Voluntary Carbon Standard Version 2007 Verification Report

19 November 2007

Verification Report:

Name of Verification company:	Date of the issue:
Bureau Veritas Certification Holding SAS	20.12.2011 / Version 03
Report Title:	**Approved by:**
Verification Report of "Aydın Salavatlı Dora-I Geothermal Power Plant"	Mrs. Işıl Timuroglu – Internal Technical Reviewer
Client:	**Project Title:**
South Pole Carbon Asset Management Ltd.	Aydın Salavatlı Dora-I Geothermal Power Plant

Summary:

Bureau Veritas Certification has made the 3rd periodic verification of the "Aydın Salavatlı Dora-I Geothermal Power Plant", VCS Project of South Pole Carbon Asset Management Ltd. located on the Salavatlı Village of Aydın city. The project is applying the methodology AMS I.D Version 13, on the basis of UNFCCC criteria for the CDM Methodology, Voluntary Carbon Standard Version 2007 as well as criteria given to provide for consistent project operations, monitoring and reporting.

The verification scope is defined as a periodic independent review and ex post determination by the Designated Operational Entity of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the verification process is a list of Clarification, Corrective Actions Requests, Forward Actions Requests (CR, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in validated and registered project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is already generating GHG emission reductions. The GHG emission reduction is calculated without material misstatements, and the VER issued totalize 29,995 tons of CO_2eq for the monitoring period between 01/08/2010 – 31/08/2011.

Emission Reductions in 2010:11,476 tons of CO_2eq

Emission Reductions in 2011:18,519 tons of CO_2eq

Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents.

Work carried out by:	Number of pages:
Mrs.Burcu Mutman– Lead Verifier	21

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Abbreviations List

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DOE	Designated Operational Entity
EMRA	Energy Market Regulatory Authority (EPDK – Enerji Piyasasi Denetleme Kurulu)
GHG	Green House Gas(es)
HEPP	Hydroelectric Power Plant
MP	Monitoring Plan
PD	Project Description
PP	Project Participant
TEIAS	Turkish Electricity Transmission Company (Turkiye Elektrik Iletim A.S.)
UNFCCC	United Nations Framework Convention for Climate Change
VCS	Voluntary Carbon Standard
VCU	Voluntary Carbon Unit
VER	Voluntary Emission Reductions
VVM	Validation and Verification Manual

1 INTRODUCTION

1.1 Objective

Verification is the periodic independent review and ex post determination by the DOE of the monitored reductions in GHG emissions during defined verification period.

The objective of verification can be divided in Initial Verification and Periodic Verification.

The verification is based on criteria set by Voluntary Carbon Standard Version 2007, the CDM Methodology AMS I.D, Version 13 requirements and the country criteria.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan, monitoring report and other relevant documents. The information in these documents is reviewed against Voluntary Carbon Standard Version 2007, the CDM Methodology AMS I.D Version 13 requirements and the country criteria.

The verification is not meant to provide any consulting towards the South Pole Carbon Asset Management Ltd. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 VCS Project Description

Menderes Geothermal Elektrik Üretim A.Ş. is the owner and the license holding company for the grid connected 7.951MW Aydın Salavatlı Dora-I Geothermal Power Plant. The project activity is generating electricity from geothermal energy at a heat between 78°C and 170°C. The thermal fluid is passed through a heat exchanger and the heat from the fluid is transferred to a secondary fluid - hydrocarbon. The secondary fluid is vaporized to generate electricity via the turbine and the generator. After having passed the heat exchanger, the geothermal fluid drops to 78°C and is re-injected back to the reservoir via a re-injection well. The production cycle is closed due to complete re-injection of the geothermal brine; thus avoiding any adverse effects to the environment and the performance parameters of the geothermal reservoir.

The project activity generates electricity to supply the national grid using a renewable resource. The project activity reduces greenhouse gas emissions that would have otherwise occurred in the absence of the project activity by avoiding electricity generation from fossil fuel sources. Since the project producing electricity from a renewable source, it provides emission reduction for the grid, which is mainly fed by fossil fuels.

1.4 Level of Assurance

The level of assurance of the validation report is defined as high.

