VERIFICATION REPORT

Uzuncayir HEPP

No. VCS-21218229

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Document Prepared By TÜV Rheinland Energie und Umwelt GmbH

Project Title	**Uzuncayir 82.0 MW Hydroelectric Power Plant Project, Turkey**
Version	02

Report Title	Verification Report Uzuncayir HEPP 21218229
Client	Limak Yatirim Enerji Uretim Isletme Hizmetleri ve Insaat Anonim Sirketi Hafta Sokak No:9 GOP, 06700 Ankara
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Summary:

The DOE (TÜV Rheinland Energie und Umwelt GmbH) has performed a VCS verification of the project Uzuncayir 82.0 MW Hydroelectric Power Plant Project, Turkey. The verification is based on the currently valid documentation of the VCS Version 3 based on the UN Framework Convention on Climate Change (UNFCCC), Article 12 of the Kyoto Protocol, the CDM modalities and procedures and subsequent decisions by CDM Executive Board.

The verification team concludes that the project as described in the VCS Monitoring Report, Version 2, December 22nd , 2011 covers all the relevant requirements of the criteria mentioned above. The development and maintenance of records and reporting procedures is in accordance with that report. The calculation and determination of GHG emission reductions from the project is in the responsibility of the management of the project and it is done on the basis set out within the project description.

The verification team confirms that the project is implemented as planned and described in the validated and registered project design documents. Installed devices essential for gathering information about the electricity generation and self-consumption run reliably. The monitoring system is in place and the project is ready to generate GHG emissions reductions.

The DOE can confirm that the GHG emissions reductions are calculated without material misstatements. The opinion relates to the project's emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents.

A brief overview of the verification steps covers the following points:

Desk Review of VCS monitoring report (Version 1, November 28th, 2011),
registered PDD (Version 6, 3rd December 2010),
validation report created by Bureau Veritas Certification Holding SAS (31.12.2010 / Version 06, applied baseline and monitoring methodology ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources", v.11 (EB52).

- On-site visit (8th -9th December 2011)
- Issue of the checklist with corrective action request (CARs) and clarification requests (CLs) (See, Annex 2)
- Desk review of VCS monitoring reports (version 1, 28.11.2011; version 2 – 22.12.2011)
- Review of proposed CARs and CLs
- Issue of the final verification report & protocol (See, Annex 1)
- Finally, TÜV Rheinland Energie und Umwelt GmbH issues a positive verification opinion to the project
- Based on the information we have seen and evaluated we confirm the following statement:
- Reporting period: 02 December 2009 to 31 October 2011 (Both Days Inclusive)

Verified emission in the above reporting period:

Project emissions: 48,116 t CO_2

GHG Emission Reductions: 250,443 t CO_2

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1 INTRODUCTION

Limak Yatirim Enerji Uretim Isletme Hizmetleri ve Insaat Anonim Sirketi (short: Limak; Project Owner) as responsible party for project operation together with Ekobil Cevre Hizmetleri ve Danışmanlık Ltd. Sti. (Carbpn Project Consutant) as responsible party for quantification of ER have commissioned an independent verification by TÜV Rheinland, Energie und Umwelt GmbH of its project: *Uzuncayir 82.0 MW Hydroelectric Power Plant Project, Turkey*.

The Verification activity is the periodic independent review and ex-post determination by the Designated Operational Entity / Independent Entity of the monitored reductions in GHG emissions during the defined verification period. TÜV Rheinland Energie und Umwelt GmbH as the verification body of the project has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in ISO 14065:2007.

2 OBJECTIVE

This Initial Verification is aimed at verifying and certifying the Voluntary Carbon Units (VCUs) reported for the "*Uzuncayir 82.0 MW Hydroelectric Power Plant Project, Turkey*" for the first monitoring period from 02 December 2009 to 31 October 2011 (Both Days Inclusive). The final verification report will assure that the project is implemented as planned and confirm that the monitoring system is in place and fully functional.

The Verification considers both quantitative and qualitative information on GHG emissions. Quantitative data comprises the monitoring reports submitted to the verifier by the project entity. Qualitative data comprises information on internal management controls, calculation procedures, and procedures for transfer, frequency of emissions reports, review and internal audit of calculations/data transfers.

