FINAL VERIFICATION REPORT OF THE "CEYHAN 61.7 MW HYDROPOWER PROJECT"

RINA

Document Prepared by RINA Services S.p.A.

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Prepared By	RINA Services S.p.A.
Contact	Address : Via Corsica, 12 – 16128 Genova, ITALY Telephone : +39 010 53851 email : ghg.services@ rina.org web site : www.rina.org
Approved By	Roberto Cavanna
Work Carried Out By	Sergio Degener (VCS Verifier/VCS Team Leader/Technical Expert) Casper Van der Tak (VCS Verifier in Training) Isıl Timuroglu (Internal Technical Reviewer)

Summary:

RINA Services S.p.A. (RINA), commissioned by Suen Ltd., has verified the greenhouse gas emission reductions reported for the project activity "Ceyhan 61.7 MW Hydropower Project" in Turkey, VCS Registration Reference N° 810, for the period 03/06/2010 to 31/05/2012, with regard to the relevant requirements for CDM and VCS activities. The project was validated by RINA Services S.p.A. (validation report issued on Revision 1.0 of 04/03/2011) and it was registered under the VCS registration reference N°810.

The GHG emission reductions were calculated on the basis of the approved methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity from renewable sources" version 12.1.0 of 26/11/2010 and the monitoring plan included in the registered VCS DP, version 03 of 02/02/2011.

The objective of the verification is to have an independent review ex post determination of the monitored reductions in GHG emission reductions, reported for the "Ceyhan 61.7 MW Hydropower Project" project in Turkey for the period 03/06/2010 to 31/05/2012.

Verification was conducted using RINA procedures in line with the requirements specified in the VCS Version 3 Requirements, CDM M&P, the latest version of the CDM Validation and Verification Standard, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques. The verification consisted of desk review, on-site assessment and the resolution of outstanding issues and the issuance of the final verification report and certification.

The verification shall ensure that reported emission reductions are complete and accurate in accordance with applicable VCS Version 3 requirements, which refer to CDM rules, in order to be certified.

In conclusion, it is RINA's opinion that the project activity "Ceyhan 61.7 MW Hydropower Project" in Turkey, as described in the Monitoring Report version 05 of 22/11/2012, meets all relevant requirements for VCS and CDM activities and all relevant host Party criteria and correctly applies the baseline and monitoring methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity from renewable sources", version 12.1.0 of 26/11/2010. Hence, RINA is able to certify that the emission reductions from the project during the monitoring period 03/06/2010 to 31/05/2012 amount to 272,388 tCO_2e.

Abbreviations

BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH4	Methane
CL	Clarification Request
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
CRT	Coordination and Technical Control Staff
DCI	Certification Division of RINA Services Spa
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
HPP	Hydro Power Plant
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
NCV	Net Calorific Values
NGO	Non-governmental Organization
OBS	Observations
ODA	Official Development Assistance
PDD	Project Design Document
VCS-PDD	Project Design Document
PE	Project Emission
PLF	Plant Load Factor
PMUM	Piyasa Mali Uzlastirma Merkezi (The Market Financial Reconciliation Center)
PP(s)	Project Participant(s)
Ref.	Document Reference
RINA	RINA Services Spa
SGK	Social Security Institution (Sosyal Güvenlik Kurumu)
SS(s)	Sectoral Scope(s)
TEIAS	Turkish Electricity Transmission Company
VCS	Verified Carbon Standard
VCU	Verified Carbon Unit
VVM	Validation and Verification Manual

Table of Contents **Page**

1 Introduction 5
1.1 Objective 5
1.2 Scope and Criteria 5
1.3 Level of assurance 6
1.4 Summary Description of the Project 6
2 Validation Process, Findings and Conclusion 7
2.1 Validation Process 7
2.2 Validation Findings 8
2.2.1 Gap Validation 8
2.2.2 Methodology Deviations 9
2.2.3 Project Description Deviations 9
2.2.4 New Project Activity Instances 9
2.3 Validation Conclusion 9
3 Verification Process 10
3.1 Method and Criteria 10
3.2 Document Review 10
3.3 Interviews 10
3.4 Site Inspections 12
3.5 Resolution of Any Material Discrepancy 13
4 Verification Findings 14
4.1 Project Implementation Status 14
4.2 Accuracy of GHG Emission Reduction or Removal Calculations 15
4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals 24
4.4 Management and Operational System 25
5 Verification conclusion 26

Appendix A: VCS Verification Protocol

1 INTRODUCTION

Suen Ltd. has commissioned RINA to carry out the verification and certification of emission reductions reported for the registered "Ceyhan 61.7 MW Hydropower Project" in Turkey. VCS project ID Nr. 810, for the period 03/06/2010-31/05/2012.

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

1.1 Objective

The objective of the verification is to have an independent review ex post determination by a Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the registered VCS project activity during a defined monitoring period. Certification is the written assurance by the DOE that, during a specific time period, a proposed VCS project activity achieved the reductions in anthropogenic emissions by sources of GHGs as verified and that all the defined parameters to be monitored have been monitored according to the monitoring plan and that all the mitigation measures forecast have been correctly and effectively implemented.

The objective of this verification/certification was to verify and certify emission reductions and effective implementation of the monitoring measures, reported for the "*Ceyhan 61.7 MW Hydropower Project*" project in Turkey for the period 03/06/2010-31/05/2012.

1.2 Scope and Criteria

The verification scope is:

- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data insufficiently supported by evidence;
- To evaluate whether all the mitigation measures have been effectively put in place according to the monitoring plan and that all the sustainable development indicators have been correctly monitored.

Verification shall ensure that reported emission reductions are complete and accurate in accordance with applicable VCS requirements which refer to CDM rules, in order to be certified.

UNFCCC criteria for CDM refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures and the subsequent decisions by the CDM Executive Board.

Verification is not meant to provide any consultancy towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring.

1.3 Level of assurance

All the revisions of the verification report, before being submitted to the client, were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent RINA instructions.

The technical review was performed by a technical reviewer(s) qualified in accordance with RINA's qualification scheme for VCS and CDM validation and verification. The verification team and the technical reviewers consist of the following personnel:

Role/Qualification	Last Name	First Name	Country
VCS Team Leader – VCS Verifier – Technical Expert	Degener	Sergio	Germany
Technical Expert – VCS Verifier in Training	Van der Tak	Casper	Italy
Technical Reviewer	Timuroglu	Isil	Turkey

1.4 Summary Description of the Project

The Ceyhan project includes Oşkan and Berkman diversion weirs and HEPPs which are run-of-river hydro electrical power plants with a total installed capacity of 61,704 MWe. The Oşkan and Berkman diversion weirs of Ceyhan Project are located on Ceyhan River, in the city of Osmaniye, in South Anatolian Region, Turkey.

The primary objective of the project is to generate electricity from hydropower station to meet the ever-increasing demand in South Anatolian Region and to contribute to the sustainability of electricity generation of the Turkish National Grid.

The project consist in the installation of 3 Pit Kaplan turbine-generator units, with 12,958 KW each for the Berkman project, and 3 Pit Kaplan turbine-generator units, with 8,198 KW each for the Oskan project.

Project Participant(s)	Enova Enerji Üretim A.Ş./ Suen Ltd. Şti.		
Project Title	Ceyhan 61.7 MW Hydropower Project		
Location of the project	Near Osmaniye City, South Anatolian Region of Turkey		
Methodology(ies)	ACM0002", "Consolidated baseline methodology for grid-connected electricity from renewable sources", version 12.1.0 of 26/11/2010./6/		
Sectoral Scope(s)	1	**RINA's Technical Area(s)**	1.2
Registered VCS PD	Version 03 of 02/02/2011		
VCS Registration Reference No	810		
Starting date of the crediting period	03/06/2010 (as confirmed through the Temporary Acceptance Protocol /22-23/)		
Project's crediting period	03/06/2010 to 31/05/2020		
Monitoring period	03/06/2010 to 31/05/2012 (both days included)		
Project documentation link	https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=810&lat=37%2E224463&lon=36%2E233742&bp=1 /24/		

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

2.1 Validation Process

Validation was conducted using RINA procedures in line with the requirements specified in the VCS standard and in the CDM M&P, the latest version of the CDM Validation and Verification Manual, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques. The validation consisted of the following three phases:

- Document review;
- Follow-up actions;
- The resolution of outstanding issues and the issuance of the final validation report.