2 METHODOLOGY

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a verification protocol was for the project, according to the version 01.2 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 55 meeting on 30/07/2010. The protocol shows, in a

transparent manner, criteria (requirements), means of verification and the results from verifying the identified criteria. The verification protocol serves the following purposes:

- It organizes, details and clarifies the requirements a VCS project is expected to meet;
- It ensures a transparent verification process where the verifier will document how a particular requirement has been verified and the result of the verification.

The completed verification protocol is enclosed in Appendix A to this report.

To address Bureau Veritas Certification corrective action requests and clarification requests, the monitoring report is revised, Monitoring Report version 03 dated 15/12/2011 being the last version, which was submitted to the verification team on 15/12/2011. After further clarifications, all corrective action requests and clarification requests were closed on 15/12/2011. The verification of the Project resulted in 4 Corrective Action Requests and 7 Clarification Requests. The verification consisted of the following steps:

- A desk review of the of the project design, baseline and monitoring plan, and the monitoring report which were submitted by the client. The client uses AMS I.D, Version 13 that is approved during validation of the project. Generated electricity parameter was the only parameter that has been monitored as in line with the monitoring plan. It is confirmed that monitoring plan is correctly applied during verification of this project.
- A visit to the project site was done on 18/10/2011. During site visit all production records, accuracy of the monitoring equipment, management system have been verified. It was verified during the site visit that the installed equipments are in line with the validated PD.
- Interviews with the personnel of Menderes Geothermal Elektrik Üretim A.Ş. and South Pole Carbon Asset Management Ltd.
- Clarification, Corrective Action (CL, CAR) requests regarding to the gained information during site visit and desk review.
- Resolution of CLs, CARs and FARs by the client.
- Preparation of the Verification Report.

3 VERIFICATION FINDINGS

3.1 Remaining Issues, Including any Material Discrepancy From Previous Validation

There are no issues remained from validation of the project.

3.2 Project Implementation

The project is implemented in accordance with the registered project design document that was verified during the initial and first periodic verification.

The project started operation on 1st July 2008. The actual operation of the proposed project activity is generation of electricity from geothermal energy at a heat between 78°C and 170°C and feeding it to the public grid. The project is "Organic Rankine Cycle & Binary technology".

There are 2 production wells which are named AS-1 and ASR-2. Also there is re-injection well named AS-2.

The thermal fluid is passed through a heat exchanger and the heat from the fluid is transferred to a secondary fluid - hydrocarbon. The secondary fluid is vaporized to generate electricity via the turbine and the generator. After having passed the heat exchanger, the geothermal fluid drops to 78°C and is re-injected back to the reservoir via a re-injection well. The equipment's under the project activity listed as follows and verified with the site visit.

Name
Organic Turbine
Generator
12" control valve
Actuator
Positioner
16" control valve
6" control valve
4" control valve
8" control valve
10" control valve
Actuator
Positioner
12" control valve
Actuator
Positioner
Pentan Pump 1
Motor
Pentan Pump 2
Motor
O.E.C. Internal Use Transformator

3.3 Completeness of Monitoring

The parameters required by the monitoring plan and the way the verification team was verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values in the monitoring reports) is described below. Two parameters are monitored first one is EG_y Net electricity exported to the grid in the year second is diesel consumed from running the diesel generator as per the monitoring plan.

(a) EGy Net electricity exported to the grid in the year y

Monthly official electricity export and import figures are recorded continuously. The Regarding to the PD the records have to be taken from invoices. Since the PMUM is the annexes for the invoice, PMUM webpage has been used as the main document for the emission reduction calculation. From PMUM records both generation values and the consumption values has been checked. UEVM values have been used for the calculations since UEVM values covers transmission line losses. Regarding to the registered PD transmission line losses has to be excluded from the electricity generation value. So during the calculation of emission reduction, both electricity consumption from the grid and the transmission line losses has been excluded from the electricity generation value. Values also crosschecked with AYDEM records since the implementation of TEIAS has been changed and they are not signing the protocols on the project site, project owner requested signed report from AYDEM which shows both export and import values. This signed report from AYDEM has been used for the crosscheck. The values were in line with PMUM records. Also SCADA records were available during verification and the values were also in line with SCADA's. The emission reduction calculation found in line with the PMUM records.

