



VALIDATION REPORT ICF INTERNATIONAL

VALIDATION OF THE “REFURBISHMENT OF ENGURI HYDRO POWER PLANT, GEORGIA”

REPORT NO. UKRAINE-VAL/0283/2011

REVISION NO. 05

BUREAU VERITAS CERTIFICATION

Great Guildford House, 30 Great Guildford Street
SE1 0ES - London – United Kingdom

VALIDATION REPORT

BUREAU
VERITAS

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Summary:

Bureau Veritas Certification has made the validation of the "Refurbishment of Enguri Hydro Power Plant, Georgia" project of ICF International located in Gali Region of Abkhazia, Georgia on the basis of UNFCCC criteria for the CDM, 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 validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, 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 validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" version 12.1.0 and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.: UKRAINE-val/0283/2011	Subject Group: CDM
Project title: "Refurbishment of Enguri Hydro Power Plant, Georgia"	
Work carried out by: Ivan Sokolov – Team Leader, Climate Change Lead Verifier Leonid Yaskin – Team Member, Climate Change Lead Verifier Kateryna Zinevych – Team Member, Climate Change Verifier Denis Pishchalov – Financial Specialist	
Internal Technical Review carried out by: Ashok Mammen – Internal Technical Reviewer	
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Work approved by:

Flavio Gomes – Operational Manager

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1 INTRODUCTION

ICF International has commissioned Bureau Veritas Certification to validate its CDM project "Refurbishment of Enguri Hydro Power Plant, Georgia" (hereafter called "the project") at Gali Region of Abkhazia, Georgia.

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

1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

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.

1.2 Scope

The validation 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 Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The validation 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 design.

1.3 Validation team

The validation team consists of the following personnel:

FUNCTION	NAME	CODE HOLDER*	TASK PERFORMED
Lead Verifier	Ivan Sokolov	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input type="checkbox"/> RI
Verifier	Leonid Yaskin	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI
Verifier	Kateryna Zinevych	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input checked="" type="checkbox"/> RI
Financial	Denis Pishchalov	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI

**Specialist****Internal**

Ashok Mammen

Technical**Reviewer (ITR)**☒ Yes ☐ No ☐ DR ☐ SV ☒ RI

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

2 METHODOLOGY

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

In order to ensure transparency, a validation 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 validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

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

2.1 Review of Documents

The Project Design Document (PDD) submitted by ICF Consulting on 24th of May 2011 and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for Completing the Project Design Document (CDM-PDD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, ICF International revised the PDD and resubmitted it on 23rd of June 2011, 30th of June 2011 and 20th of July 2011. After issuing the ITR conclusion PDD developer has issued new version of PDD as of 05 dated 01/09/2011.

Request for CDM project activity review was raised 3rd of January 2012 by the CDM Executive Board Members. In order to provide clear and transparent explanation to the question raised ICF Consulting has issued new version 7 of the PDD as of 31st January 2012.



The validation findings presented in this report relate to the project as described in the PDD versions 1, 2, 3, 4, 5, 6 and 7.

2.2 Follow-up Interviews

On 26.05.2011 - 27.05.2011 Bureau Veritas Certification performed site visit interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Engurhesi Limited, ICF International were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Engurhesi Limited	<ul style="list-style-type: none"> ➤ Project history ➤ Project approach ➤ Project boundary ➤ Implementation schedule ➤ Organizational structure ➤ Responsibilities and authorities ➤ Training of personnel ➤ Quality management procedures and technology ➤ Rehabilitation/Implementation of equipment (records) ➤ Metering equipment control ➤ Metering record keeping system, database ➤ Technical documentation ➤ Monitoring plan and procedures ➤ Permits and licenses ➤ Local stakeholder's response
CONSULTANT: ICF International	<ul style="list-style-type: none"> ➤ Baseline methodology ➤ Monitoring plan ➤ Additionality proofs ➤ Prior consideration ➤ Calculation of emission reductions

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation 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 project design.

Corrective Action Requests (CAR) is issued, where:



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

The validation 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 validation report underwent an Internal Technical Review (ITR) before requesting registration of the project activity.

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

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

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

The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM 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 validation exercise, review of sample documents.

The reviewer compiles clarification questions for the Lead Verifier and Validation 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 validation report is accepted for further processing such as uploading on the UNFCCC webpage.