The verification follows the VCS Version 3 based on UNFCCC criteria, referring to the Kyoto Protocol criteria and the modalities as agreed in the Bonn Agreement and the Marrakech Accord.

The document review was conducted by categorizing the supporting documents by validation issues, such as: baseline emissions, project conformity to national legislation, project start data and crediting period, monitoring, etc. This process represents an efficient way to review, compare and make references to the documents along the validation report.

2.1 Scope and Criteria

The verification comprises a review of the monitoring report over the monitoring period from 02 December 2009 to 31 October 2011, based on the registered Project Description Document in part of the project design, monitoring parameters, monitoring plan, emission reduction calculation, monitoring methodology and all related evidences provided by project participant. Those documents have been reviewed and verified against VCS Version 3 requirements, UNFCCC rules and associated interpretations. The verification is based on validated project design document including baseline.

The main scopes of this verification are:

- Verify whether the emission reductions generated by the project are in line with the VCS Verification Protocol and the information provided by the project participants contains all the necessary information to evidence the project's compliance with all criteria in the VCS.
- Verify that the project has been implemented as described in the Project Design Document (PDD) during the verification period.

- Confirm that the monitoring plan was implemented and fully functional to generate voluntary emission reductions (VCU) without any double counting during the whole verification period.
- Give a conclusion whether reported data are accurate, complete, consistent, and transparent, with a high level of assurance and free of material error or misstatement.

In particular, the project baseline, monitoring plan and the project compliance with relevant applicable protocols and criteria (i.e. UNFCCC, VCS, host Party and others) are to be validated in order to confirm that the project design, as documented, is sound and reasonable and meets the applicable criteria.

The correct application of the CDM approved baseline and monitoring methodologies: ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources", v.11 (EB52) and "Tool to calculate the emission factor for an electricity system", v.02; were already validated by Bureau Veritas Certification Holding SAS documented in its Validation Report 31.12.2010 / Version 06.

An explicit review of the validation and its underlying assumptions made and conclusion of Bureau Veritas Certification Holding SAS are not scope of this verification.

2.2 Level of assurance

As the VCS Version 3 recognizes verified emission reductions, TÜV Rheinland Energie und Umwelt GmbH has focused on providing a reasonable level of assurance that the emission reduction calculation methodology is appropriate and correctly applied, and that emission reductions have been accurately monitored. The implementation can be considered sustainable and no indications were observed leading to the assumption of high risks beyond common project specific challenges in relation to the likelihood of continual removal of GHG emission reduction through the project. This judgement is based on the document review, on site checks and consistency checks.

In the case it is required, TÜV Rheinland Energie und Umwelt GmbH may discount verified emission reductions or requests a discount of these by using conservative assumptions for uncertainties in emission reduction calculations that cannot be fully quantified or that cannot give a desired level of assurance. For verifying/certifying VCUs, the desired level of assurance was based on the combined quantitative assessment of the accuracy of monitoring project performance and the identification of material risks.

2.3 Summary Description of the Project

The project is situated at Munzur River and it is 18 km away from Tunceli city, Elazig Province, Turkey. Tunceli city is located Anatolia, an Eastern province of Turkey. The area is clearly "Greenfield" and a powerhouse station was built from scratch. It is secured against unwanted interference by a perimeter fence and guarding service supervising admission to the site (Figure 1).

Figure 1: Hydropower Plant, 8th December 2011

Uzuncayir HEPP consists of 3 units, each having an installed capacity of 27.33 MW. Total installed capacity of the project is 82.0 MWe and the expected electricity generation is 322,000 MWH per annum. The first unit of the project was started to produce electricity on December 2nd, 2009. After that, the second unit was commenced on 28/01/2010 and last, the project was commenced with full capacity on 12/04/2010, after the commissioning of the last unit.

The project was initiated by the state own company General Directorate of State Hydraulic Works (Turkish Acronym: DSI) and later it was taken over by Limak to implement and start construction.

No EIA regulatory procedures had to be observed because the project was exempt from the regulations which were verified by means of the EIA exempt certificate submitted to TÜV Rheinland.

