



VERIFICATION REPORT BEYTEK ELEKTRIK URETIM A.S

VERIFICATION OF THE CATALOLUK HEPP

REPORT No. TURKEY-
VER/CER.167.12.C45/2012
REVISION No. 02

BUREAU VERITAS CERTIFICATION

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VERIFICATION REPORT

Date of first issue: 02/08/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: Beytek Elektrik Uretim A.S	Client ref.: Mr. Ekrem Kayalı

Summary:
Bureau Veritas Certification has made the initial and 1st periodic verification of the "Cataloluk HEPP", Gold Standard Registration Reference Number GS 872, project of Beytek Elektrik Uretim A.S located in Kahramanmaraş, and applying the methodology AMS I.D version 16, on the basis of UNFCCC criteria for the CDM Methodology and GS Requirements, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

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 (CL, 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 emission reductions verified totalize 36,774 tons of CO₂eq for the monitoring period.

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.

Reporting period :	01/04/2010 to 30/05/2012
Baseline emissions :	8,012 t CO ₂ equivalents. <u>01/04/2010 to 31/12/2010</u>
Baseline emissions :	16,955 t CO ₂ equivalents. <u>01/01/2011 to 31/12/2011</u>
Baseline emissions :	11,808 t CO ₂ equivalents. <u>01/01/2012 to 30/05/2012</u>
Project emissions :	0 t CO ₂ equivalents.
Leakage emissions :	0 t CO ₂ equivalents.
Emission Reductions:	36,774 t CO ₂ equivalents

Report No.: TURKEY- ver/CER.167.12.C45/2012	Subject Group: GS-VER	
Project title: Cataloluk HEPP		
Work carried out by: Mr. Mehmet Kumru – Lead Verifier Mr. Furkan Sadıkoğlu – Verifier		
Internal Technical Review carried out by: Mrs. Burcu Mutman		
Date of this 10/01/2013	Rev. No.: 02	Number of 64

Indexing terms

Work approved by:

Flavio Gomes

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Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DSI	General Directorate Of State Hydraulic Works (Devlet Su Isleri Genel Mudurlugu)
DOE	Designated Operational Entity
EMRA	Energy Market Regulatory Authority (EPDK – Enerji Piyasasi Denetleme Kurulu)
FSR	Feedback Stakeholder Round
GHG	Green House Gas(es)
GS	Gold Standard
GS-VER-PDD	Project Design Document
I	Interview
IETA	International Emissions Trading Association
LSC	Local Stakeholder Consultation
MoV	Means of Verification
NGO	Non Government Organization
PCF	Prototype Carbon Fund
PDD	Project Design Document
PFA	Pre-feasibility Assessment
SD	Sustainable Development
TEIAS	Turkish Electricity Transmission Company (Turkiye Elektrik Iletim A.S.)
UNFCCC	United Nations Framework Convention for Climate Change
VER	Voluntary Emission Reductions
VVM	Validation and Verification Manual
PMUM	Market Financial Reconciliation Center



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1 INTRODUCTION

Beytek Elektrik Uretim A.S has commissioned Bureau Veritas Certification to verify the emissions reductions of its GS-VER project Cataloluk HEPP (hereafter called “the project”) at Kahramanmaraş.

This report summarizes the findings of the verification of the project, performed on the basis of UNFCCC CDM Methodology criteria and GS Requirements, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

In carrying out its verification work, the DOE shall ensure that the project activity complies with the requirements of paragraph 62 of the CDM modalities and procedures.

Based on the applicable requirements of paragraph 62 of the CDM modalities and procedures, this assessment shall:

- (a) Ensure that the project activity has been implemented and operated as per the registered PDD and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- (b) Ensure that the monitoring report and other supporting documents provided are complete in accordance with latest applicable version of the completeness checklist for requests for issuance of VERs and verifiable and in accordance with applicable CDM Methodology and GS requirements;
- (c) Ensure that actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- (d) Evaluate the data recorded and stored as per the monitoring methodology.

1.2 Scope

The verification scope is defined as an independent and objective review of the project design document, the project’s baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against GS Requirements, Kyoto Protocol requirements, UNFCCC CDM Methodology rules and associated interpretations.

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may



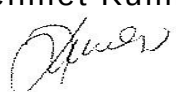
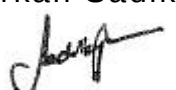
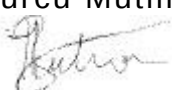
provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 GHG Project Description

The project is a run-off-river type project located in Kahramanmaraş. Project consists of a hard-fill weir located at 823.5 m altitude and 17 m height from the thalweg level whereas the powerhouse is located at about 724.5 m altitude. The installed capacity is designed as 9.54 MWe. The project includes two horizontal Francis type turbines each having 4.77 MWe and 4.92 MWm capacities. On the other hand the project elements include conveying channel(1447.6m) and tunnel (1252.4 m), forebay and penstock which provide a gross elevation difference of about 114.5m and the energy generated at Cataloluk HEPP is transmitted to the Caglayan 31.5 / 154 kV switchyard station.

1.4 Verification Team

The verification team consists of the following personnel:

FUNCTION	NAME	CODE HOLDER*	TASK PERFORMED
Lead Verifier	Mr. Mehmet Kumru 	☒ Yes ☐ No	☒ DR ☒ SV ☒ RI
Verifier	Mr. Furkan Sadikoglu 	☐ Yes ☒ No	☒ DR ☒ SV ☒ RI
Internal Technical Reviewer (ITR)	Mrs. Burcu Mutman 	☒ Yes ☐ No	☐ DR ☐ SV ☒ RI

*DR = Document Review; SV = Site Visit; RI = Report issuance

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 customized 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 55th 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 CDM 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.

2.1 Review of Documents

The verification of the project documentation provided by the project participant 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, procedures for transfer of data, frequency of emissions reports, and review and internal audit of calculations.

In addition to the monitoring documentation provided by the project participants, the DOE reviews:

- (a) The registered PDD, including the monitoring plan and the corresponding validation report;
- (b) Previous verification reports, if any;
- (c) Previous monitoring reports, if any;
- (d) The revised monitoring plan, if any, and its impact on the current verification;
- (e) The applied monitoring methodology;
- (d) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- (e) Any other information and references relevant to the project activity's resulting emission reductions (e.g. IPCC reports, data on electricity generation in the national grid or laboratory analysis and national regulations).

2.2 Follow-up Interviews

On 29/05/2012 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Beytek Elektrik Uretim A.S were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Beytek Elektrik Üretim A.S (Project Participant)	➤ Implementation of the project ➤ Review of the data flow for generating, aggregating and reporting the monitoring parameters ➤ Information the monitoring equipment ➤ The data for cross the values on the Monitoring Report ➤ PMUM records ➤ Training records ➤ Social Security Records (SGK) of the employees ➤ Water Quality and Quantity ➤ Biodiversity
Local Stakeholders	➤ Project impact on local economy ➤ Sustainable development indicators
Global Tan Energy Ltd. (Consultant)	➤ Monitoring Report ➤ Emission reduction calculations ➤ The data for cross-checking the values on the Monitoring Report ➤ Training of the employees ➤ Meter reading protocols ➤ Expert report for biodiversity and water quality

2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

Findings established during the initial verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

Corrective Action Requests (CAR) is 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 validation or previous verifications to be verified during verification have not been resolved by the project participants.



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

The verification team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A.

2.4 Internal Technical Review

The verification report underwent a Internal Technical Review (ITR) before requesting issuance of VEs for the project activity.

The ITR is an independent process performed to examine thoroughly that the process of verification has been carried out in conformance with the requirements of the verification scheme as well as internal Bureau Veritas Certification procedures.

The Lead Verifier provides a copy of the verification report to the reviewer, including any necessary verification documentation. The reviewer reviews the submitted documentation for conformance with the verification scheme. This will be a comprehensive review of all documentation generated during the verification process.

When performing an Internal Technical Review, the reviewer ensures that:

The verification activity has been performed by the team by exercising utmost diligence and complete adherence to the GS rules and requirements.

The review encompasses all aspects related to the project which includes project design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, review of the stakeholder comments and responses, closure of CARs, CLs and FARs during the verification exercise, review of sample documents.

The reviewer compiles clarification questions for the Lead Verifier and Verification Team and discusses these matters with Lead Verifier.

After the agreement of the responses on the 'Clarification Request' from the Lead Verifier as well as the PP(s) the finalized verification report is accepted for further processing such as uploading on the GS Registry.