The PDD version 3 of 02/02/2011, version 2 of 12/10/2010 and version 01 of 10/09/2009/1/ in particular the applicability of the methodology, the baseline determination, the additionality of the project activity, the starting date of the project, the monitoring plan, the emission reduction calculations provided in the form of a spreadsheet, "6-CEYHAN CO2 V2.xls" version 2 of October 2010, were assessed as part of the validation. To address RINA corrective actions request and clarification requests, the project owner revised the PDD, and the PDD version 03 of 02/02/2011 is the latest version submitted for validation.

From 19/05/2010 to 20/05/2010, RINA visited Ceyhan River, 14 km Northwest of Osmaniye City, South Anatolian Region of Turkey to resolve questions and issues identified during the document review and to perform interviews with relevant stakeholders in the host country. The key personnel interviewed and the main topics of the interviews are summarized in the table below.

The project was validated by RINA Services S.p.A (Validation Report revision 1.0 of 04/03/2011) and it was registered under the VCS registration reference N°810.

	Date	**Name and Role**	**Organization**	**Topic**
/a/	19-20/05/2010	Aynur SEZER Project Coordinator	SUEN Ltd.	- Introduction of the project - Project implementation and status - Consultation process for stakeholder's comments - Baseline determination of the project - Applicability of the selected methodology ACM0002 version 12.1.0 - Issues related to the additionality - Emission reductions calculation - Monitoring plan
/b/	19-20/05/2010	Mehmet GOKOGLAN. Project specialist	SUEN Ltd.	
/c/	19-20/05/2010	Mustafa TUYGUN Business development manager	NUROL	
/d/	19-20/05/2010	Bulent CAGIRGAN Project Manager	ENOVA	

The objective of this phase of the validation is to resolve any outstanding issues which need to be clarified for RINA's positive conclusion on the project design.

To guarantee transparency a validation protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of validation and the results from validating the identified criteria. The completed validation protocol is en closed in Appendix A of the validation report. A corrective action request (CAR) is raised if one of the following occurs:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions.
- The CDM requirements have not been met.
- There is a risk that the emission reductions cannot be monitored or calculate.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

A forward action request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration. CARs, CLs and FARs identified are included in the validation protocol in Appendix A of the validation report.

2.2 Validation Findings

The validation findings are listed in the Table 2 of the validation report /03/. Main findings were related to:

- Corrections to the PDD to be in line with the VCS requirements, as reporting of electricity generation, plant load factor, lifetime of the project.
- Corrections of the starting date of the project activity and the prior consideration of the VCS registration.
- Evidence on the applied benchmark.
- Evidence on the input values of the financial analysis.
- Corrections to the barrier analysis were requested, as were not in line with the requirements.

The PP provided responses to all findings raised by the audit team. The responses were considered satisfactory by the audit team, and gave therefore a positive validation opinion.

2.2.1 Gap Validation

RINA prepared the document VCS Gap Analysis for the “Ceyhan 61.7 MW Hydropower Project” /22/. RINA concluded that the project activity, as described in the VCS-PD subjected for gap analysis, meets the project registration requirements as per para 4 of VCS Normative Document: Project Registration and VCU Issuance Process version 1.2 of 21/01/2010.

2.2.2 Methodology Deviations

No deviation from the methodology was applied during the validation process /03/.

2.2.3 Project Description Deviations

The description of the project activity in the VCS PD is in line with the project situation seen during site visit. No deviation of the project description applies.

2.2.4 New Project Activity Instances

The presented project activity is not a grouped project. Not applicable.

2.3 Validation Conclusion

RINA Services Spa (RINA) has performed validation of the project activity "Ceyhan 61.7 MW Hydropower Project" in Turkey, on the basis of the VCS criteria and country criteria. The review of the project design document and the subsequent follow-up interviews have provided RINA with sufficient evidence to determine the fulfillment of the stated criteria.

The project correctly applies the UNFCCC approved baseline and monitoring methodologies "ACM0002", "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 12.1.0 of 26/11/2010 /06/.

By generating electricity from renewable hydropower plan and displacing grid electricity that would otherwise be generated by fossil fuel power plants connected to the national grid, the project results in reduction of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The monitoring plan provides for the monitoring of the project's emission reductions. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is RINA's opinion that the project participants are able to implement the monitoring plan.
In conclusion, it is RINA's opinion that the project activity "Ceyhan 61.7 MW Hydropower Project" in Turkey, as described in the PDD version 03 of 02/02/2011, meets all relevant VCS requirements and all relevant host Party criteria and correctly applies the baseline and monitoring methodology"ACM0002", "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 12.1.0 of 26/11/2010 /06/.

3 VERIFICATION PROCESS

3.1 Method and Criteria

Verification was conducted using RINA procedures in line with the requirements specified in the VCS Version 3 Requirements, CDM M&P, the latest version of the CDM Validation and Verification Standard, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques.

The verification consisted of the following three phases:

- Document review;
- On-site assessment;
- The resolution of outstanding issues and the issuance of the final verification report and certification.

3.2 Document Review

The monitoring report version 05 and previous versions /02/ /28/, was assessed as part of the verification. In addition, the Project Design Document (VCS-PD) /01/, in particular as regards the baseline estimations and the monitoring plan. The Validation Report prepared by RINA was also assessed as part of the desk review /03/.

The emission reduction calculations provided in the form of a spreadsheet version 01 “ENOVA ENERGY CEYHAN HEPP 2010- 2011-2012” submitted on 16/08/2012 /25/.

The following table lists the documentation that was reviewed during the verification.

/01/	Suen Ltd.: PDD “Ceyhan 61.7 MW Hydropower Project” version 3, 02/02/2011.
/02/	Suen Ltd.: Monitoring Report “Ceyhan 61.7 MW Hydropower Project” version 01, no date.
/03/	RINA Services S.p.A.: Validation Report “Ceyhan 61.7 MW Hydropower Project” revision 1.0, dated 04/03/2011.
/04/	TEIAS: Grid Connection Agreement, 16/03/2010.
/05/	CDM Executive Board: Validation and Verification Manual, version 01.2 of 30/07/2010
/06/	CDM Executive Board: Baseline and monitoring methodology ACM0002, Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 12.1.0 of 26/11/2010.
/07/	RINA; Participant List, 09/12/2011
/08/	RINA Services S.p.A.: VCS Gap Analysis ”Ceyhan 61.7MW Hydropower Project”, revision 1.0, 03/04/2012.
/09/	GES Ltd.: Initial test for electricity meter, dated 25/02/2010.
/10/	GES Ltd.: Initial test for backup electricity meter, dated 25/02/2010
/11/	The Ministry of Industry and Trade: Regulation of Dimension and Adjustment of 11/01/1989
/12/	Municipality of Osmaniye: Certificate of domestic wastewater treatment, 15/06/2011
/13/	Elster Ltd.: Meter specification and technical description of A1500 Alpha, dated 09/03/2010
/14/	Turkish Social Security: List of employees registered in thesocial security, dated December 2011.
/15/	Ministry of Forestry and Environment: Environmental monitoring report during construction, dated 19/11/2009.
/16/	Ministry of Forestry and Environment: Environmental monitoring report during construction, dated