3 VERIFICATION PROCESS

3.1 Method and Criteria

The verification is based on validated project design document including baseline and monitoring report. These documents are reviewed against VCS Version 3 requirements. TÜV Rheinland Energie und Umwelt GmbH has, based on the recommendations in the Validation and Verification Manual, employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions.

The verification includes the next steps: desk review of the project design documents and monitoring report; on-site visit and follow-up interviews and resolution of outstanding issues and the issuance of the final verification report and opinion.

3.2 Document Review

The following table outlines the documentation reviewed during the verification process.

No	Document	Reference date	Comment
1.	UNFCCC, CDM Validation and Verification Manual	10.08.2011	Official reference, (Version 01.2), EB55 Annex 1
2.	UNFCCC, ACM0002 – v11	10.08.2011	Official reference, “Consolidated methodology for grid-connected electricity generation from renewable sources”, v.11 (EB52).
3.	UNFCCC methodology	10.08.2011	Official reference, “Tool to calculate the emission factor for an electricity system”, v.02. EB 50
4.	VCS Project Description	03/12/2010	VCS PD registered, Version 6
5.	VCS Validation Report	31.12.2010	Final Validation report Bureau Veritas Certification Holding SAS / Version 06
6.	VCS Monitoring Report, Version 01	28/11/2011	Version of the monitoring report

7.	VCS Monitoring Report, Version 02	22/12/2011	Version of the monitoring report
8.	Emission Reductions Calculation	09/12/2011	Spreadsheet part of the monitoring report
9.	VCS Program Version 3	10.08.2011	Official reference, www.v-c-s.org
10.	Reading Protocols	December 2009 – Oct 2011	Signed TEIAS Protocols
11.	Metering Specifications	-	Actaris Metering Type SL761
12.	DSI Commissioning Report for Unit 1	04/12/2009	Doc-#: B18 1 DSI 0120100/7285
13.	DSI Commissioning Report for Unit 2	03/02/2010	Doc-#: B18 1 DSI 0121100/1050
14.	DSI Commissioning Report for Unit 3	21/04/2010	Doc-#: B18 1 DSI 0121100
15.	ISO 14001:2004 Certificate	29/11/2010	Issued by TÜV Rheinland Cert GmbH; Certificate-# 01 104 010969
16.	BS OHSAS 18001:2007 Certificate	29/11/2010	Issued by TÜV Rheinland Cert GmbH; Certificate-# 01 113 010011
17.	Meter Test Reports from TEIAS	10/11/2009	Tested Meters w serial numbers: 53035203 TR1 ANA – main meter for Unit 1 53035202 TR2 ANA– main meter for Unit 2 53035201 TR3 ANA– main meter for Unit 3 53035206 TR1 YEDEK– back-up meter for Unit 1 53035205 TR2 YEDEK– back-up meter for Unit 2 53035204 TR3 YEDEK– back-up meter for Unit 3
18.	First reading protocol of meters from TEIAS Unit 1	02/12/2009	Indicating the commissioning of turbines
19.	PMUM screen shots	December 2009 – Oct 2011	Showing reported power production 2009, 2010 and 2011

20.	Single line diagram	-	Indicating the measuring points and meters
21.	Power production License	26/08/2010	Doc-#: EÜ/2728-2/1686
22.	Volume-Area Curve	-	For determining the suface of the reservoir depending on the water level
23.	Technical specification of the water level measuring equipment	-	Technical Information Deltapilot S DB50/50L/51/52/53 Hydrostatic Level Measurement

3.3 Interviews

The personnel who have been interviewed are:

Name	Company	Position
Ms. Asli Özelik	Ekobil	Project Consultant / Project Manager
Mr. Murat Özelik	Ekobil	Project Consultant / Project Manager
Mr. Cercis Günes	Limak	Project Manager
Mr. Sergat Andogan	Limak	Plant Engineer
Mr. Mahmut Kücük	Limak	Site Manager
Mr. Engin Botknez	Limak	Mechanical Engineer
Mr. Mehmet Seckin	Local Farmer and subcontractor of Limak for transportation	Local Stakeholder of village Burmagecit, Turkey
Mr. Zeki Turmus	Retrired Farmer and construction worker for Limak	Local Stakeholder of village Burmagecit, Turkey
Mr. Imam Atac	worker for Limak	Local Stakeholder of village Burmagecit, Turkey
Mr. Veli Öz	Head of Village	Local Stakeholder of village Burmagecit, Turkey
Ms. Özlem Orhan	Teacher of Primary School	Local Stakeholder of village Burmagecit, Turkey
Mr. Ali Tekip	Local Farmer	Local Stakeholder of village

		Burmagecit, Turkey

3.4 Site Inspections

An on-site inspection was conducted with the purpose to clarify whether the project had been carried out as described in the VCS PD, assessment of documents and interview people in order to verify the project conditions.

The on-site visit at the hydropower station confirmed that the monitoring and reporting is carried out consistently and in line with established procedures and as per the requirements of the monitoring plan mentioned in the registered PDD.

3.5 Resolution of Any Material Discrepancy

This process is aimed at resolving any outstanding issues which need to be clarified prior to the *TÜV Rheinland Energie und Umwelt GmbH*'s conclusion on the project design and monitoring results. In order to ensure transparency a verification protocol is customised for the project. The protocol shows in transparent manner criteria (requirements), means of verification and their results against the identified criteria.

Findings established during the verification can either be seen as a non-fulfilment of CDM criteria and VCS Version 3, or where a risk to the fulfilment of project objectives is identified. Corrective action requests (CAR) issued where mistakes have been made with a direct influence on project results. Moreover, clarifications (CL) were requested where additional information is needed to fully clarify an issue.

4 VERIFICATION FINDINGS

The findings of the verification are stated in the following sections. The verification criteria (requirements), the means of verification and its results against the identified criteria are documented in more detail in the verification protocol in Appendix 1.

4.1 Project Implementation Status

The technology employed by the project is utilization of hydraulic power for generating electricity which then has been supplied to the national power grid according to the PDD.

During the onsite assessment, it was physically observed by the verification team that the power generation equipments and necessary facilities as described in the registered PDD are all in place. By checking technical description onsite, the installation 3 water turbines with total installed capacity of 84 MWe and 82 MWe Generators.

The project started to delivery power to the national power grid on 2nd December 2009 when officials from TEIAS documented the first production with first meter readings. Beforehand, the monitoring meters have been in compliance with relevant regulation and accepted to operate (11, 17, 18).

During the course of the monitoring period in question, the project delivered the net electricity of 533.571,61 MWh.

The project activity is a newly built hydro energy based power generation project, which has generated GHG emission reductions by avoiding CO_2 emissions from electricity generation of fossil fuel fired power. Operation of the project does not lead to GHG emissions. Thus it is confirmed that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction.

In view of project operation during the monitoring period, the verification team reviewed the readings and considered that all the criteria have been met according to the Monitoring Report.

The monitoring plan describes how the requirements related to the data acquisition and storage is being met. As described in the Monitoring Report and physically observed by the verification team during the on-site visit, three bidirectional main meters and equivalent back-up meters were installed at the plant to measure electricity exported to and imported from the grid. The meters at the plant are identified as primary meter (No. 5303 1771) and secondary meter (No. 5303 1772) which are being used within the facility to ensure accuracy and exclusion of false readings. The values for the gross electricity generation and self consumption are measured by these devices. Currently, the meters at the substation are not in use, but they are calibrated as they can be used as backup in case it is required.

The accuracy of the primary and secondary meters is 0.5 % as required by national legislation ("Elektrik Piyasasinda Kullanilacak Sayaclar Hakkinda Teblig" (Communiqué for Metering Devices to be used in the Electricity Market).

TEIAS staff (Grid operator in Turkey) is responsible for the monthly record and the transmission to the PMUM database. The monthly readings are transferred electronically. In addition hardcopies of the monthly record were revised on-site as well as transcription to the Emission Reduction calculation spreadsheet.