3 VALIDATION CONCLUSIONS

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

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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 38 Corrective Action Requests (CARs) and 7 Clarification Requests (CLs).

The CARs and CLs 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 correspond to the VVM paragraph.

3.1 Approval (49-50)

A letter of approval has been received from the Host Party (Georgia) by the Minister of Environment Protection and Natural Resources of Georgia #08-01-12/4149 dated 28th of December 2007.

Bureau Veritas Certification received this letter from ICF International and does not doubt its authenticity since it has all the signs of the authenticity (signature, reference number, contact data etc), which are easy to trace.

The title and contents of the letter of approval refer to the precise proposed CDM project activity title in the PDD being submitted for registration.

Bureau Veritas Certification considers the letters are in accordance with paragraphs 45 - 48 of the VVM.

3.2 Participation (54)

The participation for each project participant has been approved by a Party of the Kyoto Protocol.



The validation team concluded this by seeing the authentic Letter of Approval by Georgian DNA (#08-01-12/4149 dated 28th of December 2007).

3.3 Project design document (57)

The validation team hereby confirms that the PDD complies with the latest forms of the guidance documents for completion of PDD.

3.4 Changes in the Project Activity

During the site visit following changes were observed in project as compared to details mentioned in webhosted PDD:

1. The CDM project activity includes the corresponding rehabilitation activities include improvements to the dam structure and reduction in leakages from the high pressure pipeline.
2. Repair of the water gates at the dam site.
3. Completion of the grouting work at the dam galleries and pressure tunnel.

During the site visit it was revealed that all the abovementioned actions described in the PDD version 1 dated 09/05/2011 were not parts of the CDM project implementation but of the investment project conducted separately. It was evidenced on-site and with the help of supporting documentation (see Reference), which helped to describe project boundaries.

The final PDD ver 4 has following changes as compared to PDD ver 1 that was webhosted.

3.5 Project description (64)

The process undertaken to validate the accuracy and completeness of the project description included on site checking (see References for the documents collected and pictures taken) and supporting documentation review.

The CDM project activity includes the full-scale rehabilitation of four units of the Enguri HPP (Unit #1, #2, #4, #5). The proposed CDM project activity will increase the overall output from the Enguri HPP, thereby allowing Enguri HPP to produce more electricity without the need to construct an additional power plant. The CDM project will reduce the need to use electricity based on fossil fuel combustion. The overall reduction of GHG during the crediting period is estimated at an average of 730,478 tonnes of CO₂ equivalent (CO_{2eq}) per year or 7,304,785 tonnes of CO_{2eq} over a ten year crediting period (1 October 2011 to 30 September 2021), by offsetting more carbon-intensive electricity production from the Georgian electric grid.



The DOE hereby confirms that the project description in PDD version 4 dated 20/08/2011 is accurate and complete in all respects and that there are no changes to the project activity/design or boundary as compared to the webhosted PDD.

3.6 Baseline and monitoring methodology

3.6.1 General requirement (76-77)

The steps taken to assess the relevant information contained in the PDD against each applicability condition are described below. Project applies approved consolidated methodology ACM0002 (Version 12.1.0). According to this methodology following applicability conditions and their assessment was provided:

Applicability condition (a) "This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s)": The refurbishment of Enguri hydro power plant is a renewable power generation project activity connected to the Georgian power grid. The project activity belongs to type (c), i.e. it involves a retrofit of the existing plant. During site visit to Enguri HPP validation team observed already rehabilitated Unit#2 and Unit#4 as long as the documents, which prove commissioning dates for the mentioned Units and states that only rehabilitation took place (Operational Acceptance Certificate dated 03/03/2008 related to Unit #2; Operational Acceptance Certificate dated 15/08/2009 related to Unit #4). Validation team states that applicability condition (a) is met.

Applicability condition (b) "The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit": The refurbishment of Enguri hydro power plant is retrofit of hydro power plant with an accumulation reservoir, which was observed on site by validation team. Validation team states that applicability condition (b) is met.

Applicability condition (c) "In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 11 to calculate the parameter $EG_{PJ,y}$): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity": The refurbishment of Enguri hydro power plant is at the units that have been in operation since 1978-1980. No capacity expansion or retrofit of the plant has been undertaken between the start of the historical reference period and the implementation of the project activity, which was seen on site by the validation team and can be proved by relevant documentation (see References). Validation team states that applicability condition (c) is met.