3 VERIFICATION CONCLUSIONS

In the following sections, the conclusions of the verification are stated.

The findings from the desk review of the original monitoring documents and the findings from interviews during the follow up visit are described in the Verification Protocol in Appendix A.

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 20 Corrective Action Requests, 5 Clarification Requests and 1 Forward Action Request.

The CARs, CLs and FARs were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

The number between brackets at the end of each section corresponds to the VVM paragraph.

3.1 Remaining issues from previous validation/verification

All CARs and CLs raised were successfully closed during the validation stage of the project activity, and no remaining issues were left.

3.2 Project implementation in accordance with the registered project design document (198)

The implementation status of the project is accordance with registered project design document, which was verified during the initial and 1st periodic verification and the starting date of operation is 01/04/2010.

The actual operation of the proposed project activity is generation of electricity from Hydroelectric Power and feeding it to the public grid.

It was verified during the site visit that the project capacity is 9.54 MWe which includes 2 unit horizontal Francis type turbines. Each turbine has 4.77 MWe / 4.92 MWm capacity. The technical properties and coordinates of the turbines are in accordance with registered PDD Version 08 dd.30/10/2011.

The following information (data and variables) provided in the monitoring report is different from the stated in the registered PDD Version 08 dd.30/10/2011 and has 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.



Information provided in the MR is in accordance with that stated in the registered PDD. Further analysis of monitored parameters as reported in the MR compared to those estimated in the PDD is developed in section 3.4 of this report.

3.3 Compliance of the monitoring plan with the monitoring methodology (203)

The monitoring plan is in accordance with the approved methodology AMS I.D Version 16 applied by the proposed GS VER project activity.

3.4 Compliance of monitoring with the monitoring plan (206)

Monitoring has been carried out in accordance with the monitoring plan contained in the registered GS-VER-PDD Version 08 dd.30/10/2011.

The parameters required by the monitoring plan and the way the Verification Team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values in the monitoring reports are described below:

(a) $EG_{facility,y}$ – Net Electricity generated and delivered to the grid by Cataloluk power plant in year y : According to the monitoring plan, the net electricity generation data will be taken from metering devices, monthly records and invoices signed by TEIAS and plants manager.

Generation data is recorded by main and backup meter devices continuously. Every month TEIAS officer and the plant manager/electricity technician of the plant record the reading and sign. Electricity generation of the project can be crosschecked from TEIAS-PMUM (Market Financial Reconciliation Center) web site. PMUM web site is accessible using a password provided to electricity generation companies.

TEIAS personnel perform on-site measurements for both the main and back-up measurement devices every month. Every month TEIAS employee comes to the project site and reads the generation data from measurement devices. A protocol is prepared by TEIAS on site and then signed both parties every month regarding to readings on site. All monthly reading protocols were submitted to verification team. The monthly reading protocols were crosschecked with the PMUM records. It was observed that generation that generation and internal consumption values are in line.

The measurement devices show the total gross electricity generated and the total electricity consumed by the hydroelectric power plant. The difference of these two data is the net electricity generated.



The PMUM records shows both the net electricity generation less transmission loss and net electricity generation deducted transmission loss (multiplied by transmission loss factor of the grid). The generation values were crosschecked with PMUM records and monthly reading protocols. The emission reduction calculation is based on the monthly meter reading protocols.

PMUM records are attachment of electricity sale receipts, Invoices are based on the PMUM records that show the net electricity generation deducted transmission loss. (multiplied by transmission loss factor of the grid).

During on site assessment, verification team noted the types and serial numbers of the electricity meters as follows:

	Main Meter	Back-Up Meter
Type	ELSTER A1500	ELSTER A1500
Total Energy Produced	69,550.36 MW	69,547.40 MW
Serial Number	00391095 2009	00391097 2009

The main measurement device is used for readings, and the auxiliary measurement device is used for comparison only. During the site visit, the generation values were read from both meters and it was observed that there are no major discrepancies between the main and auxiliary meters.

The calibration and maintenance of the metering devices is made by TEIAS. It was verified that the meters were sealed by TEIAS personnel. As per the regulations, meters should not require calibration before 10 years. It was verified through the monthly meter reading protocols that there are no major discrepancies between the main and auxiliary meters. The calibration records of ELSTER A1500 meters dated 01/07/2009 by producer. No maintenance/calibration has been required during monitoring period.

(b) C_{apPJ} – Installed capacity of the hydro power plant after the implementation of the project activity: During on site assessment, verification team noted the types and technical details of the turbines as follow;

Turbine 1 & 2:

Type: Francis Turbine FS-196-918

H_{net}= 106,6 m

Q=5000l/s

N=600 rpm



Two horizontal Francis type turbines each having 4.77 MWe / 4.92 MWm capacity. During the site visit it is confirmed that the project total capacity is 9.54 MWe.

(c) APJ – Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full : According to the monitoring plan, area of the reservoir is monitored through the Cataloluk Reservoir Map. The area of the reservoir is confirmed as 256,555.96 m² by the validation team. However power density is calculated as 37.18 W/m² (9540000 W / 256,555.96 m² = 37.18 W/m²) and it is confirmed by the validation team.

According to the registered GS-VER-PDD Version 08 dd. 30/10/2011, regarding the sustainability monitoring, the following parameters are monitored:

Air quality: The reductions of SO₂ and NO_x emissions are monitored every monitoring period by calculation. The ratio between net electricity generation of the Project and grid has been calculated first in 2010, and host county emissions have been multiplied by this ratio in order to find emission reductions.

Electricity generated by Cataloluk HEPP, SO₂ and NO_x emission data from GHG inventory of Turkey is used as reference in calculation of the emission reduction.

In parallel to the electricity generation SO₂ emission reduction has been realized as about 132 tons and NO_x emission reduction has been realized as 101 tons during crediting period. The values used in the calculation were verified through the given references.

Water Quality and Quantity: The water flow parameters are submitted to verification team. The expert report (10 July 2012) refers the relevant analysis methods including fieldwork and observations and based on credible information on the relevant parameters. The amount of water estimated by 4 different ways in the expert report. Tennant Method, 7Q10 Method, Flow duration curve (Q95) and wetter perimeter method have been applied. Details were submitted on section 4 of the expert report. Average ecological flow is calculated as 0.739 m³/s by 4 different methods. Actual values are measured by gauging device. The minimum and maximum water flow is recorded as 0.5 m³/s and 5.88 m³/s. Actual values are reported by Akım Elektronik. Generally the flow released was around 0.55-0.57 m³/s in the actual values. The actual flow values are less than the average ecological flow which is presented in the expert



report under section 4.5 . Due to this situation FAR 01 has been raised by the verification team.

FAR01: For the initial and 1st verification period the flow was released around 0.55 - 0.57 m³/s but in the expert report dd. 10 July 2012 average ecological flow is calculated as 0.739 m³/s. Minimum ecological flow should be line with the expert report. Verification team should check the minimum ecological flow values during the next verification periods.

The expert report is checked by the verification team. Studies found effective and positively. "Water Quality and Quantity Parameter" is accepted by the verification team through the expert report and actual flow values which is reported by Akim Elektronik. Expert report has been prepared by Prof.Dr.Ahmet Alp from Agricultural Faculty, Fisheries Department of Kahramanmaraş Sutcu Imam University. The expert report is examined by verification team and technically it is accepted that the flow rate is acceptable. On the other hand during site visit it is confirmed that the locals have no negative opinion about the water quality and quantity.

Soil Condition: The construction is finished and the solid waste is handled according to the legislation through the current situation of parameter. Photos from construction is provided to verification team which shows use of the excavation wastes used during construction. However during site visit it was verified that excavation waste used during construction and it has been seen that there is no excavation waste in the project site.

Other Pollutants: Records for storage or disposal (if any waste oil is generated during verification period) or letter from plant manager. It has been confirmed that the no waste oil has been generated during monitoring period.

Quality of Employment: 8 employees during operation are trained on health and safety measures. Training records and certificates are provided to validation team and accepted as a proof by the verification team.

Quantitative employment and income generation: It is planned that the staff planned to be recruited from local people. Number of employees recruited on site is 19. Employment records and social security documents are provided to verification team. It was verified that 19 local personnel are employed.

Balance of payments and investment: The project helps to decrease the dependency of imported fossil fuels. The monitoring parameter was identified as



decrease dependency on fossil fuel through increasing use of local resources. This parameter is monitored every year through electricity generation.