The data have been verified by TÜV Rheinland Energie und Umwelt GmbH using the signed metered protocols and compared those with the official PMUM web-based application containing the electronically transmitted values as well as with manual records from the hydropower plant. The Project owner can access and monitor the electricity generation data 24 hours a day. The hardcopies of the monthly record was used for double checking. Invoices towards TEIAS were used as additional plausibility check.

The verification team has reviewed the calibration reports (10, 11, 12) of the installed monitoring meters and confirmed that their calibration frequencies and measurement accuracies are in compliance with the monitoring plan of the registered PDD and hence all concerned meters were effective during this monitoring period. The primary and secondary meters seals were identified and they are intact.

Meter	Main Meters			Backup meters		
Function	Unit 1	Unit 2	Unit 3	Unit 1	Unit 2	Unit 3
Located	At the plant	At the plant	At the plant	At the plant	At the plant	At the plant
Serial No.	53035203	53035202	53035201	53035206	53035205	53035204
Calibration date	10/11/2009	10/11/2009	10/11/2009	10/11/2009	10/11/2009	10/11/2009

The verification team assessed the data collection procedures by means of physical observation & interview and documentation review. No deviations were remained to the actual monitoring activity.

During the given monitoring period, both relevant personnel from the project and the power company have read the monitoring meters in each month. The hourly function of the meters ensures that the electricity data of first and last day of every month can be computed. The corresponding electricity amounts, determined based on the meter readings, have been collected and maintained in the power generation protocol.

Therefore, the verification team considered that the monitoring of the project is complete and in compliance with the selected monitoring methodology, UNFCCC methodology. Grid connected renewable electricity generation, v.13 and the grid emission factor in compliance with the "Tool to calculate the emission factor for an electricity system", v.02.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

The project owner claims the reduction of CO2 emission by replacement of grid emission factor based electricity generation. The emission reductions are the baseline emissions using the Combined Margin emission factor of the grid.

Figure 2: Primary meter2 at the plant (sealed for optical port)

The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodologies, the formulae given in the VCU monitoring report version 1 of 28th Nov 2011 and also based on the validation opinion stated in the validation report issued by TÜV Rheinland Energie und Umwelt GmbH for the project activity.

The verification team assessed the Monitoring Report and Emission Reductions Calculation Spreadsheet and confirmed that GHG emission calculations presented in them are consistent as described in the registered PDD and the methodology ACM002 and thus deemed appropriate.

The CO2 emissions reductions were correctly calculated using quantity of net electricity generated and CO2 emission factor for an electricity system of 0.5596 tCO_2/MWh according to the baseline methodology mentioned above and applicable under VCS Version 3.1.

The emission reductions of the project are calculated as the baseline emissions with consideration of project emission. Project emissions are calculated based on a default value of 90 kg CO_2/MWh if the power density is between 4-10 W/m². Leakage emissions are considered as zero.

The reported electricity data in the Emission Reductions Calculation Spreadsheet are verified correct on the basis of the power generation protocols (35) and gross generation exported and import electricity used for self-consumption from PMUM reports.

The total electricity value during the concerned monitoring period have been verified and tabulated below:

Data	*Units*	2009	2010	2011
Total Electricity Generated	MWh	12568.74	281397.81	240656.33
Net electricity generated	MWh	12541.25	280906.23	240124.13

The net amount of electricity supplied to the grid is determined as 533.571.6 MWh.

For calculating the GHG emissions in the given monitoring period the project emissions needs to be considered as well. As a conclusion the emissions reductions are like:

Data	*Symbol*	*Units*	2009	2010	2011
Net electricity generated	$EG_{net,y}$	MWh	12541.25	280906.23	240124.13
Total Electricity Generated	TEGy	MWh	12568.74	281397.81	240656.33
National Grid Emission Factor	EF_{CM}	tCO_2e/MWh	0.5596	0.5596	0.5596
Reservoir Emission Factor	EF_{RES}	$kgCO_2e$/MWh	90	90	90
Baseline Emissions	***Symbol***	***Units***	**2009**	**2010**	**2011**
Uzunçayır Electricity Generation = E1 * EF_{CS}	BE1	tCO_2e	7017.46	157181.08	134361.46
Project Emissions	***Symbol***	***Units***	**2009**	**2010**	**2011**
PE=(EF_{res}*TEGy)/1000	PE	tCO_2e	1131.19	25325.80	21659.07
Emission Reductions	***Symbol***	***Units***	**2009**	**2010**	**2011**
= BE1 - PE - LE	ER	tCO_2e	**5,886.27**	**131855.28**	**112702.39**