Applicability condition (d) “In case of hydro power plants, one of the following conditions must apply: - The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; - The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m²; - The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m²”: The project includes an existing reservoir whose volume will not be increased during or after the project implementation. This information is stated in the “*Enguri Dam and Hydroelectric Power station, Georgia. Feasibility study for rehabilitation. Part 1. Technical and economic studies*”. Thus, the condition no.1 is applicable in the case of Enguri project activity, i.e. the project activity is implemented in an existing reservoir, with no change in the volume of reservoir, which was seen on site by the validation team and can be proved by relevant documentation (see References). Validation team states that applicability condition (d) is met.

Applicability condition (e) “This methodology is not applicable to project activities that involve switching from fossil fuels to renewable energy at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site”: The refurbishment of Enguri hydro power plant does not involve switching from fossil fuels to renewable energy at the site, which was seen on site by the validation team and can be proved by relevant documentation (see References). Validation team states that applicability condition (e) is met.

Applicability condition (f) “Biomass fired power plants”: The refurbishment of Enguri hydro power plant does not involve biomass fired power plants which was seen on site by the validation team and can be proved by relevant documentation (see References). Validation team states that applicability condition (f) is met.

Applicability condition (g) “Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m²”: The refurbishment of Enguri hydro power plant does not involve any increase in existing reservoir, which was seen on site by the validation team and can be proved by relevant documentation (see References). Validation team states that applicability condition (g) is met.

Applicability condition (h) “The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available”: The boundaries for the Georgian grid system are clearly identified. As per the Georgian DNA, the whole Georgian electricity grid has been considered to calculate the emission factor for Georgia. Hence, in this project, the Georgian electricity grid is defined as the project electricity system.

The DOE hereby confirms that the selected baseline and monitoring methodology ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” version 12.1.0, “Combined Tool to identify the baseline



scenario and demonstrate additionality" version 03.0.0, "Tool for the demonstration and assessment of additionality" version 05.2, "Tool to calculate the emission factor of an electricity system" version 02.2.0 is previously approved by the CDM Executive Board, and is applicable to the project activity, which, complies with all the applicability conditions therein.

The DOE hereby confirms that, as a result of the implementation of the proposed CDM project activity, there are no greenhouse gas emissions occurring within the proposed CDM project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.

3.6.2 Project boundary (80)

The DOE validated the project boundary by:

a) During the document review following documentation was assessed in order to distinguish the project boundary:

- Contract agreement dated 25/11/2002 on Enguri HPP Rehabilitation (between Engurhesi Ltd. And Voith Siemens Hydro Kraftwerkstechnik GmbH & Co.KG.
- Letter #28/151-9 dated 15/06/2009 concerning technical information on Hydro Power Plants of "ENERGO-PRO Georgia" JSC
- Protocol CW04-09/2008, Engurhesi Rehabilitation Project, Georgia (unit #4)
- Protocol CW47-49, Engurhesi Rehabilitation Project, Georgia (unit #3)
- Expected Cost of Rehabilitation of the Technology (for Unit #1 and Unit #5) as on Dec 2005
- Protocol CW39, Engurhesi Rehabilitation Project, Georgia (Status of Rehabilitation Works), dated 27/09/2005
- Operational Acceptance Certificate dated 03/03/2008 related to Unit #2
- Operational Acceptance Certificate dated 15/08/2009 related to Unit #4

b) Observations made during the site visit at "Engurhesi" LTD revealed rehabilitated Unit #2 and Unit #4 (please see References for the list of pictures taken, pictures are also available upon request). The visit to the dam revealed that no reservoir expansion was provided.

Based on the above assessment, the DOE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

3.6.3 Baseline identification (87-88)

The steps taken to assess the requirement given in paragraph 81 and 82 of the VVM are described below:

PDD identifies the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity. The continuation of current situation was chosen as a baseline scenario.

According to the ACM 0002 ver.12.1.0. "Combined tool to identify the baseline scenario and demonstrate additionality" is applied for identification of the baseline scenario.



Baseline is identified in accordance to this Tool with the deviations described in respective CARs (CAR34) and explained by the PP's answers.