In parallel to the electricity generation, natural gas avoidance has been realized as

14.95 million m³ of Natural Gas in total and 8.5 million m³ in annual basis and 3.073 million € during monitoring period and 1.756 million € per year foreign currency is saved. The values used in the calculation were verified through the given references.

Biodiversity: The expert report for determine the fish passage design is provided to verification team. Fish passage design is determined under section 5 “Structural Characteristics and Efficiency of the Fish Passage”. Fish passages’ characteristics’ are discussed under section 5. The entrance of the fish passage is modified through the expert studies. The entrance was modified by related company and it became suitable for fish entrance. In order to determine of the efficiency of the fish passage, two traps were placed into the pools in the fish passage. First trap was placed into the upper pool and second trap was placed into the lower pool. Traps were placed in 29 April 2012 and they were monitored until 03 July 2012. A total of 596 fish and frogs were determined into the traps and 357 of them were *Capoeta angorae*, 227 of them were *Alburnus sp* and 12 of them were frogs. Expert comments are stated as positively by the fish passage studies. Expert report is examined and found effectual by the verification team, so biodiversity parameter is accepted by the verification team. Report has been prepared by Prof.Dr.Ahmet Alp from Agricultural Faculty, Fisheries Department of Kahramanmaraş Sutcu Imam University.

Livelihood of the poor: Valuation of the expropriation land and making payments to locals is defined as Mitigation measure. All payments to land owners are provided. This parameter is verified through interview by locals and review of payment records by the verification team.

Livelihood of the poor: The cleaning of the irrigation channel is defined for the actual value of parameter. During site visit it was seen that the irrigation channel is cleaned also the pictures are provided to verification team. This parameter is verified through the interview by locals and submission pictures of the channel.

Livelihood of the poor: Renovation of village road after construction works is defined as mitigation measure. During site visit it has been seen that the road is maintained, also the photos are provided to DOE. This parameter is verified through the interview by locals and submission pictures of the road.



Livelihood of the poor: This parameter is checked through the number of houses built and submission of pictures of houses. During site visit it is verified that 3 houses are built for locals. 1st home is constructed for İsmet Akpınar, 2nd home is constructed for Ali Purtaş and 3th home has been built for Hamza Ertürk.

Biodeviersity: Around 5000 trees are planted near the project site. During site visit it is confirmed that near 5000 trees are planted, also pictures are provided to verification team.

Soil Condition: Independent expert review is submitted to verification team for the sediment transport along the river bed. Sedimentation is determined under section 7 of the expert report and no negative evidence was found. The sedimentation pool in Çataloluk HEPP was investigated in 03 July 2012. Sedimentation pool has 56.25 m in length, 8.00 m in width and 3.08 m in height. This pool was evacuated and cleaned one year ago. During the one year period, sediment accumulation in the pool was investigated. In this investigation, forestry wastes and wood chips were determined and appreciably sediment was not observed in the bottom of the pool. Photographs from the project site for the soil condition is given in the expert report. Verification team is checked and found effectual the expert report, so soil condition parameter is accepted by the verifacaiton team.

Sustainable development indicators have been confirmed by the validation team. References and related documents for sustainable development indicators have been submitted to verification team. In conclusion the given parameters for sustainable development indicators are line with the monitoring plan in the registered PDD.

3.5 Assessment of data and calculation of greenhouse gas emission reductions (209)

A complete set of data for the specified monitoring period is available.

The critical parameters used for the determination of the Emission reductions are the official TEIAS data from PMUM (Market Financial Reconciliation Center) web site dedicated for measuring the electricity exchanged with the grid and emission factor, which was determined ex-ante in the registered GS-VER-PDD Version 08 dd.30/10/2011 of the Project.

The following actions were taken to ensure that the most conservative assumption theoretically possible has been made:

The data pertaining to the monitoring parameters are maintained in the archived records. All the data are consistent with the values input in the

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VERIFICATION REPORT

Monitoring Report. According to the registered GS-VER-PDD, the emission reductions of the project are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER_y : Emission reductions in year y (tCO₂)

BE_y : Baseline emissions in year y (tCO₂)

PE_y : Project emissions in year y (tCO₂)

LE_y : Leakage emissions in year y (tCO₂)

Y : Refers to a given year

Baseline Emissions

$$BE_y = EG_y \times EF_y$$

Where:

EG_y : Net electricity delivered to the grid by the project activity in year y excluding transmission losses of the grid

EF_y : Emission factor calculated according to selected methodology, calculated ex ante in the registered GS-VER-PDD as 0.546 tCO₂/MWh

Expected the starting date of the first crediting period is given as 01/05/2010 in the registered PDD. However, the emission reduction starts on 01/04/2010. First crediting period is given between 01/04/2010 and 30/05/2012 which includes 26 months in monitoring report. The emission reduction calculation and the records are in line.

The calculation of net electricity delivered to the grid in 1st monitoring period are as shown in Table below.

Year	Months	Gross Generation (Mwh)	Internal Consumption	Net Generation
------	--------	------------------------	----------------------	----------------



2010	April			
		4.457,076	0,007	4.457,07
	May			
		3.579,00	0,604	3.578,40
	June			
		1.226,50	0,66	1.225,84
	July			
		774,39	0,32	774,07
	August			
		439,45	0,31	439,14
	September			
		441,22	0,62	440,60
	October			
		762,84	2,60	760,24
	November			
2011		660,26	5,90	654,36
	December			
		2.347,96	3,51	2.344,45
	January			
		2.435,86	3,63	2.432,230
	February			
		3.036,67	2,81	3.033,860
	March			
		6.407,51	0,64	6.406,870
	April			
		6.721,72	0,00	6.721,720
	May			
		5.809,88	0,31	5.809,570
	June			
		2.065,72	0,85	2.064,870
	July			
		1.037,99	0,95	1.037,040
	August			
		571,78	1,21	570,570
	September			
		557,74	0,80	556,940
	October			
		664,44	3,66	660,780
	November			
		746,92	7,14	739,780
	December			
		1.026,07	7,97	1.018,100
2012	January			
		2.099,54	4,95	2.094,590
	February			
		1.752,99	4,95	1.748,040
	March			
		4.907,74	0,10	4.907,640



	April			
		6.746,89	0,00	6.746,890
	May			
		6.128,73	0,00	6.128,730
April 2010-May 2012		67.406,9	54,4	67,352
Emission Factor (tCO₂/MWh)	0,546			

The reported data was cross-checked by PMUM records and monthly meter protocols.

Project Emissions

The proposed project activity involves the generation of electricity by a hydroelectric power plant which has power density higher than 10W/m² therefore emissions from reservoir is ignored as per applied methodology. The power density of the project activity (PD) is calculated as follows:

$$PD = \frac{Cap_{PJ} - Cap_{BL}}{A_{PJ} - A_{BL}}$$

Where:

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

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

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

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

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

For proposed project HEPP,

$$Cap_{PJ} = 9.540\,000\,W$$

$$Cap_{BL} = 0.0\,W$$

$$A_{PJ} = 256,555.96(m^2)$$

$$A_{BL} = 0.0\,(m^2)$$

Therefore PD is calculated as;

$$PD = \frac{9540000 - 0}{256555.96 - 0}$$

$$256555.96 - 0$$

$$PD = 37.18 \text{ W/m}^2$$

Since power density is higher than 10W/m², project emissions are determined as “0” as per the methodology.

Leakage Emissions

The energy generating equipment is not transferred from or to another activity. Therefore leakage is also considered as “0”.

Emission Reductions

The calculation of emission reduction in this reporting period is shown below;

$$ER_y = BE_y - PE_y - LE_y$$

$$ER_y = 36,774 - 0 - 0 = 36,774 \text{ tCO}_2\text{e}$$

Total emission reduction calculation is shown as below;

Gross Generation(kWh)	67,406.89
Net Generation(kWh)	67,352.49
Emission Factor (tCO ₂ /MWh)	0,546
Net Emission Reduction in 2010(tCO ₂ e)	8,012.095
Net Emission Reduction in 2011(tCO ₂ e)	16,954.57
Net Emission Reduction in 2012(tCO ₂ e)	11,807.74
Total Emission Reduction(tCO ₂ e)	36,774

Appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been followed. The monitoring period covers 26 months and total emission reduction is calculated as 36,774 tCO₂e. Additionality, the estimated annual emission reductions which were 17,499 tCO₂e in the PDD Version 08 dd.30/10/2011 are deemed appropriate and the difference to be verified value is deemed reasonable.