The energy meters (both main and spare) measuring the have replaced by TEDAS/AYDEM on 18th of April 2011 to facilitate the online meter reading. The calibration of the metering devices has been done before installation on 22.09.2010. The calibration and installation records have seen by the verification team.

(b)PEDcons: Diesel consumed from running the diesel generator
Diesel consumption has been calculated on the basis of monitored operating hours on the diesel generator engine and its default consumption.

Operating hours of diesel generator:
Initial Operating hours: 306.23
Final Operating hours: 364.44
Operating hours: 58.21

On the project site, the operating hours of the engine is recording monthly. Before the site visit the project owner used the readings dd. 04.08.2010-04.08.2011 as the first final reading however to be conservative the reading dates has been changed as 28.07.2010 - 29.09.2011.

The capacity of engine and diesel consumption values has been verified through the technical specification of the DG set. With multiplying these values with the operating hour fuel consumption has been calculated.

Also density of diesel has been verified through IPCC and fuel consumption value has been multiplied with it. So the GHG emissions from DG Set calculated as 9 tCO2. Since total emission reductions has been calculated as 29,995 tCO2, project emissions are only 0,03 of total emission reductions which can be neglected regarding to the registered PDD and the selected methodology.

3.4 Accuracy of Emission Reduction Calculations

All data's made available to DOE which were defined under monitoring plan. There were no assumptions used in the calculations. All electricity generation data have been taken from PMUM records. The emission factor has been used from the validated VCS-PD that is 0,591tCO_2/MWh.

The total emission reduction has been calculated as 29,995tCO_2e during the monitoring period (01/08/2010 – 31/08/2011)

The data pertaining to the monitoring parameters are maintained in the archived records. All data are consistent with the values input in the Monitoring Report. According to the registered VCS-PD, the emission reductions of the project are calculated as follows:

Baseline emissions:

$BE_y = (EG_y - EG_{baseline}) \times EF_{grid,CM,y}$

Where:
BE_y = Baseline emissions in year y (tCO_2/yr).
EG_y = Electricity supplied by the project activity to the grid (MWh).
$EG_{baseline}$= Baseline electricity supplied to the grid in the case of modified or retrofit facilities (MWh). For new power plants this value is taken as zero.
$EF_{grid,CM,y}$ = Combined margin CO2 emission factor for grid connected power generation in year y

Project and Leakage Emissions

The project emissions comprise the emissions from diesel generator and are accountable only if they contribute to more than 1% of baseline emissions.

The technical specifications of the generator could be found in Annex.2. The generator has an installed power of 250 kW and consumes 200 g fuel per kWh in full load.

As the GHG emissions from diesel consumption in the DG set is less than 1% of the GHG emissions from the project activity for the same period, the same may be neglected.

The diesel consumption is calculated by the formula below:

$PE_{Dcons} = C_{apDE}*T*CF$

Where;
PE_{Dcons} : Diesel consumed from running the diesel generator (T)
C_{apDE} : Installed capacity of the diesel engine (kW)
T : Operating time of the engine (H)
CF : Consumption factor for fuel. (t/kWh)

$EF_{diesel} = NCV * COEF_{diesel}$

EF_{diesel} : Tonne of CO_2 produced per tonne of fuel consumed. (tCO_2e/t)
NCV : Net calorific value for diesel (TJ/kg)
$COEF_{diesel}$: Tonne of CO_2 produced per energy produced. Kg/TJ

Emission Reductions = Baseline Emissions – Project Emissions

Emission Reductions

Emission Reductions = Baseline Emissions – Project Emissions

The calculated emission reductions achieved by the project activity within the present monitoring period amount to 29,995 tCO_2e.