Though ACM 0002 ver.12.1.0. defines that there should be 3 options for choosing the baseline scenario from the project developer's (Engurhesi) perspective there are only two practical options. Either to implement the rehabilitation project or not to implement the rehabilitation project.

As such, routine maintenance work was always being conducted at the project site to make sure that the equipment continues to keep performing (as of 2005, the plant was expected to have a lifetime till 2012, or 17-18 years). However, the units were both de-rated (operating at lower than optimal/maximum possible capacity) and were also operating inefficiently (i.e. for the same water flow through the turbines would generate less power than what would be possible after the rehabilitation works). Undertaking partial rehabilitation work was not a possibility as the generation units are sequential and for the intended objective to be achieved all the sequence of equipment (turbine, generator) need to be rehabilitated along with the auxiliaries.

In order to validate the adequate identification of the baseline scenario accept for the detailed review of the "Combined tool to identify the baseline scenario and demonstrate additionality" the following documentation was checked:

- Letter #28/151-9 dated 15/06/2009 concerning technical information on Hydro Power Plants of "ENERGO-PRO Georgia" JSC;
- Letter #158/211-a dated 23/06/2001 concerning units of the Enguri Hydro Power Plant, Georgia (information on hours of operation and hours of being in reserve mode since initial commissioning in 1978-1980);
- Charts on rehabilitated and non-rehabilitated units operation (Enguri historical operations, historical hydro rehab data);
- Information dated 12/06/2009 on expected lifetime of Units ##1-5, issued by EDF;
- Power Generation by Customers, Revenue billed and Actual Collection for FY 2003, 2004, 2005 (Engurhesi Ltd);
- Investigating Country Risk and its Relationship to Sovereign Ratings in Emerging Europe, dated 5/06/2007, issued by Standard & Poor's;
- Tariff for 2003;
- Tariff for 2006;
- Baseline emission factor for the electricity system of Georgia (Updated version recommended for the CDM projects), issued by Clean Development Mechanism Designated National Authority of the Ministry of Environment Protection and Natural Resources of Georgia, 2008;
- Letter #65-255 dated 17/06/2005 of Director of Engurhesi CAP(BL);
- Data on active power generation by units for 2005 and units in operation, 2001 (units #1-5).

For these reasons, undertaking only partial rehabilitation work or any other alternative (P3) is not a possibility for the project proponent and the two options that are (Option P1



and P2) have already been considered as part of the Baseline Identification process, (in Step 1) on page 13 of the CDM PDD version 4.

Based on the above assessment, the DOE hereby confirms that:

- (a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
- (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
- (e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.6.4 Algorithms and/or formulae used to determine emission reductions (92-93)

The steps taken to assess the requirement outlined in paragraph 89 the VVM are described below:

The steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring.

In order to validate the values used in the project emissions and baseline emissions the following documentation was checked:

- Letter #28/151-9 dated 15/06/2009 concerning technical information on Hydro Power Plants of “ENERGO-PRO Georgia” JSC;
- Letter #158/211-a dated 23/06/2001 concerning units of the Enguri Hydro Power Plant, Georgia (information on hours of operation and hours of being in reserve mode since initial commissioning in 1978-1980);
- Charts on rehabilitated and non-rehabilitated units operation (Enguri historical operations, historical hydro rehab data);
- Baseline emission factor for the electricity system of Georgia (Updated version recommended for the CDM projects), issued by Clean Development Mechanism Designated National Authority of the Ministry of Environment Protection and Natural Resources of Georgia, 2008;
- Letter #65-255 dated 17/06/2005 of Director of Engurhesi CAP(BL);
- Data on active power generation by units for 2005 and units in operation, 2001 (units #1-5).

Calculation of Baseline Emission Factor for the Electricity System of Georgia was performed by Georgian DNA, which is Ministry of Environment Protection and Natural Resources of Georgia, according to the Tool to calculate the emission factor of an electricity system version 02.2.0. Algorithm of calculation is properly described in



Annex 2 of the PDD version 06 dated 21st of September 2011. In order to validate the emission factor following documentation was checked:

- “Baseline Emission Factor for the Electricity System of Georgia” by Ministry of Environment Protection and Natural Resources of Georgia dated 2008
- Tool to calculate the emission factor of an electricity system version 02.2.0.
- Statistical data by Ministry of Energy and Natural Resources of Georgia which is published on the website <http://www.minenergy.gov.ge/index.php>
- Letter #28/151-9 dated 15/06/2009 concerning technical information on Hydro Power Plants of “ENERGO-PRO Georgia” JSC

Based on the above assessment, the DOE hereby confirms that:

- (a) All assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- (b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;
- (c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
- (d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- (e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

The data used for those calculations was cross-checked with the data provided by the plant (plant technical reports, please see References).