The assumptions, emission factors and default values that were applied in the calculations have been justified.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the initial and 1st periodic verification of the “Cataloluk HEPP” Project in Turkey, which applies the methodology AMS I.D version 16. The verification was performed based on the requirements set by the GS and relevant guidance provided by Gold Standard.



The verification 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 management of Beytek Elektrik Uretim A.S is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring Plan indicated in the registered PDD Version 08 dd 30/10/2011. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report version 03 dated 08/01/2013 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as 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 generating GHG emission reductions

Bureau Veritas Certification can confirm that the GHG emission reduction is calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents. Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, Bureau Veritas Certification confirms the following statement:

Reporting period: From 01/04/2010 to 30/05/2012

Baseline emissions : 8,012 t CO₂ equivalents.

(01/04/2010-31/12/2010)

Baseline emissions : 16,955 t CO₂ equivalents.

(01/01/2011-31/12/2011)

Baseline emissions : 11,808 t CO₂ equivalents.

(01/01/2012-30/05/2012)

Project emissions : 0 t CO₂ equivalents.

Leakage emissions : 0 t CO₂ equivalents

Emission Reductions : 36,774 t CO₂ equivalents.



5 REFERENCES

Category 1 Documents:

Documents provided by Type the name of the company that relate directly to the GHG components of the project.

- /1/ Approved GS-VER-PDD Version 08 dated 30/10/2011
- /2/ Cataloluk Validation Report Version 03 17/11/2011
- /3/ Cataloluk 1st Monitoring Report Version 1
- /4/ Cataloluk 1st Monitoring Report Version 2
- /5/ Cataloluk 1st Monitoring Report Version 3
- /6/ Cataloluk Emission Reduction Excel Sheet

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

- /1/ Social Insurance Records
- /2/ Training Records
- /3/ System Usage Agreement
- /4/ PMUM Records
- /5/ Monthly Reading Records
- /6/ Validation and Verification Manual, Version 01.2
- /7/ Approved consolidated baseline and monitoring AMS I.D Version 16
- /8/ UNFCCC's Methodological Tool : "Tool for the demonstration and assessment of additionality", version 05.2
- /9/ UNFCCC's Methodological Tool: " Tool to calculate the emission factor for an electricity system", version 02
- /10/ Gold Standard Toolkit Version 2.1
- /11/ Gold Standard Requirements Version 2.1

Persons interviewed:

List persons interviewed during the verification or persons that contributed with other information that are not included in the documents listed above.

- /1/ Hüseyin Karataş – Beytek Elektrik Uretim A.S
- /2/ Aydın Büyükmurat – Büyükmurat Agency Ltd. Sti
Tel: + 90 (342) 231 32 44
- /3/ Zeren Erik – GTE Carbon Consultant
Tel: +90 (312) 472 35 00
- /4/ Cumali Gök – Muhktar of Döngel Village
Tel: +90 (0537) 940 21 60
- /5/ Kürşad Kara - Local
- /6/ Musa Karataş - Local
- /7/ Muhturan Küpeli - Local



6. CURRÍCULA VITAE OF THE DOE'S VERIFICATION TEAM MEMBERS

Mrs. Burcu Mutman

Bureau Veritas Certification, Internal Technical Reviewer

Burcu Mumtan is an auditor for environment, safety and quality management systems. Has participated various online trainings, seminars and personal trainings on Gold Standard also participated in the Gold Standard Academy in 2009 and 2010.

Mr. Mehmet Kumru

Bureau Veritas Certification, Lead Verifier

Mehmet Kumru is a lead auditor for Greenhouse Gas Assertion for Organizational Level standard. He is also a verifier for GHG emission reduction projects. He is worked renewable energy projects and he has over 5 years' experience in environmental and energy sectors.

Mr. Furkan Sadıkoğlu

Bureau Veritas Certification, Verifier

Furkan Sadıkoğlu is an Electrical & Electronics engineer. He has an experience in renewable energy and LED lightning sectors and he has over 2 years' experience in energy sectors. He has participated online seminars in the Gold Standard Academy in 2012 and is a verifier for GHG emission reduction projects.

VERIFICATION REPORT



APPENDIX A: COMPANY CDM PROJECT 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 Compliance of the monitoring report with the guidelines for completing the monitoring report form					
a Brief description of the project activity					
a. Is the description of the project activity to be presented in this section a brief summary of the detailed description given in the section .B.1 Implementation status of the project activity?	EB 54	Ann 34	Yes, the description of the project activity to be presented in this section a brief summary of the detailed description is given in section “ Purpose and general description of project activity”.	OK	OK
b. Does this description include:	EB 54	Ann 34	<i>Please see below</i>		
i. Purpose of the project activity and the measures taken to reduce greenhouse gas emissions?	EB 54	Ann 34	The project will generate GHG emission reductions by avoiding CO2 emissions from electricity generation by fossil fuel power plants connected to Turkish National Power Grid.	OK	OK
ii. Brief description of the installed technology and equipments;	EB 54	Ann 34	The project consists of the powerhouse and two national horizontal Francis type turbines. Please define capacity details for Francis type turbines.	CAR-1	OK
iii. Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.)?	EB 54	Ann 34	Relevant dates for the project activity are given under section A.1. GS Registration date is given as 13/03/2012. It is seen that the GS registration date as 09/09/2011 in	CL-1	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl I
			GS web-site. Please clarify.		



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Conc I									
iv. Total emission reductions achieved in this monitoring period?	EB 54	Ann 34	During this monitoring period from 01/04/2010 – 01/12/2011, the total emission reduction achieved is 25,012 tons CO2e.	OK	OK									
b Project participants														
a. Are the project participants listed?	EB 54	Ann 34	Yes, the project participants are listed. The given participants are ;Beytek Elektrik Uretim A.S and Global Tan Energy Ltd.	OK	OK									
c Location of project activity														
a. Is complete information of the location of the project activity: town, city, country and GPS coordinates.provided?	EB 54	Ann 34	Çataloluk HEPP project is located in Mediterrenean/Kahramanmaras Province, Göksun District and Tekir Creek. Weir and powerhouse geographical coordinates are given as; <table><tr><td></td><td>Longitude</td><td>Latitude</td></tr><tr><td>Weir</td><td>E 36°38'29.04</td><td>E 37°50'42.95</td></tr><tr><td>Powerhouse</td><td>E 36°39'37.48</td><td>E 37°49'19.35</td></tr></table>		Longitude	Latitude	Weir	E 36°38'29.04	E 37°50'42.95	Powerhouse	E 36°39'37.48	E 37°49'19.35	OK	OK
	Longitude	Latitude												
Weir	E 36°38'29.04	E 37°50'42.95												
Powerhouse	E 36°39'37.48	E 37°49'19.35												
d Technical description of the project														
a. Are a escription of the technology applied in the project activity and detailed technical process, including diagrams provided?	EB 54	Ann 34	The Cataloluk HEPP is a run-off river type project. The project involves electricity generation from 2 units horizontal Francis type turbines. The total capacity of turbines are defines as 9.54MWe Detail information is given under Table 3. Please clarify all capacity units as “MWe” in	CL-2	OK									



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl I
			monitoring report.		