The below table shows a summary of the emission reductions generated during the monitoring period and specifically during the years 2010 and 2011

Months	Electricity supplied to the grid (kWh)	Electricity consumption from the grid (kWh)	Net electricity supplied to the grid (MWh)	Baseline Emissions (tCO_2e)
August'10	3,210,795	656	3,210,139	1,897
September'10	3,516,206	488	3,515,718	2,078
October'10	4,209,937	1,980	4,207,957	2,487
November'10	4,068,691	3,200	4,065,491	2,403
December'10	4,425,070	5,810	4,419,260	2,612
SUM'10	**19,430,699**	**12,134**	**19,418,565**	**11,476**
January'11	4,818,744	1,109	4,817,635	2,847
February'11	4,185,720	1,940	4,183,780	2,473
March'11	4,619,651	1,096	4,618,555	2,730
April'11	4,290,754	302	4,290,451	2,536
May'11	3,965,825	1,751	3,964,073	2,343
June'11	3,423,420	895	3,422,525	2,023

July'11	3,095,228	1,613	3,093,615	1,828
August'11	2,947,392	2,444	2,944,948	1,740
SUM'11	**31,346,734**	**11,151**	**31,335,583**	**18,519**
Total Sum '09-'10				**29,995**

Parameter	Unit	Value	Comments
Initial Operating hours	Hrs	306.23	Plant Records
Final Operating hours	Hrs	364.44	Plant Records
Operating hours	Hrs	58.21	Calculated
Capacity of Engine	kW	250	Technical Data
Consumption Factor	Tonnes/kWh	0.0002	Technical Data
Diesel Consumption	Tonnes	2.9105	Calculated
NCV of Diesel	TJ/Gg	43	IPCC
Carbon Emission Factor of Diesel	Kg/TJ	74100	IPCC
Emission Factor for Diesel	tCO2/ton	3.186	Calculated
GHG Emissions from Diesel	tCO2	9	Calculated
As a% of total Emission Reduction	%	0.03	Calculated

3.5 Quality of Evidence to Determine Emission Reductions

All the information made available by the project participants and the project owner to the verification team, including the reliability of the evidence and the source and nature of the evidences (external, internal, oral and documented) were considered sufficient in quantity and appropriate in quality.

All PMUM records that are the basis of emission reduction within the monitoring period were provided to the verification team. The PMUM records were crosschecked with AYDEM signed report which covers all monthly production and consumption values.. All PMUM records and monthly meter reading protocols were provided for each month that are under the monitoring period (01/08/2010 – 31/08/2011). All sources were sufficient and appropriate for the all records.

The Voluntary Carbon Standard Monitoring Report version 03 dated 15/12/2011, was the base utilized for this Verification Report.

3.6 Management and Operational System

Regarding to the approved validation report, project owner collected the data for the electricity generation during the first and second monitoring period as it is defined in the registered PDD. TEDAS officers with the representative of the project owner were signing the readings of two power meters at the end of each month. The project was checking the gross electricity generated and internal consumption on an hourly basis by an internal SCADA system. If there were no problem with 2 readings TEIAS was sending recording the values to PMUM and sending the invoice. However a new system is developing in Turkey and in some regions the recording is doing remotely to prevent the human mistakes. Also AYDEM which is the name of the distribution company for the region is started to remote reading. On 22.09.2010 the calibration of the new metering devices has been done and on April 2011 they installed to the project site. The reason to change the metering devices was since the older devices weren't support the remote reading. This change of the metering devices did not caused any mistake in the reading of the electricity production. Like the older devices new devices are still under control of AYDEM and the project owner has no control on the devices.

During on site assessment, verification team was able to verify that the metering system consists of two electric energy meters that are in place and functions well. It was validated on site visit that the serial numbers of the new meters are in accordance with the monitoring report. The types and serial numbers of the electricity meters are noted as follows:

Main Meter:
Manufacturer: Elster
Device Model: A1500
Serial No: 424848

Spare Meter:
Manufacturer: Elster
Device Model: A1500
Serial No: 424849

Since the remote reading started in the project site, the project owner get signed report from AYDEM which shows all production and consumption values. These values have been used for cross checking of the PMUM records. PMUM records are the annexes of the invoices so they are accepted by the validation team as the main document in line with the registered PDD.

Emission reductions calculation and monitoring report is prepared by the carbon consultant South Pole Carbon Asset Management Ltd.

The operational system is in line with the approved validation report.

The project activity also supports the region. The project owner did some reconstruction in the local school. It has been verified during site visit and with the pictures of the school. The employees were local for the project activity and it has been verified through the residence permits and meeting with employees. Also trainings have been provided to the employees like fire fight and operational training for the technical personnel.