3.7 Additionality of a project activity (97)

The steps taken and sources of information used, to cross-check the information contained in the PDD on this matter are described below:

As per the selected methodology ACM0002, the project proponent is required to establish that the GHG reductions due to the project activity are additional to those that would have occurred in the absence of the CDM project. To do so, the project proponent has to use the latest version of the “Tool for the demonstration and assessment of additionality”.

The following documentation was provided to the validation team in order to assess additionality:

- Power Generation by Customers, Revenue billed and Actual Collection for FY 2003, 2004, 2005 (Engurhesi Ltd)
- Investigating Country Risk and its Relationship to Sovereign Ratings in Emerging Europe, dated 5/06/2007, issued by Standard & Poor’s
- Expected Cost of Rehabilitation of the Technology (for Unit #1 and Unit #5) as on Dec 2005
- Implementing Business Environment Reforms: Experience of Georgia, dated 19/06/2007
- Inflation report for 1 Quarter 2006, issued by National Bank of Georgia
- Bulletin of Monetary and Banking Statistics #4 (106), January-December, 2007, issued by the National Bank of Georgia



- Enguri Hydropower Rehabilitation Project (Financed by the European Bank for Reconstruction and Development), 18th Quarterly Report, January-March 2004, issued by Engurhesi Ltd.
- Enguri Hydropower Rehabilitation Project (Financed by the European Bank for Reconstruction and Development), 19th and 20th Quarterly Reports, April-September 2004, issued by Engurhesi Ltd.
- Enguri Hydropower Rehabilitation Project (Financed by the European Bank for Reconstruction and Development), 21st Quarterly Report, October-December 2004, issued by Engurhesi Ltd.
- Final report on Feasibility Study of Rehabilitation. Part II: Environmental Health and Safety Audit, February 1998

The assessment of the documents revealed their authenticity, reliability and traceability.

3.7.1 Prior consideration of the clean development mechanism (104)

According to the EB62, Annex 13, Para 6a: “The project participant must indicate awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project. Evidence to support this would include, inter alia, minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a CDM project activity”.

Prior consideration of CDM and the rationale behind the choice of a start date for the Enguri project is linked to the fact that the Enguri project falls under the EB41, Para 67 (in particular the text in bold): “there may be circumstances in which an investment decision is taken and the project activity implementation is subsequently ceased. **If such project activities are restarted due to consideration of the benefits of the CDM** the cessation of project implementation must be demonstrated by means of credible evidence such as cancellation of contracts or revocation of government permits”.

As such, the request for registration of the Enguri CDM project is made not on the basis of CDM being considered prior to obtaining initial financing in December 2001 (or the signing of the contract with the contractor in November 2002) but on the basis of CDM being considered as a crucial factor to secure additional financing to restart the project (with an extended scope) after work on the ground ceased on 12 December 2005 (project implementation resumed on 13 January 2006).

In order to provide clear explanation of the order of events, which lead to rehabilitation program start (note: **not** CDM project activity), rehabilitation work cease in the period of November 2005 – January 2006 and its restart due to considering CDM benefits it is essential to present the following timeline:

1. **21 December 2001:** Engurhesi signed a loan agreement with the European Bank for Reconstruction and Development (EBRD), amounting to USD 14.8 million, to



"rebuild" Unit 3 (which had been completely dismantled and was out of operation since 1993), replace outdated auxiliary and control equipment (transformers, etc.), and perform general maintenance only on two more units. The EBRD loan was to be disbursed in USD and at that time (with exchange rate: 1\$=1.116€), the loan amount was expected to be sufficient to cover all project costs of the three units (Unit 3, Unit 1 and Unit 2). It is important to note that the loan was provided as a lump sum and that the loan agreement did not specify the detailed scope of works and how funds would be allocated.