	16/02/2010.
/17/	Environmental Authority Osmaniye: Environmental monitoring report during operation, dated 22/09/2011.
/18/	Enova Enerji Uretim A.S.: Instalation overwiew on connection to the grid, dated 17/05/2010.
/19/	Teias: Meter delivery protocol, dated 04/03/2010.
/20/	GES Ltd.: List of participants for training on mechanical and electrical equipment, dated 20-21/05/2010, 19-20/05/2010; 25/05/2010
/21/	GES Ltd.: Transformator test, dated 25/02/2010.
/22/	General Directorate Of State Hydraulic Works (DSI): Temporary Acceptance Protocol of Oskan Hydroelectric Project, 03/06/2010 (3 Units)
/23/	General Directorate Of State Hydraulic Works (DSI): Temporary Acceptance Protocol of Berkman Hydroelectric Project of 20/08/2010, 28/08/2010 and 15/02/2012 (3 Units)
/24/	Website: https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=810&lat=37%2E224463&lon=36%2E233742&bp=1 Argument: VCS Project Database Language: English; Retrieved on: 23/09/2012
/25/	Suen Ltd.: ER calculation sheet version 01, "ENOVA ENERGY CEYHAN HEPP 2010- 2011-2012" submitted on 16/08/2012.
/26/	VCS Verified Carbon Standard: VCS Verification Report Template Version 3.2
/27/	Siemens: Meter label for the instrument Siemens HydroRanger 200, submitted 16/08/2012.
/28/	Suen Ltd.: Monitoring Report "Ceyhan 61.7 MW Hydropower Project" version 05, 22/11/2012. Suen Ltd.: Monitoring Report "Ceyhan 61.7 MW Hydropower Project" version 04, 15/08/2012. Suen Ltd.: Monitoring Report "Ceyhan 61.7 MW Hydropower Project" version 03, 25/07/2012 Suen Ltd.: Monitoring Report "Ceyhan 61.7 MW Hydropower Project" version 02, 28/06/2012
/29/	Turkish Energy Market Regulatory Authority: Communiqué for Measurement Devices used in the Electricity Market of 22/03/2003
/30/	Website: http://www.mevzuat.adalet.gov.tr/html/21179.html Argument: "'Regulation of Metering and Testing of Metering Systems" Language: Turkish, retrieved 02/10/2012.
/31/	Siemens: Confirmation on non calibration requirement of the HydroRanger meter 7ML 18302-A dated 21/11/2012.
/32/	Elster: Factory calibration report for electricity meters 388202, 388203, 308204, 388205, 388207, 388208, 388227, 388228, dated 13/06/2008.
/33/	List of personal IDs to confirm living in near villages and cities, submitted 22/11/2012
/34/	Turkish Social Security: List of employees registered in the social security for Oskan and Berkman, dated June 2012.
/35/	CDM Executive Board: Validation and Verification Standard, version 3.0 of 23/11/2012

3.3 Interviews

On 09/12/2011, RINA visited /07/ the hydro power plant located near the Osmaniye City, South Anatolian Region, Turkey.

The key personnel interviewed and the main topics of the interviews are summarized in the table below.

	Date	Name and Role	Organization	Topic
/a/	09/12/2011	Serkan Baybo	Suen Ltd. Consultant	Monitoring data , preparation of the VCS documents
/b/	09/12/2011	Arda Candemir	ENOVA Site engineer	Monitoring equipment, calibration certificates Operation
/c/	09/12/2011	Aziz Öztürk	ENOVA Project responsible	Coordination with TEIAS.
/d/	09/12/2011	Serkan Varol	ENOVA Communication with consultant	Invoicing of electricity, data transfer.
/e/	09/12/2011	Sinan Canpunar	ENOVA Communication with consultant	Project Operation

3.4 Site Inspections

During the on-site assessment of the project, all the equipments and the systems were accessible. RINA assessed the implementation and operation of the proposed project activity, reviewed the information flows for generating, aggregating and reporting the monitoring parameters, interviewed key personnel of the plant to confirm the operational and data collection procedures, cross-checked between information provided in the monitoring report and data plant, checked the monitoring equipment including calibration performance, reviewed calculations and assumptions made in determining the GHG data and emission reductions, checked the quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

3.5 Resolution of Any Material Discrepancy

The objective of this phase of the verification is to resolve any outstanding issues, which need to be clarified for RINA's positive conclusion on the monitoring report and emission reductions.

To guarantee transparency a verification protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of verification and the results from verifying the identified criteria. The verification protocol consists of three tables; the different columns in these tables are described in the figure below (see Figure 1). The completed verification protocol is enclosed in Appendix A to this report.

A corrective action request (CAR) is raised if one of the following occurs:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
- Issues identified in a FAR during validation to be verified during verification have not been resolved by the project participants.

A clarification request (CR) is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements, which refer to CDM rules, have been met.

CARs, CRs identified are included in the verification protocol in Appendix A of this report.

Figure 1 Verification protocol tables

Verification Protocol, Table 1 - Requirement checklist					
Checklist Question	**Ref.**	**MoV**	**Comments**	**Draft Conclusion**	**Final Conclusion**
Checklist questions organized in seven different sections.	Makes reference to documents where the answer to the checklist question or item is found.	Explain how conformance with the checklist question is investigated. Examples are document review (DR), interview or any other follow-up actions (I), cross checking (CC) with available information relating to projects, (N/A) means not applicable.	The discussion on how the conclusion is arrived at and the conclusion on the compliance with checklist question so far.	For CAR, CR and FAR see the definitions above.	OK is used if the information and evidence provided is adequate to demonstrate compliance with VCS requirements which refer to CDM rules.

Verification Protocol, Table 2: Resolution of Corrective Action Requests and Clarification			
Corrective action requests and/or clarification requests	**Reference to Table 1**	**Response by project participants**	**Verification Conclusion**

The CAR and/or CRs raised in table 1 are repeated here.	Reference to the checklist question number in Table 1 where the CAR or CR is explained.	The responses given by the project participants to address the CARs and/or CRs.	The verification team's assessment and final conclusion of the CARs and/or CRs.

Verification Protocol, Table 3 - Forward Action Requests		
Forward action request	**Reference to Table 1**	**Response by project participants** **Verification Conclusion**
The FAR raised in table 1 is repeated here.	Reference to the checklist question number in Table 1 where the FAR is explained.	Response by the project participants on how forward action request will be addressed.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The Ceyhan project includes Oşkan and Berkman diversion weirs and HEPPs which are run-of-river hydro electrical power plants with a total installed capacity of 61,704 MWe /22-23/. Anyway no change in the registered project activity /1/ occurred during the monitoring period from 03/06/2010-31/05/2012.

There are no open issues (FARs) from the validation process that need to be solved during this first verification.

It was verified during the site visit conducted on 09/12/2011 that the proposed project activity has been implemented and it is in operation in accordance with the project activity described in the registered VCS PD /1/.

The project activity has been implemented in 4 phases. On 03/06/2010, the Oskan power plant has started operation with 3 turbines and on 20/08/2010; 28/08/2010 and 15/02/2012 the remaining 3 turbines from the Berkman project has been commissioned. Each commissioning date was confirmed through the Temporary Acceptance Protocols /22-23/. The carbon crediting period and the monitoring started when the plant commenced generating electricity. Therefore, the crediting period started on 03/06/2010. The project activity consists of 6 horizontal axis Francis turbines, with a capacity of 61.704 MWe total (3 X 12,958 KW and 3 X 8,198 KW) as confirmed through the Temporary Acceptance Protocols /22-23/. The project boundary in the registered VCS PD /1/ is in line with the actual project boundary. The generated electricity is fed to the national grid. The generated electricity is transmitted to the National Electricity System through the Berke-Kadirli Energy Transmission Line.

