceptance criteria for the calibration of the measurement equipment?	8.6	N/A	N/A	N/A
9. Assessment of data and calculation of greenhouse gas emission reductions				
It is assessed if GHG emission reductions achieved by the proposed CDM project activity are calculated applying the selected methodology.	9.1.	Yes, the GHG emission reduction has been calculated applying the methodology ACM0002 "Consolidated baseline methodology for grid connected electricity generation from renewable sources" *(*version 12.1.0*)* and the "Tool to calculate the emission factor for an electricity system" *(*version 02.2.1*)*.	**CAR 5** **CL 5**	OK
Is a complete set of data for the specified monitoring period available? Are available evidences sufficient both in terms of frequency and in covering the full monitoring period? Are the source and the nature of evidences identified (external or internal, oral or documented, etc.)?	9.2.	Yes, data are available for the entire monitoring period.	**CL 5** **CL 4** **CL 6**	OK
Whether data were not available because activity levels or non-activity parameters were not monitored in accordance with the registered monitoring plan has the most conservative assumption theoretically possible been made?	9.3.	N/A	**CL 5** **CL 4** **CL 6**	N/A

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
Assess if the calculation is fully traceable. In case of complex calculations an Excel calculation spreadsheet shall be used. All applied formulae must be visible.	9.4	Calculations are fully traceable, all the formulae used are visible and correct according to the applied methodology.	OK	OK
Is the spreadsheet with the emission reductions calculations provided complete in accordance with latest applicable version of the Issuance information and reporting checklist?	9.5.	**CAR 7: The PP is requested to update the calculation spreadsheets for emission reductions in accordance with latest applicable version of the Issuance information and reporting checklist. The audit team has detected the following issues:** • **The names of the ER spreadsheets are not consistent with the names stated in the monitoring report.** • **The COEF of Kallpa TG1 power plant from March to December 2011 is not correct.** • **The calculation of ERs for year 2011 is not conservative.** • **The merit order of Tablazo power plant is not conservative.** • **The period of merit order used in the ER calculation is not consistent with the monitoring period.** • **The merit order of June 2012 does not include the CTE Mollendo power plant.** • **The merit order of June, September and December 2011 is not consistent with the merit order provided by COES.** The spreadsheet has been correctly updated and is considered complete in accordance with latest applicable version of the Issuance information and reporting checklist **CAR 7 is closed.**	**CAR 7**	OK
Has information provided in the monitoring report been cross-checked with other sources such as plant log books, inventories, purchase records, laboratory analysis?	9.6.	Data included in the monitoring report and spreadsheet provided by the project participant have been checked against operational data of the plant, official data from the web site of COES and its annual statistics, data from calibration certificates, manufacturer documents, official documentation.	**CL 5** **CL 4** **CL 6**	OK
Have calculations of baseline emissions, CDM project activity emissions and leakage, as appropriate, been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document?	9.7.	It has been checked that calculations of baseline emissions, CDM project activity emissions and leakage, as appropriate, have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document	**CAR 5** **CAR 6** **CL 5** **CAR 7**	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
Have any assumptions used in emission calculations been justified?	9.8.	All assumptions used in emission calculations have been justified adequately.	**CAR 7**	OK
Have appropriate emission factors, IPCC default values and other reference values been correctly applied? *Are the most recent data incorporated into the calculation of the ex-post grid emission factor?*	9.9.	The auditing team has verified that the project participant used appropriate emissions factors, IPCC default values and other reference values, incorporating the most recent data into the calculation of the ex post grid emission factor.	OK	OK
10. Quality Management; defined organizational structure, responsibilities and competencies Internal QA/QC and document control				
Management System *Have the GHG data monitoring system and all CDM monitoring procedures been Implemented? Do they comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology?*	10.1.	Yes, the GHG monitoring procedures have been implemented according to the Monitoring Plan of the registered PDD. The PP complies with monitoring systems and procedures described in the monitoring plan and the approved methodology. The PP has provided evidence for the internal audit for the period 2011/04/01 to 2012/03/31 and 2012/04/01 to 2013/03/31.	**CL 3**	OK
Roles and Positions *Check if all roles and positions of each person in the GHG data management process are clearly defined and implemented, from raw data generation to submission of the final data.* *Check further if only duly qualified personnel is involved in the monitoring procedures.*	10.2.	All roles and positions are clearly defined and implemented. Qualified personnel are involved in the monitoring procedures *(*ERCP Organizational Structure and Data Flow Chart*)*. Minor changes identified in the personnel included in the ERCP structure do not affected the implemented monitoring procedures.	**CL 3**	OK
Trainings *Check if initial trainings have been carried out, in case deemed necessary.*	10.3.	**CL 7*: The PP is requested to provide the evidence of the training activities for engineers and technician.*** Trainings were carried out for personnel working in the plant. Minutes of the attendance have been provided to the audit team **CL 7 is closed.**	**CL 7**	OK
Troubleshooting procedures *Assess whether troubleshooting procedures have been implemented.*	10.4.	Yes, troubleshooting procedures have been implemented.	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
Maintenance procedures *Are appropriate maintenance procedures in place?*	10.5.	Yes, appropriate maintenance procedures are in place.	**CL 2**	OK
Reporting procedures *Check how reports with relevance for the later determination of emission reductions will be generated.* *Is the frequency of emissions reports established?*	10.6.	The ERCP *(*Emission Reductions Calculation Procedure*)* included in the monitoring plan of the registered PDD is the basic instrument for gathering, recording and processing information necessary to determine the emission reductions of the project activity.	OK	OK
Internal QA/QC *Assess whether there are any procedures in place on when, where and how checks and reviews are to be carried out, and what evidence needs to be documented? (This might include spot checks by a second person not performing the calculations over manual data transfers, changes in assumptions and the overall reliability of the calculation processes.)*	10.7.	Yes, ERCP *(*Emission Reductions Calculation Procedure*)* included in the monitoring plan establishes the procedures on when, where and how checks and reviews are to be carried out, and what evidence needs to be documented.	OK	OK
Data collection and data processing systems *Check the eligibility of used systems.* *Does data collection system meet the requirements of the monitoring plan as per the applied methodology?*	10.8.	Data used in calculation are obtained from the annual statistics of the officially dispatch center COES. The PP calculates the ERs on the basis of the monitoring plan of the registered PDD *(*ERCP*)*. According to the ERCP, data collection and processing is done monthly, filling all required spreadsheets to calculate the emission reductions. The stated procedures meet the requirements of the monitoring plan and is in accordance with the applied methodology	**CL 5**	OK
Data archive *Check whether all data of monitoring parameters are recorded and archived according to the monitoring plan and the approved methodology.*	10.9.	Yes, all data for monitoring parameters are recorded and archived according to the monitoring plan and the approved methodology. It has been checked that all data of monitoring parameters are recorded and archived according to the monitoring plan and the approved methodology.	**CAR 7**	OK
Data protection *Assess whether appropriate measures have been take in order to avoid unintended or intended manipulation of*	10.10.	The access to the databases is controlled and available only for authorized personnel.	OK	OK