TOTAL ERs	250443	**Conservatively rounded**

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

All calculations made in the emission reductions spreadsheet (8) have been verified through re-computation by the verification team. The verification team checked the correct inclusion of low-cost must run plants in the calculation, the correct deduction of imported power, use of correct emission factors and the summation of all primary data made in the spreadsheet provided by the responsible party.

TÜV Rheinland Energie und Umwelt GmbH was able to verify that Uzuncayir Hydropower Station has adequate monitoring mechanisms where the required parameters have been monitored on a monthly basis. This was verified during the site visit when the plant records were verified to assess the correctness of the reported data.

The Project Owner has shown evidence of the meter's calibration as requested by Measurement and Measuring Tools Inspection Regulation", Date: 24/07/1994, Official Gazette Number: 22000 - Article 9, in which periodical inspections of "gauges for electric, water, coal gas, natural gas and, current and voltage measuring transformers has to be made once in 10 years". This is in line with the monitoring plan and national requirements, but the Project owner has scheduled a calibration per year.

The emission reductions have been correctly calculated at 250,443 tCO_2. This is about 13 % lower than the amount envisaged in the PDD. A complete set of data for the specified monitoring period was available and verified while undertaking site visit plant records maintained at site.

The emission reductions during the given monitoring period are determined based on the grid emission factor and the net electricity supplied to the national power grid. The grid emission factor is calculated as 0,5596 tCO2/MWh. The net on-grid electricity is represented by the gross electricity and self-consumption from the grid and it is reflected in the power generation protocol and crosschecked with the corresponding PMUM records.

The verification team has reviewed the above-mentioned evidences and considered that there is consistency of values and the VCS Monitoring Report.

4.4 Management and Operational System

By means of on-site assessment and interview, the verification team ensures that the quality management system for the project is in place. As confirmed by the project representative, the monitoring activity has been implemented as per the registered PDD. The according responsibilities of the personnel mentioned in the Monitoring Report are consistent with the current monitoring plan, served as the basis of the monitoring activity.

The data is collected according to well defined data collection procedures: The monitoring and reporting of parameters is in accordance with the established operational procedures, no documented instructions were requested and reviewed.

Also during the site visit, the verification team interviewed Mr. Ali Tiras who is in charge of recording the data, and understood that he is familiar with the project monitoring procedures and meters reading activity.

5 VERIFICATION CONCLUSION

The verification team of TÜV Rheinland Energie und Umwelt GmbH has performed a verification for the Uzuncyir Hydropower Project in Turkey on the basis of VCS Version 3 and UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The verification team concluded that the project as described in the VCS Monitoring Report (version 01, 28th November 2011), meets all relevant requirements of the above-defined criteria. The DOE therefore issues a positive verification opinion.

The verified emission reductions during the concerned monitoring period (02 December 2009 to 31 October 2011 (Both Days Inclusive)) are displayed as follows:

GHG Emission Reductions or Removals	tCO_2
Baseline Emissions	298.559,00
Project Emissions	48.116,06
Leakage	0
Net GHG emission reductions or removals	250.443

The net GHG emission reductions have been down rounded conservatively.

6 VERIFICATION STATEMENT

Limak Yatirim Enerji Uretim Isletme Hizmetleri ve Insaat Anonim Sirketi, January 13, 2012

Hafta Sokak No:9 GOP

06700 Ankara, Turkey

RE: VCS Verification Statement for
Limak Yatirim Enerji Uretim Isletme Hizmetleri ve Insaat Anonim Sirketi –
Uzuncayir 82.0 MW Hydroelectric Power Plant Project, Turkey

Limak Yatirim Enerji Uretim Isletme Hizmetleri ve Insaat Anonim Sirketi registered office at Hafta Sokak No:9 GOP, 06700 Ankara, Turkey has engaged TÜV Rheinland Energie und Umwelt GmbH to verify the emission reductions related to the GHG project mentioned above.