No change in the registered VCS PD /1/ has been occurred during the first monitoring period of 03/06/2010 to 31/05/2012. Thus, the requirements of the VCS Standard Version 3 /26/ were satisfied and RINA confirms that the project conforms with the validation criteria for projects, in accordance with ACM0002 version 12.1.0 of 26/11/2010 /6/.

Based on the onsite inspection and checking the above documents, RINA confirms that the project activity has been implemented as described above in accordance with the project activity in the registered VCS PD /1/. The monitoring has not been completely done in line with the definitions of the VCS-PD /01/. Two deviations could be observed:

- The electricity generated and supplied to the grid could not be crosschecked with electricity invoices, as there are many buyers of electricity. The crosscheck was done with a letter provided by PMUM, confirming the electricity supplied by the project activity. The letter can be found attached in the ER calculation sheet /25/.
- The surface area of full reservoir level was not done by a qualified institute as described in the VCS-.PD /01/. The PP has installed a measurement instrument to monitor the high of the water, which is used to define the surface area. Equipment details were provided to the audit team /27/.
- $C_{AP,PJ,y}$ has been included as a parameter in the Monitoring Report, even though it was not included as a parameter in the registered VCS-PD.

The registered project activity applies the approved baseline and monitoring methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity from renewable sources", version 12.1.0 /6/. RINA confirms that the monitoring plan in the registered VCS PD /1/ complies with the applied CDM methodology and VCS Standard Version 3 requirements /9/.

Based on the review of Validation Report for "Ceyhan 61.7 MW Hydropower Project" Revision 1.0 of 04/03/2012 issued by Rina Services S.p.A. /3/ no remaining issues were identified.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

The emission reduction calculations provided in the spreadsheet /25/ have been verified to be correct and in line with the registered VCS PD /1/.

According to the applied methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity from renewable sources", version 12.1.0/6/, the emission reductions have been calculated based on the following formula:

ERy = BEy – PEy - LEy

Where:

BEy = Baseline emissions in year y (tCO_2e/yr)

PEy = Project emissions in year y (tCO_2e/yr)

LEy = Leakage emissions in year y (tCO_2e/yr)

Baseline emissions

The baseline emissions include the CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity, multiplying the electricity supplied to the grid (MWh) with the combined margin CO_2 emission factor for grid connected power generation in year.

BEy = EGy x EFy

Where:

EGy = Net electricity supplied to the grid (MWh)

EFy = Combined margin grid emission factor (tCO_2/MWh)

Project emissions

No project emissions are accounted for the project activity, as there is no fuel consuption related to the operation to the project activity, as could be observed during the site visit.

Leakage emissions

The leakage emissions are assumed to be zero as per the ACM0002 version 12.1.0/6/ as defined in the registered VCS PD /1/.

The data presented in the monitoring report /28/ were assessed by reviewing in detail project documentation, collection of monitored data, observation of established monitoring and reporting practices and assessment of the reliability of monitoring equipment. Sufficient evidence was presented and verified by RINA for the reported emission reductions.

Parameters Available at Validation and Data Fixed Ex-ante

DATA/PARAMETER	Source of data	Reported value for the project period	Assessment/Observation
$EF_{grid,CM,y}$ Baseline emission factor (the parameters available at validation and fixed during crediting period were $\mathbf{F_{i,\ j,\ y}}$; $\mathbf{NCV_{i,\ y}}$; $\mathbf{EF_{CO2,\ i,\ y}}$ and $\mathbf{EG_{y}}$; all related to the calculation of the grid emission factor, which is the value to be used during verification activities).	TEIAS statistics	615 tCO_2/GWh	According to the approved methodology ACM0002 version 12.1.0, the combined emission factor has been determined using the ex-ante option and so it is not requested to monitor and recalculate the emission factors during the crediting period. The combined emission factor is determined to be 615 tCO_2/GWh in the VCS PD /1/ and validation report /3/.

Parameters and Data Monitored

DATA/PARAMETER	Electricity Supply
Data Unit	MWh
Description	Electricity supplied to the grid by the project activity.
Source of data to be used	Monthly Meter Reading reported by PMUM.
Value data for the monitoring period	442,907.86 MWh
Measuring and reporting frequency; recording procedure	Continuously monitoring and monthly recording
Type of monitoring equipment and its accuracy	Four unit electricity meters (four main meters and four backup meters) are installed at the project site. The main meters are Elster brand A1500 /13/ with serial number 388202, 388204, 388207 and 388228. The backup meters have a with serial number 388203, 388205, 388208 and 388227. The meters have the accuracy of 0.5s as confirmed during the site visit and delivery reports /19/. The accuracy class of the meters complies with the "Communiqué for Measurement Devices used in the Electricity Market" /29/.
Calibration frequency/interval	TEIAS is responsible for calibration and maintenance of the meters as per the registered VCS PD /1/. The project owner has no control on the meters since the meters are sealed by the TEIAS as confirmed during the site visit. If any major discrepancy occurs between the two meters, TEIAS performs necessary calibration. The meters were calibrated by the supplier on 13/06/2008 as confirmed through the calibration reports /32/. Also, the meters were tested by the electricity transmission company at the project site on 04/03/2010 after the meters were installed /19/. As per the "'Regulation of Metering and Testing of Metering Systems" /29/, the meters shall be calibrated every 10 years, therefore the calibration of meters is deemed appropriate and in compliance with the national regulation. During on-site assessment, it was confirmed that the meters are in place and functions well. During the monitoring period, no brake down has been recorded.
How were the values in the monitoring report verified and cross-checked?	The net electricity generation is based on the PMUM records /25/and crosschecked with the internal records. The monitoring plan requires crosschecking the information from the meters with invoices. Due to invoice procedures, it is not possible to make a crosscheck between meter data and invoice. The PMUM records, obtained directly from, it´s website (ID and password required, can be crosschecked with the internal records. PMUM confirmed the correctness of the information.
Does the data management (from	The electricity generation and consumption is measured in line with the TEIAS rules and requirements /29/. The

monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	electricity generation supplied to the grid and electricity consumption from the grid is stored by PMUM on the web site. The Project owner has an ID and password to access this data on the web site. The electricity generation and consumption is also measured and recorded by the project staff daily. In case of nonconformity, the plant manager informs TEIAS. The collected data during the monitoring period will be kept by the project owner at least two years after end of the last crediting period as stated in the registered VCS PD /1/ and monitoring report /2/ in line with the ACM0002 version 12.1.0 /6/.
If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	All the data were available for the whole monitoring period.

DATA/PARAMETER	**Cap_{PJ}**
Data Unit	W
Description	Installed capacity of the hydro power plant after the implementation of the project activity
Source of data to be used	Nameplate capacity of the equipment installed in the power house.
Value data for the monitoring period	61,704,000 W
Measuring and reporting frequency; recording procedure	Yearly
Type of monitoring equipment and its accuracy	The parameter is monitored through the Generation License and Letter for Approval of Commissioning; therefore, measurement equipment is not used.
Calibration frequency/interval	NA
How were the values in the monitoring report verified and cross-checked?	The parameter is monitored through the installation acceptance protocol issued by the General Directorate Of State Hydraulic Works /24-25/.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	NA
If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the	All the data were available for the whole monitoring period.

registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	

DATA/PARAMETER	**A_{PJ}**
Data Unit	m^2
Description	Area of the reservoir measured on the surface of the water, after the implementation of the project activity, when the reservoir is full
Source of data to be used	Measured by Siemens HydroRanger 200 type 7ML18302-AK Ultrasonic level measurement
Value data for the monitoring period	Surface areas based on the water levels are 1,621,425.95 m^2 (which means a water level of 83.05-82.95m) for the Oşkan and 1,648,560.79 m^2 (which means a water level of 72.55m-72.45m) for the Berkman.
Measuring and reporting frequency; recording procedure	Yearly
Type of monitoring equipment and its accuracy	Measured by Siemens HydroRanger 200 type 7ML18302-AK Ultrasonic level measurement Measuring range: 0.3 to 15 m /13/.
Calibration frequency/interval	The equipment does not require any calibration /31/.
How were the values in the monitoring report verified and cross-checked?	The value is measured continuously, which differs from the provisions of the registered VCS-PD. The monitoring plan foresees a yearly measurement by a qualified institute. The requirement was not followed; the surface was calculated based on the water level measured by installed Siemens equipment /27/. As the surface do not affect the emission reduction calculations, the measurement method do not represent any loss of accuracy in the monitoring procedures. The value is now monitored continuously, the monitoring quality can be considered as increased. The value was crosscheck during site visit, as the water level can be also confirmed visually against the dam (level is marked in the wall). The water level observed was the same as the value monitored and recorded by the meter.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	Yes, the water level is monitored continuously and recorded in the SCADA system. The value recorded was checked during site visit and confirmed against the water level observed at the plants dam. The measured value was correct.
If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	All the data were available for the whole monitoring period.