Checklist Question	Ref	Comments	Draft conclusion	Final conclusion
the measured data.				

ANNEX 2. CERTIFICATES OF QUALIFICATION VERIFICATION AND TECHNICAL REVIEW TEAM

AENOR Asociación Española de Normalización y Certificación

CERTIFICATE OF QUALIFICATION

Subject: Verification and Technical Review Team for "Poechos I Project".

Madrid, 03th December 2013

Hereby I confirm the following records of qualification, according with AENOR internal instruction "Validation, Verification and Certification of Clean Development Mechanism (CDM) project activities" IE-DTC-039, and in relation with the verification process of the above mentioned project activity:

Name: Luis Javier Arribas Alonso

CDM Chief Validator: N.A.

CDM Validator: N.A.

CDM Chief Verifier: Yes

CDM Verifier: Yes

External Technical Expert: N.A.

Technical areas related with the project activity:

TA 1.2 Energy generation from renewable energy sources

José Luis TEJERA OLIVER
CDM Operational Director

AENOR Asociación Española de Normalización y Certificación

CERTIFICATE OF QUALIFICATION

Subject: Verification and Technical Review Team for "Poechos I Project"

Madrid, 03th December 2013

Hereby I confirm the following records of qualification, according with AENOR internal instruction "Validation, Verification and Certification of Clean Development Mechanism (CDM) project activities" IE-DTC-039, and in relation with the verification process of the above mentioned project activity:

Name: Freddy Alejandro Garro Flores

CDM Chief Validator: N.A.

CDM Validator: N.A.

CDM Chief Verifier: No

CDM Verifier: Yes

External Technical Expert: N.A.

Technical areas related with the project activity:

TA 1.2 Energy generation from renewable energy sources

José Luis TEJERA OLIVER
CDM Operational Director

AENOR Asociación Española de Normalización y Certificación

CERTIFICATE OF QUALIFICATION

Subject: Verification and Technical Review Team for "Poechos I Project"

Madrid, 03th December 2013

Hereby I confirm the following records of qualification, according with AENOR internal instruction "Validation, Verification and Certification of Clean Development Mechanism (CDM) project activities" IE-DTC-039, and in relation with the verification process of the above mentioned project activity:

Name: Richard Daniel Gonzáles Toledo

CDM Chief Validator: N.A.

CDM Validator: N.A.

CDM Chief Verifier: No

CDM Verifier: Yes

External Technical Expert: N.A.

Technical areas related with the project activity:

TA 1.2 Energy generation from renewable energy sources

José Luis TEJERA OLIVER
CDM Operational Director

AENOR Asociación Española de Normalización y Certificación

CERTIFICATE OF QUALIFICATION

Subject: Verification and Technical Review Team for "Poechos I Project"

Madrid, 03th December 2013

Hereby I confirm the following records of qualification, according with AENOR internal instruction "Validation, Verification and Certification of Clean Development Mechanism (CDM) project activities" IE-DTC-039, and in relation with the verification process of the above mentioned project activity:

Name: Alfonso Medrano Gutierrez

CDM Chief Validator: N.A.

CDM Validator: N.A.

CDM Chief Verifier: Yes

CDM Verifier: Yes

External Technical Expert: N.A.

Technical areas related with the project activity:

TA 1.2 Energy generation from renewable energy sources

José Luis TEJERA OLIVER
CDM Operational Director