VERIFICATION REPORT

CHECKLIST QUESTION	Ref	§	COMMENTS	Draft Concl	Final Concl
e Title, reference and version of the baseline and monitoring methodology applied to the project activity					
a Are the complete reference of the methodology applied and tools whenever is applicable included?	EB 54	Ann 34	"Consolidated methodology for grid-connected electricity generation from renewable sources" ACM0002 version 9 is applied to project activity. Tools are included as; ➤ "Tool for the demonstration and assessment additionality" Version 05.2 ➤ "Tool to calculate the emission factor for an electricity system" Version 01.1 Please clarify the methodology under section A.4	CL-3	OK
f Registration date of the project activity					
a Is the registration date of the project activity provided?	EB 54	Ann 34	The project registration number is GS872. The project registration date is given as 13/03/2012. Registration date is seen as 09/09/2011 in GS web-site. Please clarify.	CL-4	OK
g Crediting period of the project activity and related information (start date and choice of crediting period)					
a Does the description also include	EB	Ann	No event or situation that may prevent	OK	OK


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CHECKLIST QUESTION	Ref	§	COMMENTS	Draft Concl	Final Concl
changes to the start date of the crediting period post-registration that have been accepted by the Board, when applicable?	54	34	applicability of methodology has occurred during the monitoring period.		
h Name of responsible person(s)/entity(ies)					
a Is the contact information of the person(s)/entity(ies) responsible for completing the monitoring report form (CDM-MR) provided?	EB 54	Ann 34	Yes, the contact information of the person(s)/entity(ies) responsible for completing the monitoring report form is provided. Mr. M. Kemal Demirkol is the responsible person and GTE(Global Tan Energy Ltd.) is the responsible entity for completing the monitoring report. Contact informations are given on the cover page of the monitoring report.	OK	OK
i Implementation status of the project activity					
a Does this section include a description of the implementation and operational status of the project as of this monitoring period in accordance with the latest version of the CDM Validation and Verification Manual (CDM-VVM)?	EB 54	Ann 34	This section includes a description of the implementation and operational status of the project as of the latest version of the CDM Validation and Verification Manual.	OK	OK
b Does the description include inter alia:	EB 54	Ann 34	<i>Please see below</i>		
i The starting date of operation of the project activity? For project activities that consist of more than one site, the report shall clearly describe the status of	EB 54	Ann 34	Starting date of the project activity is defined as 01/04/2010 and only one project site is defined above. In registered PDD the starting date of the project	CL-5	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref	§	COMMENTS	Draft Concl	Final Concl
implementation and starting date of operation for each site. For CDM project activities with phased implementation, the report shall indicate the progress of the proposed CDM project activity achieved in each phase.			activity is defined as 01/05/2010. Please clarify.		
ii The information regarding the actual operation of the project activity during this monitoring period, including information on special events, for example overhaul times, downtimes of equipment, exchange of equipment, etc?	EB 54	Ann 34	No event or situation that may prevent applicability of methodology has occurred during the monitoring period.	OK	OK
iii A brief description of: (i) events or situations that occurred during the monitoring period, which may impact the applicability of the methodology, and (ii) how the issues resulting from these events or situations are being addressed?	EB 54	Ann 34	N/A	OK	OK
j Revision of the monitoring plan					
a Is it indicated if the monitoring plan has been revised?.	EB 54	Ann 34	No revisions to the registered monitoring plan are required .	OK	OK
b Is the date of approval, if revised, included?	EB 54	Ann 34	Date of approval isn't revised.	OK	OK
k Request for deviation applied to this monitoring period					
a Is any deviation applied to this monitoring period indicated?	EB 54	Ann 34	No deviation from registered monitoring plan has occurred.	OK	OK


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CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl
b Is the reference number, if any deviation applied, included?	EB 54	Ann 34	N/A	OK	OK
l Notification or request of approval of changes					
a Is any notification or request of approval of changes from the project activity as described in the registered CDM-PDD indicated?	EB 54	Ann 34	No notification or request of approval of changes has been made.	OK	OK
b Is the date of approval, if applicable, included?	EB 54	Ann 34	N/A	OK	OK
m Description of the monitoring system					
a Is a description of the monitoring system provided?	EB 54	Ann 34	Description of the monitoring system is provided under section C. Emission reduction calculations are depend on monthly meter reading protocols. PMUM results are defined for the cross-check. Please provide; ➤ PMUM records ➤ TEIAS Troubleshooting agreement and ➤ Internal combustion for auxiliary diesel generator.	CAR-2	OK
b Does his section include data collection procedures (information flow including data generation, aggregation, recording, calculation and reporting), organizational structure, roles and responsibilities of	EB 54	Ann 34	Organizational structures, roles and responsibilities of personnel are added in this section. Net electricity generation was measured and recorded by both TEIAS and project owners. Meter reading protocols	CAR-3	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref	§	COMMENTS	Draft Concl	Final Concl
personnel, and emergency procedures for the monitoring system?			are provided to DOE. The recorded data compared with PMUM records in the monitoring report. Please provide PMUM records and define what is PMUM in monitoring report clearly.		
c Does this include line diagrams showing all relevant monitoring points?	EB 54	Ann 34	A single line diagram is included under section C.	OK	OK
n Data and parameters					
a Does this section include parameters used to calculate baseline, project, and leakage emissions as well as other relevant parameters required by the approved methodology and the monitoring plan; and specific information on how data and parameters have been monitored during the monitoring period?	EB 54	Ann 34	This section includes parameters used to calculate baseline and leakage emissions. Please add project emission parameter required by the approved methodology.	CAR-4	OK
b Are data that is determined only once for the crediting period but are used after registration of the project activity included here under section D.1.?	EB 54	Ann 34	Net electricity delivered to the grid by the Cataloluk HEPP in year y is determined under section D.1.	OK	OK
c For each parameter the following information, using the tables provided, is provided:					
i Value of monitored parameter in the period for the purpose of calculating emission reductions? To report multiple values, a table may be used and included in this monitoring report or include	EB 54	Ann 34	Gross generation, Internal consumption, net generation parameters are not monitored in the table "Summary of calculation of emission reductions or net anthropogenic GHG removals by sinks".	CAR-5	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref	§	COMMENTS	Draft Concl	Final Concl
references to spreadsheet. For default value (such as an IPCC value), where it is ex-post confirmed, the most recent value shall be applied.			Please add emission factor in the table and add reference for emission factor.		
ii Description of the equipment used to monitor each parameter, including details on accuracy class, and calibration information (frequency, date of calibration and validity), if applicable as per monitoring plan?	EB 54	Ann 34	Description of the equipment used to monitor each parameter, details on accuracy class, and calibration information (frequency, date of calibration and validity) are not included. Please add.	CAR-6	OK
iii Measuring and recording method: how the parameters are measured/calculated, specifying the measurement and recording frequency?	EB 54	Ann 34	Net electricity generation was measured and recorded by both TEIAS and project owners. Continuous measurement and monthly recording is applied.	OK	OK
iv Source of data: logbooks, daily records, surveys, etc?	EB 54	Ann 34	It is added.	OK	OK
v Where relevant, the calculation method of the parameter?	EB 54	Ann 34	In order to demonstrate the emission reduction, only the required data is the net electricity delivered to the grid by the project activity.	OK	OK
vi The QA/QC procedures applied (if applicable per monitoring plan)?	EB 54	Ann 34	QA/QC procedures are applied. Please define cross-check procedure under QA/QC.	CAR-7	OK
vii Include information about appropriate emission factors, IPCC default values and any other reference values that have been used in the calculation of emission reductions?	EB 54	Ann 34	Refer CAR-5	CAR-5	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref	§	COMMENTS	Draft Concl	Final Concl
o Baseline emissions calculation					
a Does this section include all formulae used and description to calculate the baseline emissions applying actual values?	EB 54	Ann 34	Formulas which are used in monitoring report are line with PDD. Baseline formulas are defined.	OK	OK
b Was a table used and included in this monitoring report or include references to spreadsheet?	EB 54	Ann 34	Calculation details are given in excel sheet, and referenced in monitoring report.	OK	OK
p Project emissions calculation					
a Does this section include all formulae used and description to calculate the project emissions applying actual values?	EB 54	Ann 34	Please provide the project emission according to applicable methodology in monitoring report. Refer CAR-4	CAR-4	OK
b Was a table used and included in this monitoring report or include references to spreadsheet?	EB 54	Ann 34	Refer above.		
q Leakage calculation					
a Does this section include all formulae used and description to calculate the leakage applying actual values?	EB 54	Ann 34	In accordance with applicable methodology ACM0002 Version 9, leakage emission is accepted as 0 tCO ₂ -eq.	OK	OK
b Was a table used and included in this monitoring report or include references to spreadsheet?	EB 54	Ann 34	Yes, a table used and included in this monitoring report and referenced in excel sheet and monitoring report.	OK	OK
r Emission reductions calculation/table					
a Does this section include the formulae used to calculate the emission reductions and the total of the emission	EB 54	Ann 34	This section includes total emission reduction formulae. Emission reduction formulae is line with the PDD.	OK	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl
reductions achieved during the monitoring period?					
i Total baseline emissions:	EB 54	Ann 34	Added in calculations.	OK	OK
ii Total project emissions:	EB 54	Ann 34	Added in calculations.	OK	OK
iii Total leakage:	EB 54	Ann 34	Added in calculations.	OK	OK
iv Total emission reductions:	EB 54	Ann 34	Added in calculations.	OK	OK
s Comparison of actual emission reductions with estimates in the CDM-PDD					
a Does this section include a comparison of actual values of the emission reductions achieved during the monitoring period with the estimations in the registered CDM-PDD?	EB 54	Ann 34	In monitoring report there is a comparison of values of the emission reductions achieved during the monitoring period with the estimations in the registered CDM-PDD.	OK	OK
t Remarks on difference from estimated value in the PD					
a Is an explanation of the cause of any increase in the actual emission reductions achieved during the current monitoring period (e.g. higher water availability, higher load plant factor, etc), including all information (i.e. data and/or parameters) that is different from that	EB 54	Ann 34	There is an increase in the actual emission reductions achieved during the monitoring period. Estimated yearly volume in the PDD is 17,467 tCO ₂ -eq. Actual value reached during the monitoring period is 25,012 tCO ₂ -eq. The increase caused by the monitoring period	OK	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref	§	COMMENTS	Draft Concl	Final Concl
stated in the registered CDM-PDD provided?			length. Monitoring period contains 21 months.		
2 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?	VV M	196	Physical features checked in site visit. All physical features of the proposed activity proposed in the registered PDD in place.	OK	OK
b Have the project participants operated the proposed CDM project activity as per the registered PDD?	VV M	196	All physical features of the GS VER project activity, proposed in the registered PDD were in place. The project activity consists the powerhouse and two horizontal Francis type turbines with total capacity 9.54 MWe.	OK	OK
c Was an on-site visit conducted?	VV M	196	An on-site visit was conducted on 05/06/2012	OK	OK
d If not, justify the rationale of the decision.	VV M	196	N/A	OK	OK
e Does the implementation or operation of CDM project activity conform with the description contained in the registered PDD?	VV M	197	Implementation or operation of CDM project activity checked in site visit. It is conform with the description in the registered PDD. Electricity generation was measured and recorded by both TEIAS and project owners. Emission reduction calculations are based on the Monthly meter reading protocols and PMUM results are defined for the cross-check.	OK	OK
f If not, which are the potential impacts due to these changes, according to the	VV M	197	N/A	OK	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl
relevant guidelines established by the Executive Board (EB48-§73)?					
g Was any change identified close to the boundary of the project activity but outside it?	VV M	197	There was not any change identified close to the boundary of the project activity. It is checked in site visit.	OK	OK
h If yes, which are the potential impacts due to these changes?	VV M	197	N/A	OK	OK
i Was a notification or a request for approval of changes from the project activity as described in the registered PDD submitted prior to the conclusion of the verification/certification for the corresponding?	VV M	197	Any notification or a request was not described.	OK	OK
3 Compliance of the monitoring plan with the monitoring methodology					
a Is the validated monitoring plan in accordance with the approved methodology applied by the proposed CDM project activity?	VV M	200	Project participant has generally implemented and followed the monitoring plan and the applied methodology. The main monitored parameter is Electricity generation. Monitoring Electricity generation is line with the proposed CDM activity.	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	VV M	201	N/A	OK	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref	§	COMMENTS	Draft Concl	Final Concl
period under verification, for approval by the CDM Executive Board)					
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)?	VV M	202	There are no monitoring aspects of the project activity that are not specified in the methodology.	OK	OK
4 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?	VV M	205	Project participant has generally implemented and followed the monitoring plan and the applied methodology. See discussions below for details and discrepancies addressed through CARs and CLs. <u>Electricity Generation:</u> Electricity generation of the plant EGy, is monitored continuously. There are two ELSTER / A1500 meters with serial number 00391095 2009(main meter) and 00391097 2009(auxiliary meter), which continuously measuring	CAR-8	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Conc I
			electricity generation and consumption of the Project activity. The main measurement device is used for readings, and the auxiliary measurement device is used for comparison only. During the site visit, the generation values were read from both meters and it was observed that there are no major discrepancies between the main and auxiliary meters. Net electricity generation was measured and recorded by both TEIAS and project owners for billing purposes therefore no new additional protocol was needed for monitoring emission reduction. Installation of meter and data monitoring were carried out according to the regulations by TEIAS. PMUM records are defined for the cross-check. Please provide PMUM records and TEIAS Troubleshooting agreement.		