DATA/PARAMETER	Number of temporary and permanent employees.
Data Unit	Number of Employees
Description	Number of the Permanent employees
Source of data to be used	Payrolls
Value data for the monitoring period	49 permanent to November 2011 and 51 permanent to May 2012.
Measuring and reporting frequency; recording procedure	Annually during verification, value of December.
Type of monitoring equipment and its accuracy	NA
Calibration frequency/interval	NA
How were the values in the monitoring report verified and cross-checked?	The number of employees can be assessed based on the SGK records, which is the Turkish social security /14/.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	NA
If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	All the data were available for the whole monitoring period.

DATA/PARAMETER	Livelihood of the poor.
Data Unit	Numbers of the employees from the project region
Description	Numbers of the employees from the project region
Source of data to be used	Payrolls
Value data for the monitoring period	35 to December 2011.
Measuring and reporting frequency; recording procedure	Annually during verification, value of December.
Type of monitoring equipment and its accuracy	NA
Calibration frequency/interval	NA
How were the values in the monitoring report verified and cross-checked?	The number of employees can be assessed based on the SGK records, which is the Turkish social security /14/. The list of the identified employees coning from nearly cities are identified in Annex VI of the monitoring report.

Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	NA
If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	All the data were available for the whole monitoring period.

DATA/PARAMETER	Environmental Indicators (during construction)
Data Unit	EIA monitoring by the legal authorities
Description	Status of air quality, water quality, solid waste, biodiversity and noise pollution.
Source of data to be used	EIA monitoring documents issued by the authorities
Value data for the monitoring period	Monitoring report provided by the authorities with the results on waste, dust, wastewater, noise and vibration.
Measuring and reporting frequency; recording procedure	Once during construction.
Type of monitoring equipment and its accuracy	NA
Calibration frequency/interval	NA
How were the values in the monitoring report verified and cross-checked?	One of the control and monitor document has been prepared and issued by the Commission under the Ministry of Forest and Environment on 19/11/2009 numbered 053271-72-73-74 (during the construction phase) /15/. The second control and monitoring has been prepared and issued by the Commission under the Ministry of Forest and Environment on 16/02/2010 numbered 053347-48-49-50 /16/. The parameters were assessed during validation activities also, as the project was under construction at that time, and the project complies with the Turkish requirements.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	NA
If only partial data are available because activity levels or non-	All the data were available for the whole monitoring period.

activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	

DATA/PARAMETER	Environmental Indicators (during operation)
Data Unit	EIA monitoring by the legal authorities
Description	Status of air quality, water quality, solid waste, biodiversity and noise pollution.
Source of data to be used	EIA monitoring documents issued by the authorities
Value data for the monitoring period	Monitoring report provided by the authorities on air quality, water quality, solid waste, biodiversity and noise pollution.
Measuring and reporting frequency; recording procedure	Annually during verification.
Type of monitoring equipment and its accuracy	NA
Calibration frequency/interval	NA
How were the values in the monitoring report verified and cross-checked?	The monitoring document was issued by the Environmental Authority on 22/09/2011 /17/, for the monitoring performed during operation. The report includes the assessment on the parameters mentioned to be monitored. The project complies with the requirements from the authority on the environmental indicators.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	NA
If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	All the data were available for the whole monitoring period.

Emission Reductions Achieved

The emission reductions calculation reported in the Monitoring Report version 05 of 22/11/2012 /28/ and calculation spreadsheet "Enova Energy Ceyhan HEPP 2010-2011-2012" of 16/08/012 /25/ have been verified to be correct.

The reported emission reductions are equivalent to 272,388 during the monitoring period from 03/06/2010 to 31/05/2012 (totally 24 months). According to the registered VCS PD /1/, the estimated emission reductions are equivalent to 147,566 tCO_2e. The actual annual emission reduction shall be compared with the estimated ERs for two years which is calculated as 295,132 tCO_2e as per the registered VCS PD /1/. The estimated reductions (295,132 tCO_2e for two years as per the VCS-PD) are compared with the actual annual emission reduction (272,388 tCO_2e) for two years of monitored data. The reported averaged emission reductions are 8.7% lower than the estimated average emission reductions.

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

The generated electricity monitored continuously by four unit meters that were sealed by TEIAS. Four unit electricity meters (four main meters and four backup meters) are installed at the project site. The main meters are Elster A1500 with serial number 388202 – 388204 – 388207 – 388228. The backup meters have the serial number 388203 – 388205 – 388208 – 388227. The meters have the accuracy of 0.5s as confirmed through the meter delivery protocol /19/. The accuracy class of the meters complies with the "Communiqué for Measurement Devices used in the Electricity Market" /29/.

The electricity meters are sealed by TEIAS as confirmed during the site visit. TEAIS is responsible for calibration and maintenance of the devices. The project owner has no control on the meters since the meters are sealed by the TEIAS. If any major discrepancy occurs between the two meters, TEIAS performs necessary calibration. The meters were tested initially on 25/02/2010 as confirmed through the test reports /09-10/. As per the "'Regulation of Metering and Testing of Metering Systems" /30/, the meters shall be calibrated every 10 years. The calibration of meters is deemed appropriate and in compliance with the national regulation. The calibration frequency has been respected.

The net electricity generation is based on the PMUM records /25/ and crosschecked with the internal records. All internal records and PMUM records for this monitoring period were checked during the site visit. The internal records, PMUM records and emission reduction calculation spreads sheet are consistent.

4.4 Management and Operational System

The electricity generation and consumption is measured in line with the TEIAS rules and requirements /29/. The electricity generation supplied to the grid and electricity consumption from the grid is stored by PMUM on the web site. The Project owner has an ID and password to access this data on the web site. The electricity generation and consumption is also measured and recorded by the project staff daily. The records extracted from the software are crosschecked with the manual records that were extracted by the project staff. The records are reported to the plant manager who acts as the final internal auditor. In case of nonconformity, the plant manager informs TEIAS. The installed capacity of the hydro power plant after the implementation of the project activity is monitored through the letter for temporary approval of commissioning /22-23/.

The responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan presented in the in the registered VCS PD /1/ as confirmed through the interviews. Plant Manager is responsible for running the HEPP plant and compliance with VER monitoring plan. Accounting Manager is responsible for keeping data about power sales, invoicing and purchasing. Suen Ltd. is responsible for emission reduction calculations and preparing monitoring report.

The collected data during the monitoring period will be kept by the project owner at least two years after end of the last crediting period as stated in the registered VCS PD /1/ and monitoring report /28/ in line with the ACM0002 version 12.1.0 of 26/11/2010 /6/.