4 VERIFICATION CONCLUSION

Bureau Veritas Certification has made third periodic verification of the "Aydın Salavatlı Dora-I Geothermal Power Plant", which is located in Aydın Province of Turkey.

The verification was performed on the basis of Voluntary Carbon Standard Version 2007 criteria, Monitoring Methodology AMS I.D Version 13 country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

Bureau Veritas Certification confirms that the project is implemented as planned and described in the Project Design. Installed equipment being essential for generating emission reductions runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Bureau Veritas Certification can confirm that the GHG emission reductions are calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emission reductions, reported and related to the valid and registered project baseline and monitoring and its associated documents.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: 01/08/2010 to 31/08/2011

Baseline emissions	: 29,995	tCO_2 equivalents.
Project emissions	: 0	tCO_2 equivalents.
Emission Reductions	: 29,995	tCO_2equivalents.

REFERENCES

4.1 Documents

Documents provided by South Pole that relates directly to the GHG components of the project and other reference documents are given below:

1. Validation and Verification Manual v01.2
2. Approved consolidated baseline and monitoring methodology AMS I.D, Version 13
3. Voluntary Carbon Standard 2007.1
4. Monitoring Report dd. 10.10.2011
5. Monitoring Report dd. 11.11.2011
6. Monitoring Report dd. 15.12.2011
7. Emission Reduction Excel Sheet Version 1
8. Emission Reduction Excel Sheet Version 2
9. Calibration report for New Elster Devices
10. Signed report from Aydem for the Montly Records
11. SGK Records for the employees
12. Metering Device Changing Protocol dd.18.04.2011
13. Residence Certificates
14. Training Records

4.2 Persons Interviewed

List persons interviewed during the validation and site visit, or persons that contributed with other information that are not included in the documents listed above.

1. Mr. Haluk Tüfekçioğlu – Mege Elektrik
2. K Kartick – Southpole Carbon
3. Barıs Ergun – Alenerji
4. Mehmet Eren – Electromechanical Engineer of the Plant

5 VERIFICATION TEAM COMPETENCY

Internal Technical Reviewer: Mrs. Isil Timuroglu – Environmental Engineer

Bureau Veritas Certification SAS – Internal Technical Reviewer

Isil Timuroglu has over 5 years' experience in environmental sectors. She worked about calculation of greenhouse gases. She is a lead verifier for GHG Emission Reduction Projects.

Lead Verifier: Mrs. Burcu Mutman – Environmental Engineer

Bureau Veritas Certification SAS - Lead Verifier

Burcu Mutman is an auditor for environment, safety and quality management systems. She is also lead verifier for GHG Emission Reduction Projects.

Appendix A - VERIFICATION PROTOCOL

TABLE 1 VERIFICATION REQUIREMENTS BASED ON THE CLEAN DEVELOPMENT MECHANISM VALIDATION AND VERIFICATION MANUAL (VERSION 01.2)

	CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1 Project implementation in accordance with the registered project design document						
a	Are all physical features of the proposed CDM project activity proposed in the registered PDD in place?	VVM	196	During 3rd Verification of the Dora-1 project it is confirmed that all physical features of the proposed project activity are in place as it is defined in the registered PDD.	OK	OK
b	Have the project participants operated the proposed CDM project activity as per the registered PDD?	VVM	196	Yes, the project participants operated the project activity as per the registered PDD.	OK	OK
c	Was an on-site visit conducted?	VVM	196	Yes, site visit has been conducted on 18.10.2011.	OK	OK
d	If not, justify the rationale of the decision.	VVM	196	n.a.	OK	OK
e	Does the implementation or operation of CDM project activity conform with the description contained in the registered PDD?	VVM	197	Yes, the operation and implementation of the project activity conform with the registered PDD.	OK	OK
f	If not, which are the potential impacts due to these changes, according to the relevant guidelines established by the Executive Board (EB48-§73)?	VVM	197	n.a.	OK	OK
g	Was a notification or a request for approval of changes from the project activity as described in the registered PDD submited prior to the conclusion of the verification/certification for the corresponding?	VVM	197	n.a.	OK	OK
2 Compliance of the monitoring plan with the						

	CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
monitoring methodology						
a	Is the validated monitoring plan in accordance with the approved methodology applied by the proposed CDM project activity?	VVM	200	Yes, the validated monitoring plan is in line with the selected methodology AMS.I.D version 13.	OK	OK
b	If no, was a request for revision of the monitoring plan was done? (The DOE may request for revision of the monitoring plan covering the monitoring period under verification, for approval by the CDM Executive Board)	VVM	201	n.a.	OK	OK
c	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)?	VVM	202	No, there is no monitoring aspect that is not specified in the methodology.	OK	OK
3 Compliance of monitoring with the monitoring plan						
a	Have the monitoring plan and the applied methodology been properly implemented and followed by the project participants?	VVM	205	Yes, the monitoring plan has been implemented properly. However since the electricity metering is under TEDAS responsibility their technics has been changed. Previously at the end of each month TEDAS people was coming to the project site and signing the monthly protocols but since December 2009 there is remote reading in the project activity. Please update tense in the para 3 of section 2. Please update the table in section 3.3.	CAR1	OK
b	Have all parameters stated in the monitoring plan, the applied methodology and relevant CDM Executive Board decisions been sufficiently monitored and updated as applicable, including:	VVM	205			

	CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i	Project emission parameters?	VVM	205	Diesel Generator fuel consumption has been monitored. Periods for the operating hours shall be corrected in the monitoring report as it is discussed on the site visit.	CAR2	OK
ii	Baseline emission parameters?	VVM	205	Regarding to the registered PDD invoices has been defined as the main document for the emission reduction calculation. Since the PMUM records are the annexes for the invoices they are accepted by the verification team. However in the monitoring plan and in the calculation excel sheet monthly records from Aydem has been used as the main document. Please correct.	CAR3	OK
iii	Leakage parameters?	VVM	205	There is no leakage in the project activity.	OK	OK
iv	Management and operational system: the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan?	VVM	205	Please define the responsibilities in the the monitoring plan. (Responsibility of Southpole, project manager or electrical engineer…)	CL1	OK
c	Is the accuracy of equipment used for monitoring in accordance with the relevant guidance provided by the CDM Executive Board and are equipment controlled and calibrated in accordance with the monitoring plan?	VVM	205	The calibration and accuracy of the metering devices are under TEDAS responsibility. During the monitoring period metering equipments has been changed since they were not fully suitable for the remote reading. Actaris Metering devices has been changed with Elster. Please update the table in section 3.4.	CAR4	OK
i	Are monitoring results consistently reccorded as per approved frequency?	VVM	205	Yes, all produced electricity has been recorded continuously with SCADA system and monthly by TEDAS (Aydem).	OK	OK
ii	Have quality assurance and quality control	VVM	205	Yes, QA/QC procedured applied in accordance with the	OK	OK

	CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	procedures been applied in accordance with the monitoring plan?			monitoring plan.		
4 Assessment of data and calculation of greenhouse gas emission reductions						
a	Is a complete set of data for the specified monitoring period is available? (If no, i.e., only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, the DOE shall opt to either make the most conservative assumption theoretically possible in finalizing the verification report, or raise a request for deviation prior to submitting request for issuance, if appropriate).	VVM	208	The electricity generation has been checked through PMUM and AYDEM (TEDAS) records. All set of data between the monitoring period (01/08/2010 and 31/08/2011) has been presented to the verification DOE. For the monitoring of the fuel consumption the weekly records has been provided to DOE for the defined monitoring period.	OK	OK
b	Has information provided in the monitoring report been cross-checked with other sources such as plant log books, inventories, purchase records, laboratory analysis?	VVM	208	Electricity Generation data has been cross checked with the monthly AYDEM records.	OK	OK
c	Have calculations of baseline emissions, proposed 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?	VVM	208	Yes, baseline emissions and project emissions have been calculated in accordance with the monitoring plan.	OK	OK
d	Have any assumptions used in emission calculations been justified?	VVM	208	No assumptions have been used in the calculations.	OK	OK
e	Have appropriate emission factors, IPCC default values and other reference values been correctly applied?	VVM	208	Grid emission factor has been used from the registered PDD (0,591) and emission factor for diesel has been used from IPCC(3,186).	OK	OK

TABLE 2 RESOLUTION OF CORRECTIVE ACTION / FORWARD ACTION / CLARIFICATION REQUESTS.