2. **25 November 2002:** Engurhesi Ltd. signed a contract with Voith Siemens (key contractor) to undertake works on Unit 3, Unit 2, and Unit 1. This is the **starting date** of the rehabilitation programme (not the CDM project).
3. **2003:** works started on Unit 3.
4. **2004-2005:** the project experienced financial difficulties (as proved by the Quarterly Reports, please see References). In addition, funds available through the 2001 EBRD loan reduced considerably because of the devaluation of the US Dollar against the Euro. From 2001 to 2006 the Dollar lost more than 30% of its value compared to the Euro (as described in the PDD, page 20 and 21).). The impact of devaluation was aggravated by the need for additional funding to cover a revised scope of rehabilitation works at the remaining units, which was not initially envisaged, but was identified during works on Unit 3 (Please see References).
5. **01 November 2005:** Voith Siemens sent a letter to Engurhesi (project company) entitled "Notification of Suspension due to late Payments from the Employer". This letter notified Engurhesi of the possible suspension of the contract if the outstanding amount was not covered within 28 days (Please see References).
6. **03 November 2005:** work was suspended due to the late payment issue. Also, in September and November, strikes took place to protest against the non-payment of salaries (strike of "Sakenergoremonti" Ltd. workers in September and in November) (Please see References).
7. **19 November 2005:** The employer (Engurhesi Ltd.) planned for the works on Unit 2 to start on 14 December 2005. However, the contractor rejected this date because delays had occurred due to the non-payment of salaries. The contractor decided that a new start date would be discussed at the beginning of 2006 if financial issues had been resolved (Please see References).
8. **07 December 2005:** Voith Siemens issued a Preliminary Notice on Termination of Contract due to non-payment by the Employer within the allowed timeframe (Please see References).
9. **11 December 2005:** the VSPO (contractor's) car was attacked on the way back from Zugdidi to Saberio (inside Abkhazia). During that incident the security chief Mr. Shish lost his life and several persons in the car were injured. Consequently, on **12 December 2005** works on the ground stopped completely and all Voith Siemens/VSPO personnel left the Enguri site to evacuate to Tbilisi on 12 December 2005 and went back to Germany on 14 December 2005 (Please see References).

Note: December 12, 2005 is the date when works on the ground ceased. After this date, nothing was happening on site. As such, this date – backed up by