During the site visit, the suitability of the management system for monitoring and reporting has been assessed and found acceptable and in line with the monitoring plan presented on Monitoring Report version 05 of 22/11/2012 /28/.

5 VERIFICATION CONCLUSION

RINA Services Spa (RINA) has performed verification of the emission reductions reported for the project activity "Ceyhan 61.7 MW Hydropower Project" in Turkey, VCS Registration Reference N° 810, for the period 03/06/2010 to 31/05/2012, with regard to the relevant requirements for CDM and VCS activities.

It is RINA's opinion that the GHG emission reductions stated in the Monitoring Report version 05 of 22/11/2012 for the "Ceyhan 61.7 MW Hydropower Project" project in Turkey for the period 03/06/2010 to 31/05/2012 are fairly stated. The GHG emission reductions were calculated correctly, on the basis of the approved monitoring methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity from renewable sources", 12.1.0 of 26/11/2010 and the monitoring plan contained in the registered VCS PD.

Hence, RINA is able to certify that the emission reductions from the project during the monitoring period 03/06/2010 to 31/05/2012 amount to 272,388 tCO_2e.

GHG Emission Reductions or Removals	tCO_2e
Baseline Emissions	272,388
Project Emissions	0
Leakage	0
Net GHG emission reductions or removals	**272,388**

The emission reductions separated for every vintage are as follows:

Year	Baseline emissions (tCO_2e)	Project activity emissions (tCO_2e)	Leakage (tCO_2e)	Overall emission reductions (tCO_2e)
03/06/2010 31/12/2010	0	48,671.13	0	48,671.13
01/01/2011 31/12/2011	0	130,426.91	0	130,426.91
01/01/2012 31/05/2012	0	93,290.29	0	93,290.29
Total	0	272,388	0	272,388

APPENDIX A

VERIFICATION PROTOCOL

TABLE 1 REQUIREMENTS CHECK LIST

Checklist Question		Reference	MoV[1]	Comments	Conclusion
A	**Monitoring Report**				
A.1	Does the used project title clearly enable the reader to identify the unique VCS activity? Is there an indication of a revision number, the date of the revision and the monitoring period?	/02/	DR	The project name is correctly included and defined as "Ceyhan 61.7 MW Hydropower Project". Date and version if the documents are missing in the monitoring report. Furthermore, the project ID reported in the VCS-Monitoring Report is not consistent with the information of the VCS webpage.	~~**CAR1**~~ **OK**
A.2	Does the project comply with the applicable requirements for completing the Monitoring Reports (latest version available)?	/02/	DR	The latest version of the monitoring report template has been use. The monitoring report is not completely filled in all chapters and does not comply with the guidelines to fill the MR: - As per the VCS MR template, all sections must be completed using Arial 10pt, black, regular (non-italic) font. The MR is not in line with this requirement. - Section 1.2 shall include whether the project is a grouped project. - Section 1.3 shall provide contact information and roles/responsibilities for the project proponent(s). The only address of Enova Energy is presented in the MR. The provided Table is irrelevant with the section. - Section 1.6 shall indicate the project crediting period, specifying the day, month and year for	~~**CAR2**~~ **OK**

[1] MoV: DR document review, I interview, CC cross checking

Checklist Question		Reference	MoV[1]	Comments	Conclusion
				the start and end dates and the total number of years. - Section 1.8: the version of the applied methodology is not in line with the VCS PD - Section 3.1: the value applied refers to Annex 1 of MR - Section 3.3 does not include: Identification of company's internal organizational structure, responsibilities and competencies. Procedures for handling internal documentation, results of internal audits and resolutions following non-conformities. - Section 4.4. The realized figures shall be presented for only this monitoring period. Section 5: it is not clear if the provided information is under Annex 1 or section 5	
A.3	Does the MR comply with the template available (latest version)?	/02/	DR	The latest version of the monitoring report form has been used, which is 3.1. But see CAR 2, as the VCS-Monitoring Report has not been filled in line with the requirements.	~~**CAR 2**~~ **OK**
B	**Description of Project Activity**				
A.1	Title of the project activity, revision number and date of Monitoring Report	/02/	DR	The title of the project activity as per the registered PDD and per the monitoring plan is: Ceyhan 61.7 MW Hydropower Project. The monitoring report does not include date or version.	~~**CAR1**~~ **OK**
A.2	Is the actual implementation and operation of the proposed project activity in accordance with the project activity in the registered VCS-PD?	/02/	DR, I	From the on-site inspection of 09/12/2011, it is confirmed that the proposed project activity has been implemented and it is in operation in accordance with the project activity described in the registered PDD /01/. The turbines(3 X 7.963MW Pit Kaplan turbines for Oskan HEEP and 3 X	**OK**

Checklist Question		Reference	MoV[1]	Comments	Conclusion
				12.605MWPitr Kaplan turbines for Berkman HEPP)have been assessed by the audit team to confirm it´s capacity. The Ceyhan project includes Oşkan and Berkman diversion weirs and HEPPs which are run-of-river hydro electrical power plants with a total installed capacity of 61,704 MWe. To confirm the installed capacity, the nameplate capacity of all units have been assessed during site visit to confirm the total installed capacity and the compliance with the PDD:	
A.3	Methodology applied for the registered project activity	/02/, /06/	DR	The registered project activity applies the approved baseline and monitoring methodology ACM0002 version 12.1.0 of 26/11/2010; in addition it has been applied the methodological tool to calculate the emission factor for an electricity system, version 02.	**OK**
B	**Monitoring**				
B.1	**Monitoring plan**				
B.1	Is the actual implementation and operation of the proposed project activity in accordance with the project activity in the registered VCS-PD?	/02/, /06/, /18/	DR, I	The implementation and operation of the project activity complies with the description in the VCS PD. During site visit, the nameplate capacity of the turbines was reviewed to confirm the installed capacity, total capacity of the project is confirmed as 61.7 MW. The project is generating electricity which is supplied to the grid, confirmed by the connection overview provided to the verification team. As per the registered VCS-PD, the electricity supplied to the grid, the surface area of the reservoir, the livelihood of the poor, the environmental indicators during construction and during operation shall be monitored, which complies with the requirements of the methodology.	**OK**
B.2	In case of deviation between the registered project and the actual implementation/operation, do they comply with the requirements of the Project Standards?	/02/	DR, I	No deviations between the registered project and the real situation have been observed.	**OK**

Checklist Question		Reference	MoV[1]	Comments	Conclusion
B.3	For project activity that consist of more than one site: describe the status of the implementation and starting date of opearation of each site; For project activity with phased implementation: describe the progress of the proposed project activity achieved in each phase number; if the phased implementaion is delayed, described the reasons and the expected implenetation dates.	/01/,/02/, /18/	DR, I	The project consist in two power plant, Oşkan and Berkman diversion weirs and HEPPs., but with one connection point to the grid. As observed in the monitored electricity supplied to the grid, both power plants started operation at the same time. The electricity supplied to the grid during this first monitoring period is therefore generated by both power plants since commissioning date 01/06/2010. Evidence to confirm the commissioning date shall be provided to the DOE.	~~**CR 1**~~ **OK**
B.4	Methodology and methodological tool applied for the registered project activity	/01/,/02/	DR, I	The registered project activity applies the approved baseline and monitoring methodology ACM0002 version 12.1.0 of 26/11/2010; in addition it has been applied the methodological tool to calculate the emission factor for an electricity system, version 02.	**OK**
C Compliance of the monitoring activities with the registered monitoring plan / Compliance of the monitoring plan with the monitoring methodology and methodological tool					
C.1 Monitoring plan					
C.1.1	Does the monitoring plan included in the registered VCS project activity comply with the applied methodology?	/01/, /02/, /06/	DR	As per the registered VCS-PD, the electricity supplied to the grid, the surface area of the reservoir, the livelihood of the poor, the environmental indicators during construction and during operation shall be monitored, which complies with the requirements of the methodology. The parameter CAPpj shall be monitored as per the methodology, the parameter was not included in the VCS-PD neither in the monitoring report.	~~**CAR 7**~~ **OK**
C.1.2	Does the monitoring comply with the monitoring plan in the registered VCS-PD?	/01/ /02/, /06/	DR, I	The surface area shall be monitored yearly by a qualified institute as per the approved VCS-PD. The information on the performed monitoring is not included in the VCS monitoring report, but it was observed that the surface area is monitored internally,	~~**CAR4**~~ ~~**CR3**~~ **OK**