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
CAR1- Yes, the monitoring plan has been implemented properly. However since the electricity metering is under TEDAS responsibility their technics has been changed. Previously at the end of each month TEDAS people was coming to the project site and signing the monthly protocols but since December 2009 there is remote reading in the project activity. Please update tense in the para 3 of section 2. Please update the table in section 3.3.	3.a	Appropriate modifications as requested by have been made in the sections 2 and 3.3 of the revised monitoring report, version 02 submitted to the verifier.	Remote reading procedure is defined as in section 3.3 the electricity exported by the project activity as per the official PMUM records from the online portal have been taken as the basis to the emission calculations and in section 2 for this online measurement system, the energy meters mentioned above have been replaced with energy meters of Elster make to facilitate th online meter reading from remote locations on 18th April 2011. **The corrective action request is closed.**
CAR2- Diesel Generator fuel consumption has been monitored. Periods for the operating hours shall be corrected in the monitoring report as it is discussed on the site visit.	3.b.i	Operating hours of the diesel generator have been revised in the revised ER calculation sheet, version 02 and revised monitoring report, version 02 submitted to the verifier.	Operating hours of the diesel generator have been revised as 58,21.hours. **The corrective action request is closed.**

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
CAR3- Regarding to the registered PDD invoices has been defined as the main document for the emission reduction calculation. Since the PMUM records are the annexes for the invoices they are accepted by the verification team. However in the monitoring plan and in the calculation excel sheet monthly records from Aydem has been used as the main document. Please correct.	3.b.ii	PMUM records data have been used in the revised ER calculation sheet, version 02 and revised monitoring report, version 02 submitted to the verifier.	Emission reduction calculation sheets have been corrected based on PMUM records. **The corrective action request is closed.**
CL1- Please define the responsibilities in the the monitoring plan. (Responsibility of Southpole, project manager or electrical engineer…)	3.b.iv	The responsibilities of the various personnel involved from the side of MEGE and SPC have been highlighted in section 2 of the version 02 submitted to the verifier.	The responsibilities have been defined under title of monitoring responsibilities, Shift Operator (MEGE): measures the operating data for each shift, Chief Engineer (MEGE): reviews the measured data General Manager (MEGE): checks the online portals for electricity export and import and verifies it with the plant records with support from the Chief Engineer. Carbon Manager (SPC): works closely with the General Manager and Chief Engineer of MEGE to collect the data, calculate and report the GHG ERs, as well as facilitate the project verification by a DOE.

<table>
<tr><th>Draft report clarifications and corrective action requests by verification team</th><th>Reference to checklist question in Periodic Verification Checklist</th><th>Summary of project owner response</th><th>Verification team conclusion</th></tr>
<tr><td></td><td></td><td></td><td>The clarification request is closed.</td></tr>
<tr><td>CAR4- The calibration and accuracy of the metering devices are under TEDAS responsibility. During the monitoring period metering equipments has been changed since they were not fully suitable for the remote reading. Actaris Metering devices has been changed with Elster. Please update the table in section 3.4.</td><td>3.c</td><td>Information on the meter replacement has been added in sections 2 and 3.4 of the revised monitoring report, version 02 submitted to the verifier.</td><td>The technical characteristics of the power meters are summarized in the table below.
<table><tr><td>Specification</td><td>Explanation</td></tr><tr><td>Brand Name</td><td>ELSTER</td></tr><tr><td>Type</td><td>A 1500</td></tr><tr><td>Serial Number</td><td>Main meter 424848, spare meter 424849</td></tr><tr><td>Connection Type</td><td>3 phases-4wires</td></tr><tr><td>Accuracy Class</td><td>Active CI 0.5S; Reactive CI 2.0</td></tr><tr><td>Voltage (Volt)</td><td>3x58/100V</td></tr><tr><td>Current (Amper)</td><td>1 A</td></tr></table>
The corrective action request is closed.</td></tr>
<tr><td>CL2- It is stated under monitoring report that “Monthly official electricity export and import figures are measured by the TEDAS/ AYDEM officials online and indicated in the online portal.” However the online reading has been done from PMUM webpage not</td><td></td><td>Please refer to section 3.3 of the revised Monitoring Report, version 03 submitted to the verifier for refernece to the PMUM records maintained on an online portal.</td><td>The main document defined in the PD is invoices. Since the PMUM records are the annexes for invoices, PMUM has been used for the emission reduction calculations. All records has been crosschecked with signed report</td></tr>
</table>