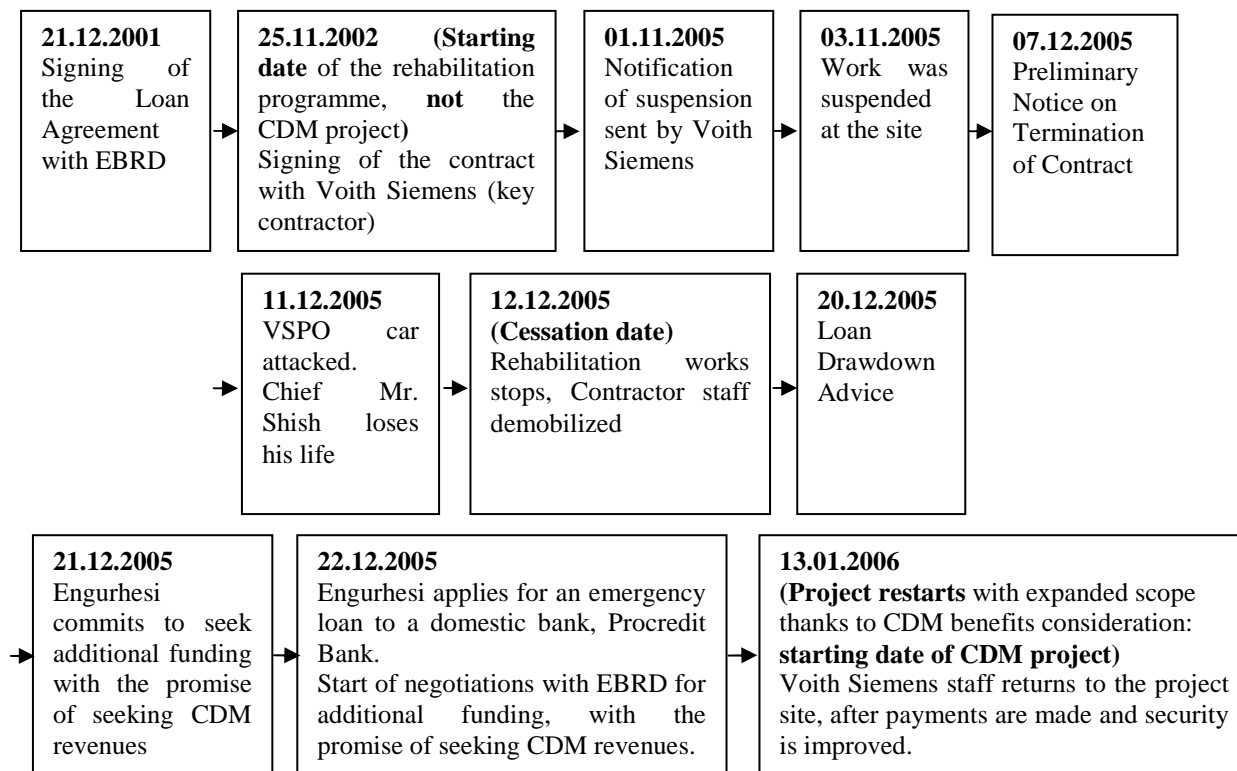


referenced documents – is treated as the **cessation date** of rehabilitation works (as required by EB41, Para 67).

10. **20 December 2005:** Engurhesi drew from the remaining funds under the 2001 EBRD loan to cover the outstanding payments to complete Unit 3 and initiate works at Unit 2. Yet, this amount was not enough to complete Unit 2, and undertake refurbishment works on remaining units.
11. **21 December 2005:** during the Meeting of the Supervisory Board of “Engurhesi” Ltd, financial issues were discussed and it was agreed that *“additional funding must be requested to complete the rehabilitation program”*. CDM revenues were considered as a way to *“support mitigation of financial deficit for Unit #2 and for remaining units”*. At the Board’s Meeting, the project company committed to starting negotiations with EBRD for additional funding, with the explicit intention to seek project registration under the CDM (Please see References).
Note: From this point onwards, with the decision taken to pursue CDM finance, steps were undertaken to secure additional funding to complete the rehabilitation programme. It should be noted that before that date, no works had started on any of the units covered by the proposed CDM project. This date was originally chosen as the starting date of the CDM project. However, following the requests for review, the date on which work restarted on site (13 January 2006) was chosen instead.
12. **22 December 2005:** the project company applied to a domestic bank, ProCredit Bank, for a small value emergency loan to cover the immediate financing gap ((i) ongoing operation costs and (ii) ongoing rehabilitation works) (Please see References). This money was intended as a bridging loan (at high interest rate) whilst more substantial EBRD funds and carbon finance were being negotiated.
13. **21 December 2005 – 29 December 2006:** Engurhesi negotiated with the EBRD for additional funding, which led to the signing of the Second Novation Loan on 29 December 2006. In the meantime, EBRD contracted ICF to provide CDM assistance to Engurhesi for the Enguri project (thus, proving the importance of CDM revenues in discussions with EBRD). In the signed Second Novation Loan, paragraph (e) in Section 3.01 requires Engurhesi to: *“undertake and/or procure that all necessary steps are taken to enable the Project to qualify for the Clean Development Mechanism and ensure that the funds raised through the CDM are used in priority for meeting the Borrower’s and the Novation Project Company’s obligations regarding the Project”*.
14. In the meantime, on **13 January 2006**, Voith Siemens staff returned to the project site and restarted works, thanks to both the settlement of outstanding payments and the implementation of security measures (Please see References for the Letter from Voith Siemens).
Note: This date is taken as the new **CDM start date** in compliance with EB 41, Paragraph 67, since the project activity restarted after the firm commitment of the project proponent to seek CDM finance.

In addition, the letter by Voith Siemens (Please see References) confirms that the works at the site stopped at this period because of financial and security issues. It also demonstrates that rehabilitation resumed only after both issues had been addressed.

For a clearer view of the event order please find the Figure below, which represents the timeline of works cessation – restart.