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl
			<u>Air quality:</u> The reductions of SO₂ and NO_x emissions are identified as air quality parameters. The SO₂ emission related to electricity generation is about 936.1 Gg for 2007 to National Inventory of Turkey. Electricity generation in 2007 is given as 183,339.7 Gwh by reference. SO₂ emission per year MWh is calculated as 5.1 kg/MWh. SO₂ emission reduction corresponding to 45.771 MWh actual emission reduction has been realised as about 233kg during 21 months monitoring period. Actual NO_x emission reduction has been realized as 0.05 tons during 21 months monitoring period.	OK	OK
			<u>Water quality and quantity:</u> Minimum %10 water for aquatic life in riverbeds are defined as future target parameter. An expert report is defined for way of monitoring water quality and quantity in monitoring report. Please provide expert report for water quality and	CAR-9	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl I
			quantitiy.		



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Conc I
			<u>Soil Condition:</u> It is defined that the solid waste is handled according to the legislation. Photos from construction is defined as way of monitoring. Please provide photos to DOE.	CAR-10	OK
			<u>Other pollutants:</u> Waste oil generations is described for actual value for parameter. Please provide records for waste waters from plant manager.	CAR-11	OK
			<u>Quality of Employment:</u> Actual value of parameter is defined as 8 employees during operation are trained on health and safety measures. Please provide this training records and please provide if there was any additional training records as described in future target parameter.	CAR-12	OK
			<u>Quantitive employment and income generation:</u> The number of employees is described as around 20 from local people. Please provide residing documents for the	CAR-13	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl I
			employees.		



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl
			<u>Balance of payments:</u> Corresponding to 45.72 GWh electricity generation 10 million m3 of natural gas is avoided and 2 million Euro foreign currency is saved. It is accepted by DOE through the given references.	OK	OK
			<u>Biodiversity:</u> Building a fish passage is defined for biodiversity parameter. During site visit it was seen that the fish passage has been built. Under way of monitoring expert report is defined. Please provide expert report for fish passage to DOE.	CAR-14	OK
			<u>Livelihood of the poor:</u> All payments should be made to land owners definition is described for the future target parameter. Please provide the payment records as described in way of monitoring.	CAR-15	OK
			<u>Livelihood of the poor:</u> The cleaning of the irrigation channel is defined for the actual value of parameter. During site visit it was seen that the irrigation channel is cleaned. Please	CAR-16	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl I
			also provide photos to DOE.		



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl
			<u>Livelihood of the poor:</u> The road has been maintained in Dongel Village. During site visit it was seen that the road is maintained. Photos are taken from the village by DOE. Actions for this parameter is accepted by verification team.	OK	OK
			<u>Livelihood of the poor:</u> It is defined that 3 houses are planned to be built for locals. During site visit it was seen that 2 houses are built for locals in the Dongel village. It is interviewed that 3th house is built in the center of the city. Please provide all photographs and land registers for the houses.	CAR-17	OK
			<u>Biodiversity:</u> Around 5,000 trees are planned to be planted by project participants. During site visit it was seen that the trees were planted and photographs are taken by the verification team.	OK	OK
			<u>Soil Condition:</u> Sediment transport along the river bed is the chosen parameter for this parameter.	CAR-18	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl I
			Independent expert review is described for the way of monitoring. Please provide the independent expert review to DOE.		



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl
b Have the previous monitoring reports been reviewed?	VV M	205	N/A	OK	OK
c Where applicable, has the impact of revision in the monitoring plan on the current verification been reviewed ?	VV M	205	N/A	OK	OK
d Does the registered/approved monitoring plan have any description of an illustration to calculate net electricity supplied to the grid by the project activity ?	VV M	205	Gross and net electricity generation results are given in monitoring report under section "Summary of calculation of emission reduction or net anthropogenic GHG removals by sinks". It is line with the monthly meter reading protocols.	OK	OK
e If yes to (d) above, has the verification team verified /confirmed the validity of such illustration with supporting documents ?	VV M	205	TEIAS meter reading documents checked by verification team. PMUM records are not available. Please provide the PMUM records. Refer CAR-3	CAR-3	OK
f 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:	VV M	205	<i>Please see below.</i>		
i Project emission parameters?	VV M	205	Project emissions are negligible. In accordance to the registered PDD and applicable methodology AMS-I.D version 16, no project emissions are to be accounted by the project. In site visit project emissions parameters checked. There was not any project emission parameter in site. Please provide there	CAR-19	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl I
			was not any project emission parameter in the monitoring report.		