We have conducted the VCS verification in accordance with the requirements of the VCS Version 3 based on the UN Framework Convention on Climate Change (UNFCCC), Article 12 of the Kyoto Protocol, the CDM modalities and procedures. The project information has been verified and the VCS Verification report delivered “VERIFICATION REPORT, Uzuncayir HEPP, NO. VCS-21218229” on 13 January 2012, includes all relevant information and evidence acquired during the verification process.

We have come to the conclusion that based on our review and all available documentation the assertions are made in accordance with the requirements of the VCS program and are material correct and fairly represents the required parameters without material discrepancies. The emission reductions claimed for the monitoring period 02 December 2009 to 31 October 2011 are verified to be 250.443 tonnes CO_2.

Cologne, January 13, 2012

Markus Knödlseder, Roland Wollenweber

7 ANNEX 1

Verification Protocol

Verification Requirements (based on VCS 2007.1 §56, §57 and §62 of the CDM Modalities and Procedures and on CDM Verification and Verification Manual, Annex 1 of EB55).

Assessment Issue	Doc	MoVe[1]	Findings, comments, data sources	First Appraisal	Final conclusion
1. Implementation of the project					
Check physical evidence that the information in the registered PDD been implemented at the project site	4/6	DR I OSV	The project has installed of 3 water turbines. The rated capacity aggregating to the total installed capacity of 84 MW.	ok	ok
Check that the project activity been operated in accordance with the project scenario described in the registered PDD and relevant guidance	1/ 2 / 4/6/12/ 13/ 14	DR I OSV	Check that the project has been generating and supplying the electricity to the national grid, which is completely in compliance with the PDD.	ok	ok
Check whether the project activity is implemented on a number of different locations or not and if the Monitoring report provided the verifiable starting dates			Not applicable since the project is a newly built hydropower project located on one single site		
2. Project Methodology and Monitoring plan					
Check that the monitoring plan is established in accordance with the monitoring methodology	1,2,3	DR, OSV	Yes. The monitoring plan described in the registered PDD is fully compliance with the selected methodology	ok	ok
Check if monitoring established is in full compliance with the monitoring plan,	5, 7,8, 14, 15, 35	DR I OSV WWW	The monitoring plan has been established is in full compliance with the monitoring plan, contained in the registered PDD	OK	ok

[1] MoVe = Means of Verification, DR = Document Review, I = Interview, OSV = On-site Visit, WWW = Internet Search

Assessment Issue	Doc	MoVe[1]	Findings, comments, data sources	First Appraisal	Final conclusion
contained in the registered PDD					
Check if the baseline emission parameters monitored are in accordance with monitoring plan and monitoring methodology	10 / 11/ 17 /	DR I	Yes. The baseline emission monitoring parameters listed in the registered PDD have been monitored by the project proponent during the concerned monitoring period. The power produced is corrected according to consumptions from the grid; The meters are installed properly and operated according to Turkish Industry standard (TEIAS checks the meters regularly) so there are no concerns.	OK	ok
Check if the monitoring equipment for baseline emission parameters controlled and monitoring results were recorded as per approved frequency	5,7, 14,15, 35	DR / I / OSV / WWW	Yes. The recording frequency identified in the registered PDD is monthly, which has been complied in the monitoring practice conducted by the project proponent.	OK	ok
Check if the monitoring equipment for baseline emission parameters calibrated in accordance with the description in the registered monitoring report	17	DR I OSV	The monitoring instruments, i.e., meters, adopted for the project have been calibrated to ensure measuring accuracy during the given monitoring period. The main meters as well as the back-up meters were checked in the initial meter test reports of TEIAS	OK	ok
Check if the monitoring equipment for leakage emission parameters was calibrated in accordance with the procedures described in the registered monitoring plan			No applicable		
Check if all monitoring parameters available and verifiable through the whole monitoring period	10/18/ 19/20	DR I OSV	Yes, but the monitoring report was updated due to the latest readings from October 31, 2011 were available at the time of verification. Also the first readings were clearly retractable.	OK	ok