Checklist Question		Reference	MoV[1]	Comments	Conclusion
				which would be a deviation from the VCS-PD. Evidence shall be provided to demonstrate the electricity supplied to the grid, including the electricity invoices, declared in the VCS-PD as source of cross-check. During site visit, it was stated that no invoices are available, therefore this would represent a deviation from the monitoring plan and methodology and shall be described in the monitoring report.	
C.2	**Data and parameters fixed ex-ante or at renewal crediting period**				
C.2.1	Which parameters were available at validation and how were they verified?	/01/	DR	Fi, j, y NCVi, y EFCO2, i, y Installed Capacity EGy These are the parameters available at validation, required to define the grid emission factor which was fixed ex-ante.	**OK**
C.2.2	What default data were selected and applied?	/01/, /02/	DR	The grid emission factor (and the parameters required to calculate it) is the only parameter fixed at validation and used for emission reduction calculations. The ER calculations in form of an excel sheet to assess the calculation has not been provided to the DOE.	~~**CR2**~~ **OK**
C.3	**Data and parameters monitored ex-post**				
C.3.1	Which parameter have been monitored during the monitoring period?	/02/	DR, I	The parameters to monitor include: Electricity Supply; Surface area of full reservoir level, Number of temporary and permanent employees, Livelihood of the poor, Environmental Indicators (during construction), Environmental Indicators (during operation).	~~**CAR 3**~~ ~~**CAR 7**~~ ~~**CR 4**~~ **OK**

Checklist Question		Reference	MoV[1]	Comments	Conclusion
				The amount of electricity provided to the grid is wrongly reported (power and not electricity has been reported). The parameter CAPpj was not included as required by the methodology. Furthermore, the electricity supplied to the grid has been reported incorrect, as power is reported and not electricity. Furthermore, the source of the reported surface area shall be provided.	
C.3.2	Is the measurement equipment described? Is the accuracy of the measurement equipment addressed and deemed appropriate?	/1/	DR	The measurement equipment is not described in the monitoring report.	~~**CAR5**~~ **OK**
C.3.3	Is the measuring/reading/recording frequency adequate for all monitoring parameters? Is it in line with the registered monitoring plan?	/1/	DR	*See CAR 5.*	~~**CAR 5**~~ **OK**
C.4	**Calibration requirements**				
C.4.1	Are the requirements for maintenance and calibration of measurement equipment described and deemed appropriate?	/01/, /02/	DR, I	Information on the calibration requirements, equipment calibration and data of the equipment was not included in the monitoring report.	~~**CAR 5**~~ **OK**
C.4.2	Does the calibration cover the monitoring period?	/01/, /02/	DR, I	See CAR 5.	~~**CAR 5**~~ **OK**
C.4.3	Has the calibration frequency been respected?	/01/, /02/	DR, I	See C.4.2	~~**CAR 5**~~ **OK**
C.4.4	In case of delay, describe the applied maximum permissible error			N/A	**OK**
C.5	**Monitoring of the sustainable indicators**				
C.5.1	Is the monitoring of sustainable development indicators/ environmental impacts warranted by legislation in the host Country?	/02/	DR, I	Sustainable indicators have been monitored in line with the registered monitoring plan. Number of employees, livelihood of the poor and environmental indicators during construction and operation were	~~**CAR 5**~~ **OK**

Checklist Question		Reference	MoV[1]	Comments	Conclusion
				included. The information in the monitoring report is not complete on these parameters.	
C.6	**Management system and quality control**				
C.6.1	How has it been assessed that the monitoring arrangements described in the monitoring plan are feasible within the project design?	/02/	DR, I	The monitoring report is not complete, equipment information and values applied were not included in the document, assessment can be performed once the information is provided.	~~**CR 3**~~ ~~**CR 4**~~ ~~**CAR 5**~~ ~~**CAR 3**~~ **OK**
C.6.2	Are procedures identified for day-to-day record handling (including what records to keep, storage area of records and how to process performance documentation)? Will all monitored data required for verification and issuance be kept for two years after the end of the crediting period or the last issuance of CERs, for this project activity, whichever occurs later?	/02/	DR, I	See C.6.1.	~~**CR 3**~~ ~~**CR 4**~~ ~~**CAR 5**~~ ~~**CAR 3**~~ **OK**
C.6.3	Are the data management and quality assurance and quality control procedures sufficient to ensure that the emission reductions achieved by/resulting from the project can be reported ex post and verified?	/02/	DR, I	See C.6.1.	~~**CR 3**~~ ~~**CR 4**~~ ~~**CAR 5**~~ ~~**CAR 3**~~ **OK**
C.6.4	Are the responsabilities and authorities for monitoring and reporting in accordance with the responsabilities and authorities stated in the monitoring plan?	/02/	DR, I	See C.6.1.	~~**CR 3**~~ ~~**CR 4**~~ ~~**CAR 5**~~ ~~**CAR 3**~~ **OK**

Checklist Question		Reference	MoV[1]	Comments	Conclusion
C.6.5	Does data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	/02/	DR, I	ER calculation sheet was not provided.	~~**CR 2**~~
D.1	**Assessment of data and calculation of emission reductions/Accuracy of emision reduction calculations**				
D.1.2	How were the values in the monitoring report verified and cross-checked?	/02/	DR, I	Supporting information for the electricity supplied to the grid shall be provided to the DOE. Furthermore, it was discussed on-site that the monitoring period may change, in case it increases, evidence for all months including in the monitoring period shall be provided. Electricity supplied to the grid shall be cross-checked with invoices. Evidence was not provided to the DOE during site-visit. Furthermore, is not clear if the monitoring period includes the 01/09/2011, as is referred differently throughout the document.	~~**CR 3**~~ ~~**CR 5**~~ **OK**
D.1.3	If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?			*N/A*	**OK**
D.1.4	Emission reductions reported	/02/	DR	Emission reductions are reported, but ER calculations and the correct monitoring period were not provided to the DOE. Furthermore, commas and points were wrongly applied throughout the monitoring report to	~~**CR2**~~ ~~**CR3**~~ ~~**CR 5**~~

Checklist Question		Reference	MoV[1]	Comments	Conclusion
				report emission reduction calculations.	~~**CAR 6**~~ **OK**
D.1.5	Difference between the emission reductions estimated in the registered PDD and the emission reductions reported for the monitoring period.	/02/	DR	See comments in D.1.5.. ER calculation could not be assessed.	~~**CR2**~~ ~~**CR3**~~ ~~**CR 5**~~ **OK**

TABLE 2 RESOLUTION OF CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Verification conclusion
CAR 1 The date and version of the VCS monitoring report us missing in the document. Furthermore, the project ID reported in the VCS-Monitoring Report is not consistent with the information of the VCS webpage.	A.1.	Date, version and the project ID have been corrected and written on the cover page of MR.	The version and date are included in the MR version 2. CAR closed.
CAR 2 Other issues found in the Monitoring Report, not in line with the reporting requirements are: - As per the VCS MR template, all sections must be completed using Arial 10pt, black, regular (non-italic) font. The MR is not in line with this requirement. - Section 1.2 shall include whether the project is a grouped project. - Section 1.3 shall provide contact information and roles/responsibilities for the project proponent(s). The only address of Enova Energy is presented in the MR. The provided Table is irrelevant with the section. - Section 1.6 shall indicate the project crediting period, specifying the day, month and year for the start and end dates and the total number of years. - Section 1.8: the version of the applied methodology is not in line with the VCS PD	A.2. A.3.	- Font type and sizes have been corrected. - In section 1.2 it is mentioned that the project is not a grouped project. - In section 1.3 the contact information have been provided in detail including role/responsibility contact details etc. the table has been relevantly amended. - In section 1.6 the crediting period is indicated by giving the exact dates of start and finish (01/06/2010 – 31/05/2020) and the number of years is given as 10 years renewable twice. - The version of the applied methodology have been corrected to be in line with the VCS validated PD. - Value applied have been referred to the related Annex and in the	The MR has been corrected accordingly. CAR closed.