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl
ii Baseline emission parameters?	VV M	205	In order to calculate baseline emissions have been checked from the gross/net generation and project emission. All meter reading documents checked in site visit. After PMUM records are provided to DOE this parameter will be evaluated. Refer CAR-3	CAR-3	OK
iii Leakage parameters?	VV M	205	There is no leakage for the project activity. Leakage is negligible according to the methodology. Leakage parameters for the project checked in site visit. There was not any symptom for leakage in the project site.	OK	OK
iv Validation of entire procedure of apportioning, if applicable	VV M	205	N/A	OK	OK
v 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?	VV M	205	Operational structure is defined in monitoring report.	OK	OK
g 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?	VV M	205	Operational structure is not defined in monitoring report. Please add.	OK	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl
i Are monitoring results consistently recorded as per approved frequency?	VV M	205	Maintenance and calibration of the metering devices is made by TEIAS periodically according to regulations of TEIAS. Please provide troubleshooting agreement with TEIAS.Refer-8	CAR-8	OK
ii Have quality assurance and quality control procedures been applied in accordance with the monitoring plan monitoring plan?	VV M	205	Please add cross-check procedure in QA/QC procedures.Refer CAR-7	CAR-7	OK
iii Has the verification team confirmed whether the applicability and correct implementation of any procedure that replaces direct calibration of meters, and any procedure that leads to calculation of parameters used in the ER determination ?	VV M	205	Please provide PMUM records and troubleshooting agreement with TEIAS. Refer CAR-3	CAR-3	OK
5 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	VV M	208	For the monitoring period all meter reading records is available. Meter reading records and emission reductions calculations are line in.	OK	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl
submitting request for issuance, if appropriate).					
b Has information provided in the monitoring report been cross-checked with other sources such as plant log books, inventories, purchase records, laboratory analysis?	VV M	208	Please provide PMUM records to DOE. PMUM records are not available. Refer-3	CAR-3	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?	VV M	208	The calculations have been carried out in accordance with provisions of the monitoring plan and applied methodology.	OK	OK
d Have any assumptions used in emission calculations been justified?	VV M	208	The emission and emission reduction calculations are based on the data measured using calibrated meters of adequate accuracy. Apart from the ex-ante emissions factor, no other assumption is used in these calculations, which is in line with the monitoring methodology. Please define emission factor in monitoring report according to the registered PDD.	CAR-20	OK
e Have appropriate emission factors, IPCC default values and other reference values	VV M	208	The emission factor used was fixed on ex-ante	CAR-20	OK



VERIFICATION REPORT

CHECKLIST QUESTION	Ref .	§	COMMENTS	Draft Concl	Final Concl I
been correctly applied?			basis during the verification. No other factor or default value is used for the calculation of emission reductions. The combined margin emission factor is given as 0.547 tCO₂/GWh in the registered PDD, and combined margin emission also used as 0.547 tCO₂/GWh in emission reduction calculation excel sheet. Please also define emission factor in the monitoring report.		



VERIFICATION REPORT

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
<u>CAR-1:</u> The project consists of the powerhouse and two national horizontal Francis type turbines. Please define capacity details for Francis type turbines		Capacity added to section A.1	<u>Review 1:</u> Capacity details for Francis type turbines are defined as 2 x 4.77MWe (2 x 4.92 MWm) under section A.1. <u>The corrective action request is closed.</u>
<u>CAR-2:</u> Description of the monitoring system is provided under section C. Emission reduction calculations are depend on monthly meter reading protocols. PMUM results are defined for the cross-check. Please provide; ➤ PMUM records ➤ TEIAS Troubleshooting agreement and Internal combustion for auxiliary diesel generator.		PMUM records are provided to the DOE with this document. Connection agreement, calibration records provided. Diesel emissions are not monitored as per the meth applied. Calculation sheet removed from excel and MR is revised.	<u>Review 1:</u> PMUM records between the dates April 2010 and May 2012 are provided to DOE. On the other hand connection agreement and calibration records are provided to DOE. Diesel emissions are not monitored as per the meth applied. <u>The corrective action request is closed.</u>
<u>CAR-3:</u> Organizational structures, roles and		PMUM Defined in MR v2	<u>Review 1:</u> PMUM is defined in monitoring



VERIFICATION REPORT

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
responsibilities of personnel are added in this section. Net electricity generation was measured and recorded by both TEIAS and project owners. Meter reading protocols are provided to DOE. The recorded data compared with PMUM records in the monitoring report. Please provide PMUM records and define what is PMUM in monitoring report clearly.			report version 2. It is given as PMUM: Market Financial Settlement Center, operator of Turkish Electricity Market controlled by Turkish Electricity Transmission Company(TEIAS). <u>The corrective action request is closed.</u>
CAR-4: This section includes parameters used to calculate baseline and leakage emissions. Please add project emission parameter required by the approved methodology.		Parameters added	Review 1: Project emission parameter required by the approved methodology is added to monitoring report version 02. <u>The corrective action request is closed.</u>
CAR-5: Gross generation, Internal consumption, net generation parameters are not monitored in the table "Summary of calculation of emission reductions or net anthropogenic GHG removals by		Gross generation, internal consumption, net generation are monitored in the referred table already. The emission factor is added in the table in the MR.	Review 1: Gross generation, internal consumption and net generation are monitored in the table. The emission factor has been calculated ex-ante in PDD which is also used in calculating the



VERIFICATION REPORT

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
sinks". Please add emission factor in the table and add reference for emission factor.		Difference was due to range of summation formula in cell J55. Formula was updated and excel and MR. Value added to section D.2	baseline emissions. EF value used is 546 tCO₂/GWh. Total Gross generation, total internal consumption and total net generation results for the PMUM and monthly reading protocols have big difference in monitoring report and excel sheet. Please clarify. On the other hand please add net electricity generation during the monitoring period in section D.2 under Value(s) of monitored parameter. <u>The corrective action request is still open.</u> <u>Review 2:</u> Electricity generation during the monitoring period added as "67,352 GWh". Difference between Excel sheet and monitoring report has been corrected.



VERIFICATION REPORT

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
			<u>The corrective action request is closed.</u>
<u>CAR-6:</u> Description of the equipment used to monitor each parameter, details on accuracy class, and calibration information (frequency, date of calibration and validity) are not included. Please add.		Frequency should not be less than 10 years as per the regulations on meters. Calibration record and precision class added.	<u>Review 1:</u> Description of the equipment used to monitor each parameter, details on accuracy class and calibration information are added under section D.2. Also calibration record is provided to DOE. <u>The corrective action request is closed.</u>
<u>CAR-7:</u> QA/QC procedures are applied. Please define cross-check procedure under QA/QC.		Cross check added	<u>Review 1:</u> Under QA/QC cross-check procedure is defined as; "Data has been cross checked with PMUM records to ensure consistency". <u>The corrective action request is closed.</u>
<u>CAR-8:</u> <u>Electricity Generation:</u>		PMUM records and connection agreement are provided to the DOE with	<u>Review 1:</u> PMUM records and connection agreement with TEIAS are



VERIFICATION REPORT

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
Electricity generation of the plant EGy, is monitored continuously. There are two ELSTER / A1500 meters with serial number 00391095 2009(main meter) and 00391097 2009(auxiliary meter), which continuously measuring electricity generation and consumption of the Project activity. The main measurement device is used for readings, and the auxiliary measurement device is used for comparison only. During the site visit, the generation values were read from both meters and it was observed that there are no major discrepancies between the main and auxiliary meters. Net electricity generation was measured and recorded by both TEIAS and project owners for billing purposes therefore no new additional protocol was needed for monitoring emission reduction. Installation of meter and data monitoring were carried out according to the regulations by		this document.	provided to the DOE. <u>The corrective action request is closed.</u>