Assessment Issue	Doc	MoVe[1]	Findings, comments, data sources	First Appraisal	Final conclusion
Confirm if it was possible to verify that involved management and operation personal is fully aware of the responsibilities and perform all operations according to the registered monitoring plan and internally developed manuals	6 /10/ 15/ 16	DR I OSV	The full awareness of the responsibilities of monitoring activity within the established management and operation system has been confirmed by the onsite interview with the representative of management and operation personnel respectively. The company is certified according to IS 14001 and BS 18001, so the company and the staff is familiar with quality management procedures.	ok	ok
3. Parameters					
Net electricity output produced and supplied to the national power grid by the project Units: MWh during the monitoring period of 2nd December 2009 – 31st October 2011	6 / 11/ 17	DR OSV	The net electricity outputs, used for calculation of emission reductions, have been equal to difference between the gross electricity and consumption from the national power grid. The calculation process has been assessed and considered appropriate in the Monitoring Report.	ok	ok
Electricity supplied to the project by the national power grid Units: MWh during the monitoring period of 2nd December 2009 – 31st October 2011	10	DR I OSV	The parameter can be clearly retraced from TEIAS Signed metering protocols. A sufficient to cross check with manual records was performed to assess the correctness of electricity imported from the grid by the project during the verification period.	ok	ok
Electricity exported to the national power grid by the project Units: MWh during the monitoring period of 2nd December 2009 – 31st October 2011	10	DR I OSV	The parameter can be clearly retraced from TEIAS Signed metering protocols. A sufficient to cross check with manual records was performed to assess the correctness of electricity exported from the grid by the project during the verification period.	ok	ok

Assessment Issue	Doc	MoVe[1]	Findings, comments, data sources	First Appraisal	Final conclusion
Baseline emission factor Units: tCO2/MWh Default/Used value: 0.5596	5,7,8	DR	Yes. The baseline emission factor has been determined ex ante in the registered PDD (page 24) as 0.5596 tCO_2/MWh and correctly applied.	ok	ok
Installed capacity of the hydro power plant after the implementation of the project activity: Cap_{PJ} MW	4/6	DR	The parameter is actually not to be monitored as it is just the installed capacity. Nevertheless the parameter can be confirmed that it has been applied correctly.	OK	OK
Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full: A_{PJ} [m^2]	4/6/22	DR	Level of the reservoir is measured daily and recorded electronically as well as manually. Via the given Volume-Area Curve from the feasibility study the surface area can be determined. The description of the measuring itself (including way of measuring and meter) as well as the further data handling and determination of surface area is not sufficient elaborated in the Monitoring Report. That should be corrected/ added.	CAR 1	OK
4. Calculations					
Check if all the calculations related to the baseline emissions been carried according to the formulae and methods described in the registered PDD and applied methodology	4/ 2/ 3/ 6/ 7	DR / I	Yes. The baseline emissions calculations are consistent with the registered PDD and the Monitoring Report.	ok	ok

Assessment Issue	Doc	MoVe[1]	Findings, comments, data sources	First Appraisal	Final conclusion
Check if all the calculations related to the project emissions been carried according to the formulae and methods described in the registered PDD and applied methodology	4/ 2/ 3/ 6/ 7	DR / I	Yes. The project emissions calculations are consistent with the registered PDD and the Monitoring Report	OK	Ok
Check if all the calculations related to the leakage emissions been carried according to the formulae and methods described in the registered PDD and applied methodology?	4/ 2/ 3/ 6/ 7	DR / I	Not applicable since no leakage emission is applicable to the project as per the registered PDD.	NA	NA

8 ANNEX 2

List of Corrective Action (CAR) and Clarification (CL)

CAR	CL	Corrective Action (CAR) and Clarification (CL)				
		Observation (CAR/CL)	Doc Reference	Summary of project owner response	Validation team comments	Validation team conclusion
1		The description of the measuring itself (including way of measuring and meter) as well as the further data handling and determination of surface area is not sufficient elaborated in the Monitoring Report. That should be corrected/ added.	3	Verification Report has been updated and appropriate information about used equipment is provided.	The verification team confirms the statement and provided information.	Issues is solved ✓