- Section 3.1: the value applied refers to Annex 1 of MR - Section 3.3 does not include: Identification of company's internal organizational structure, responsibilities and competencies. Procedures for handling internal documentation, results of internal audits and resolutions following non-conformities. Section 4.4. The realized figures shall be presented for only this monitoring period. - Section 5: it is not clear the provided information is under Annex 1 or section 5		given annex the table of the values are provided. - Section 3.3 now includes all the relevant details. - In section 4.4 the realized figures for the given monitoring period have been presented. - Enough space and wording is provided to prevent confusion. Now it is clear that the provided information is under Annex.	
CAR 3 The amount of electricity provided to the grid is wrongly reported (power and not electricity has been reported).	C.3.1. C.6.1. C.6.2. C.6.3. C.6.4.	The amount of electricity provided to the grid has been reported as MWh of electrical energy. This CAR was closed in previous table 2.	The MR has been corrected accordingly. CAR closed.
CAR 4 The surface area shall be monitored yearly by a qualified institute as per the approved VCS-PD. The information on the performed monitoring is not included in the VCS monitoring report.	C.1.2.	Surface area is measured by the siemens meters. The values have been obtained from the siemans meters are match with the validation report values. And can bee seen into the monitoring report section 3.2 2nd DOE request: The registered VCS-PD states that the surface area shall be monitored by a qualified institute. The current monitoring deviates from the monitoring plan, this should be included and described in the MR in the foreseen chapter.	The MR has been corrected accordingly. CAR closed.

		- As stated into the project details, cret elevation is 85,5m for the Oşkan and 75m for the Berkman. Operational reservuar water levels for these weirs are 83m and 72,5m. Surface areas based on the water levels are 1,621,425,95m2 for the Oşkan and 1,648,560,79m2 for the Berkman. Surface area is measured by the Siemens meters. And measured levels will be monitored. Regarding the Apj (surface area) data, the deviation has been explained in section 2.2 and this explanation has also been included in the parameter table.	
CAR 5 The tables of the monitoring parameters shall be filled completely. The help provided in the VCS MR form is not to be included in the document. The technical details and serial numbers of all electricity meters (4 as reported in the VCS-PD) are missing in the monitoring report.	C.3.2. C.3.3. C.4.1. C.4.2. C.4.3. C.5.1. C.6.1. C.6.2. C.6.3. C.6.4.	The tables of the monitoring parameters are completely filled. The hint wording has been removed. The technical details and serial numbers of 4 main meters and 4 back-up meters have been provided in section 3.2 first table	The MR has been corrected accordingly. CAR closed.
CAR 6	D.1.4.	Corrected in the MR, only in the Annex	The MR has been corrected accordingly.

Comas and points has been wrongly used to make decimals and tousends.		part some of the documents provided have been taken from excel sheets and since excel use point for thousand and comma for decimals.	CAR closed.
CAR 7 The applied methodology requires the monitoring of the parameter CAPpj yearly, the parameter is not included in the VCS PD or in the monitoring report. The monitoring report shall comply with the approved methodology.	C.1.1. C.3.1.	This CAR has been applied into the Monitoring Report. 2nd DOE request: No change has been observed in the revised MR. The paramtere shall be included to comply with the methodlogy and the deviation from the monitoring plan shall be explained in the foreseen chapter The parameter CAPpj has been included in the monitoring parameters in section 3.2. Also explained in the section 2.2 of the MR.	The MR has been corrected accordingly. CAR closed.
CR 1 Evidence to confirm the date of commissioning date has not been provided to the audit team.	B.3.	The evidence of the date of commissioning have been sent with our previous mail on 25/07/2012 , now we are re-sending again.	Evidence were provided. CR closed.
CR 2 The ER calculation sheet has not been provided to the DOE.	C.2.2. C.6.5.	It has been ready as excell file to submitt to DOE. 2nd DOE request: The excel sheet was not provided to the DOE in order to be assessed. Furthermore, in chapter 4.4, only the real reductions achieved during the presented monitoring period shall be included. The possible reductions in future years shall be deleted.	The excel sheet was provided. CR closed.

		Excell sheet is attached. And future years has been deleted in Chapter 4.4 .	
CR 3 Evidence shall be provided to demonstrate the electricity supplied to the grid, including the electricity invoices, declared in the VCS-PD as source of cross-check. Furthermore, it shall be confirmed if the monitoring period will change as discussed on-site, in which case evidence for the electricity supplied to the grid is required.	C.1.2. C.6.1. C.6.2. C.6.3. C.6.4. D.1.2. D.1.4. D.1.5.	Electricity supply to the grid is demonstrated by the PMUM datas. TEİAŞ meters have been seen during the onsite visits. The only grid is the national grid where the projects can supply the generated electricity. Invoices are not usefull to use for cross-check because they do not include electricity amounts. PMUM datas will be used for the cross check with the datas are followed and recorded by the Project Owner. 2nd DOE request: No evidence has been provided to the DOE to assess the value and the crosscheck proposed for the monitoring period. Evidence for the complete Monitoring period shall be provided In section 2.2 of the MR the deviation of this issue has been explained with reasons and the alternative crosscheck method has been explained. Since the invoices do not indicate the electricity traded but only the price we are left with only crosscheck possibility the PMUM web site which is the final data source and under government control. So PMUM is the most reliable and	Further information included in the MR. CR closed.

		suitable data source to crosscheck the electricity supplied to the grid.	
CR 4 Source of calculated surface area at full reservoir level of the project activity shall be provided	C.3.1. C.6.1. C.6.2. C.6.3. C.6.4.	Surface are has been calculated and will be calculated by two Siemens meters.Measured water levels by two Siemens meters are; Berkman: 72,55m – 72,40-45m Oşkan: 83,05m – 82,95m Calculated values during verification are above and in complience with the validation report. 2nd DOE request: As the value is monitored by measurement equipment, the technical information of the equipment shall be included in the MR. Furthermore, the registered VCS-PD states that the surface area shall be monitored by a qualified institute. The current monitoring deviates from the monitoring plan, this should be included inthe MR in the foreseen chapter. Details regarding to the Siemens meters are attached. - As stated into the project details, cret elevation is 85,5m for the Oşkan and 75m for the Berkman. Operational reservuar water levels for these weirs are 83m and 72,5m. Surface areas based on	Further information included in the MR. CR closed.

		the water levels are 1,621,425,95m2 for the Oşkan and 1,648,560,79m2 for the Berkman. Surface area is measured by the Siemens meters. And measured levels will be monitored. The source of the calculated surface area have been provided in the annex III of MR.	
CR 5 Is not clear if the monitoring period includes the 01/09/2011, as is referred differently throughout the document.	D.1.2. D.1.4. D.1.5.	Monitoring period is: 01-06-2010 to 31-05-2012 (Both days included). This amendment was requested by the project proponent and the subject was discussed with RINA and after the approval of request the monitoring period has been extended.	The monitoring report has been updated to 01/06/2010-31/05/2012. CR Closed.