VERIFICATION REPORT

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
TEIAS. PMUM records are defined for the cross-check. Please provide PMUM records and TEIAS Troubleshooting agreement.			
<u>CAR-9:</u> <u>Water quality and quantity:</u> Minimum %10 water for aquatic life in riverbeds are defined as future target parameter. An expert report is defined for way of monitoring water quality and quantity in monitoring report. Please provide expert report for water quality and quantity.		Expert report will be provided to DOE	<u>Review 1:</u> Expert report(Evaluation of the Fish passage efficiency and Environmental flows of Çataloluk Hydroelectric Power Plant) is provided to DOE. The report is prepared by Kahramanmaraş Sutcuimam University by Prof. Dr. Mehmet Alp. <u>The corrective action request is closed.</u>
<u>CAR-10:</u> <u>Soil Condition:</u> It is defined that the solid waste is handled according to the legislation. Photos from construction is defined as way of monitoring. Please provide photos to DOE.		Pictures during construction were sent to the DOE previously which shows use of aggregate as filling material. They are resent with this document.	<u>Review 1:</u> Photos during construction are submitted to the DOE previously which shows use of aggregate as filling material. <u>The corrective action request is closed.</u>



VERIFICATION REPORT

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
<u>CAR-11:</u> <u>Other pollutants:</u> Waste oil generations is described for actual value for parameter. Please provide records for waste waters from plant manager.		Since the plant is new, no waste oil has been generated during monitoring period.	<u>Review 1:</u> The plant is new, no waste oil has been generated during monitoring period. <u>The corrective action request is closed.</u>
<u>CAR-12:</u> <u>Quality of Employment:</u> Actual value of parameter is defined as 8 employees during operation are trained on health and safety measures. Please provide this training records and please provide if there was any additional training records as described in future target parameter.		Trainings records were provided to the DOE previously. No additional training was needed and held so far.	<u>Review 1:</u> During operation 8 employees are trained on health and safety. The certificates which are dated on 14/10/2011 are submitted to DOE. <u>The corrective action request is closed.</u>
<u>CAR-13:</u> <u>Quantitative employment and income generation:</u> The number of employees is described as around 20 from local people. Please		Records were provided to the DOE previously. Accountant and administrative staff is registered to sister company's payroll therefore they are ignored. All of them	<u>Review 1:</u> SGK records are provided to DOE. SGK records are not evidence that the employees are local. Please provide residing documents that shows the employees are local.

VERIFICATION REPORT

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
provide residing documents for the employees.		are from Kahramanmaras. SGK records shows the place of registry and is exactly the evidence required. Residing records show the place where people live. Since those people works in project, they will naturally live in nearby settlements which does not show that they are local.	<u>The corrective action request is still open.</u> Review 2: It is confirmed that the 20 people is local. All of them are from Kahramanmaras. <u>The corrective action request is closed.</u>
<u>CAR-14:</u> <u>Biodiversity:</u> Building a fish passage is defined for biodiversity parameter. During site visit it was seen that the fish passage has been built. Under way of monitoring		Expert report will be provided to DOE.	<u>Review 1:</u> Expert report(Evaluation of the Fish passage efficiency and Enviaonmental flows of Çataloluk Hydroelectric Power Plant) is provided to DOE. The report is prepared by Kahramanmaras Sutcuimam University by Prof.



VERIFICATION REPORT

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
expert report is defined. Please provide expert report for fish passage to DOE.			Dr. Mehmet Alp. <u>The corrective action request is closed.</u>
<u>CAR-15:</u> <u>Livelihood of the poor:</u> All payments should be made to land owners definition is described for the future target parameter. Please provide the payment records as described in way of monitoring.		Records were provided to the DOE previously.	<u>Review 1:</u> Payment record for Hamza Ertürk which is dated 05/05/2010 is submitted to the DOE. <u>The corrective action request is closed.</u>
<u>CAR-16:</u> <u>Livelihood of the poor:</u> The cleaning of the irrigation channel is defined for the actual value of parameter. During site visit it was seen that the irrigation channel is cleaned. Please also provide photos to DOE.		The pictures are provided to the DOE previously and are resent.	<u>Review 1:</u> The pictures are provided to the DOE. Also through the interview by locals during the site visit it is accepted that the irrigation channel is cleaned. <u>The corrective action request is closed.</u>
<u>CAR-17:</u> <u>Livelihood of the poor:</u>		Picture of house in the city center attached together with phone number of the	<u>Review 1:</u> Picture of house in the city center with phone number of the



VERIFICATION REPORT

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
It is defined that 3 houses are planned to be built for locals. During site visit it was seen that 2 houses are built for locals in the Dongel village. It is interviewed that 3th house is built in the center of the city. Please provide all photographs and land registers for the houses.		owner.	owner is submitted to the DOE. <u>The corrective action request is closed.</u>
<u>CAR-18</u> <u>Soil Condition:</u> Sediment transport along the river bed is the chosen parameter for this parameter. Independent expert review is described for the way of monitoring. Please provide the independent expert review to DOE.		Expert report will be provided to DOE.	<u>Review 1:</u> Expert report is still not provided to DOE. <u>The corrective action request is still open.</u> <u>Review 2:</u> Expert report is provided to DOE. <u>The corrective action request is closed.</u>
<u>CAR-19:</u> Project emissions are negligible. In		Project emission calculation and statements added to MR	<u>Review 1:</u> Project emission calculation and statements added to monitoring



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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
accordance to the registered PDD and applicable methodology AMS-I.D version 16, no project emissions are to be accounted by the project. In site visit project emissions parameters checked. There was not any project emission parameter in site. Please provide there was not any project emission parameter in the monitoring report.			report version 02. <u>The corrective action request is closed.</u>
<u>CAR-20:</u> The emission and emission reduction calculations are based on the data measured using calibrated meters of adequate accuracy. Apart from the ex-ante emissions factor, no other assumption is used in these calculations, which is in line with the monitoring methodology. Please define emission factor in monitoring report according to the registered PDD.		EF has been added to MR:	<u>Review 1:</u> Emission factor has been calculated ex-ante in PDD which is also used in calculating the baseline emissions. EF value used is 546 tCO ₂ /GWh. <u>The corrective action request is closed.</u>
<u>CL-1:</u>		The inconsistency is due to submission date and official	<u>Review 1:</u> The registration date has been



VERIFICATION REPORT

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
Relevant dates for the project activity are given under section A.1. GS Registration date is given as 13/03/2012. It is seen that the GS registration date as 09/09/2011 in GS web-site. Please clarify.		registration confirmation by GS. The registration date has been changed to 09/09/2011	revised as 09/09/2011 through the GS web-site. <u>The clarification request is closed.</u>
<u>CL-2:</u> The Cataloluk HEPP is a run-off river type project. The project involves electricity generation from 2 units horizontal Francis type turbines. The total capacity of turbines are defines as 9.54MWe Detail information is given under Table 3. Please clarify all capacity units as “MWe” in monitoring report.		It has been clarified that each turbine has 4.77MWe capacity	<u>Review 1:</u> All capacity units are revised as “MWe” in the monitoring report. <u>The clarification request is closed.</u>
<u>CL-3:</u> “Consolidated methodology for grid-connected electricity generation from renewable sources” ACM0002 version 9 is applied to project activity. Tools are included as; ➤ “Tool for the demonstration and		AMS has been applied. Statement added to MR section E.2 also. Meth. Applied has been corrected.	<u>Review 1:</u> Applied methodology is given as AMS ID. Version 16 in the registered PDD. Under section A.4 it is given as ACM0002 version 09. Under section E.2 AMS I.D Version 16 is defined. Please clarify the methodology



VERIFICATION REPORT

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
assessment additionality” Version 05.2 ➤ “Tool to calculate the emission factor for an electricity system” Version 01.1 Please clarify the methodology under section A.4			under section A.4. <u>The clarification request is still open.</u> Review 2: Corrections have been done. <u>The clarification request is closed.</u>
CL-4: The project registration number is GS872. The project registration date is given as 13/03/2012. Registration date is seen as 09/09/2011 in GS web-site. Please clarify.		Date updated according to date seen in registry.	Review 1: The registration date has been revised as 09/09/2011 through the GS web-site. <u>The clarification request is closed.</u>
CL-5: Starting date of the project activity is defined as 01/04/2010 and only one project site is defined above. In registered PDD the starting date of the project activity is defined as		Project has started feeding electricity earlier than expected. Statement added to MR.	Review 1: Project activity has started earlier than expected and statement is added to monitoring report. <u>The clarification request is</u>



VERIFICATION REPORT

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
01/05/2010. Please clarify.			<u>closed.</u>
<u>FAR01:</u> For the initial and 1 st verification period the flow was released around 0.55 - 0.57 m ³ /s but in the expert report dd. 10 July 2012 average ecological flow is calculated as 0.739 m ³ /s. Minimum ecological flow should be line with the expert report. Verification team should check the minimum ecological flow values during the next verification periods.			