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
TEDAS/AYDEM. Please correct.			of AYDEM. **The clarification request is closed.**
CL3- it is mentioned under section 3.3 of the monitoring report that the net electricity generation is crosschecked by the hourly SCDA data. Please clearly define the crosschecking record of the electricity generation in MR. Crosschecking has been done with the signed report from AYDEM.		Please refer to the section 3.3 of the revised Monitoring Report, version 03 submitted to the verifier, where refence to the SCADA data has been removed, especially considering the fact that the the electricity data has been cross-checked from the signed AYDEM report data by the verifier.	The crosschecking information has been corrected as AYDEM signed report. SCADA data was also available during verification. **The clarification request is closed.**
CL4- The following statements are indicated in the monitoring report: "…the net electricity metering including the transmission losses are available within the reports" "When comparing with the net electricity reported, transmission losses are taken into account." "This means that the monitoring measurement method shall exclude electricity imported from the grid by the project activity and possible transmission losses." Please clarly state the information about transmission losses.		It may please be noted that as per mathematical relations, the electricity exported = (electricity generated - auxiliary consumption - transmission loses). Hence the transmission loses are already inbuilt in the figure of electricity export, hence mentioned in the 2nd and 3rd statements quoted by the verifier. The 1st statement quoted been revised in the section 3.3 of the revised Monitoring Report, version 03 submitted to the verifier to reflect the above explanation.	Regarding to the registered PDD transmission line losses has to be considered and excluded from the net electricity generation value. So during verification UEVM values has been used from PMUM webpage which include transmission line losses. **The clarification request is closed.**

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CL5- It is mentioned under section 3.3 of MRthat meters will be maintained periodically according to national regulations. Please define the situation during the monitoring period (maintenance has been performed or not).		Please refer to the sections 2, 3.3 and 3.4 of the revised Monitoring Report, version 03 submitted to the verifier, where it has been mentioned that the meters have been maintained and replaced according to national regulations in association with the power purchasing authority.	The MR has been corrected. During the monitoring period replacement has been done in line with the regulations. **The clarification request is closed.**
CL6- It is stated under section 3.3 of MR as follows: "Data measured by meters and will be crosschecked with the data collected by the PO thanks to their own internal SCADA system at the plant" "Diesel Consumption will be calculated on the basis of monitored operating ..." "Data will be collected by qualified plant staff monthly" Please define the situation realized during the monitoring period.		Please refer to the section 3.3 of the revised Monitoring Report, version 03 submitted to the verifier, for the following: • Refence to the SCADA data has been removed, especially considering the fact that the the electricity data has been cross-checked from the signed AYDEM report data by the verifier. • Diesel Consumption has been calculated on the basis of monitored operating hours on the diesel generator engine and its default consumption • Data has been collected by	The operation under monitoring period has been defined. The corrections has been done. **The clarification request is closed.**

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
		qualified plant staff monthly and reported on an annual basis	
CL7- It is stated under section 3.4 of MR as follows: "During the present monitoring period, no calibration has been conducted, as the meters were observed to be working at the desired accuracy levels. Furthermore, for the monitoring period under consideration, there was no malfunctioning of the main meter and hence no alterations have been done on it." However, the meters are replaced and calibrated before the installation as indicated under section 2 of the MR.		Please refer to section 3.4 of the revised Monitoring Report, version 03 submitted to the verifier for a statement on the meter replacement and the calibration done prior to the installation of the new meters. This is also in line with the infirmation provided in section 2 of the document.	The implementation during monitoring period has been defined under section 3.4. **The clarification request is closed.**