All the above-presented information together with supporting documentation demonstrates that works on site were fully stopped from 12 December 2005, because of financial and security issues; and that work resumed only after both issues were addressed. Funding constraints for rehabilitating units covered by the CDM project scope were overcome thanks to Engurhesi's commitment to seek CDM benefits in order to repay its loan obligations to EBRD.

The project work was ceased at Enguri rehabilitation project owing to severe financial problems faced by the project activity for over 24 months and due to additional security threats at the project site.

The project had experienced financial difficulties, as noted in the Quarterly Reports prepared by Engurhesi since 2004 and over 2005. In addition, funds available through the 2001 EBRD loan reduced considerably because of the devaluation of the US Dollar against the Euro (the loan was denominated in US Dollar, whilst the payments for the supply contracts were denominated in Euro). The severe US Dollar devaluation between the loan agreement date and the supplier invoice payment dates meant there were insufficient loan funds to complete the work. As demonstrated in the timeline presented above, the financial troubles of Engurhesi, aggravated by the security issues, led to the cessation of works on site on 12 December 2005.



Once Engurhesi started securing the necessary funding (as mentioned in the Board's Meeting of 21 December 2005) and implementing security measures, the rehabilitation works on Unit 2 could start.

The start-up date for the rehabilitation of Unit 2 was validated by checking the Letter from Thomas Poniwass from Voith Siemens to Malkhaz Tskvitishvili (Manager of the Enguri HPP Rehabilitation project) dated 10/01/2006 (Please see References): *"With reference to the security assessment took place from January 4th to 6th, 2006, we just got the results from our security department.*

Resulting of this internal report we herewith inform you, that we got the permission to restart the project activities at the site.

...Our staff will arrive as follows (arrival in Tbilisi):

(...) Arrival to site: 13.01.2006"

And Operational Acceptance Certificate dated 03/03/2008 related to Unit 2 (i.e. end date, please see References).

"Pursuant to GC 25.3 (Operational Acceptance) of the General Conditions of the Contract entered into between yourselves and the Employer dated 25th of November 2002 relating to the Rehabilitation Unit #3, 1 and 2 and Auxiliaries systems installed at Enguri HPP, we hereby notify you that the functional guarantees of the following parts of the Facilities were satisfactorily attained on the date specified below.

Description of the Facilities or part thereof:

*1. Description of the Facilities: **Unit 2***

- *Replacement of generator consisting of:*
 - *Stator core and stator winding*
 - *Stator bar cooling system (pure water system)*
 - *Re-insulation of the rotor poles*
 - *Air coolers*
- *Voltage regulator and excitation system*
- *Low voltage equipment and accessories*
- *Unit control and protection system*
- *Rehabilitation of speed governor*
- *Rehabilitation of spherical valve operating system*
- *Fire fighting system*
- *Rehabilitation of braking/jacking system*

*Date of operational acceptance: **March 3rd, 2008.***

The evidences for prior consideration of the CDM that were assessed are listed below:

- 18th Quarterly Project Report
- 19th and 20th Quarterly Project Report
- 21st Quarterly Project Report (Extract on Status of Compliance of the Novation Agreements)



- Minutes of Meeting # 4 of the Board of Directors of “Engurhesi” Ltd.
- 22nd Quarterly Project Report
- 23rd Quarterly project Report
- 24th Quarterly Project Report
- Status Meet Protocol – 2005-09-27; Internal meeting within Voith Siemens (VSH)
- Notification of Suspension due to late Payments from the Employer. The document is from VSH) to Engurhesi.
- Status Meet Protocol – 18.11.2005
- Preliminary Notice on Termination of Contract due to non-payment by the Employer
- Email Communication: ENG; Security measures to be implemented; VSHK/PIU-0449
- Loan Drawdown Advice (from EBRD to Engurhesi) – The payments are made directly to VSH (Disbursement Application # 801)
- Loan Drawdown Advice (from EBRD to Engurhesi) – The payments are made directly to VSH (Disbursement Application # 802)
- Loan Drawdown Advice (from EBRD to Engurhesi) – The payments are made directly to VSH
- Payment of Grant (Disbursement Application # 207)
- Contract Engurhesi Ltd – Voith Siemens (For Cost Comparison)
- Collections 2003 – 2005
- Minutes of Meeting # 19 of the Board of Directors of “Engurhesi” Ltd.
- Engurhesi Rehabilitation Project, Georgia Status-Protocol
- Letter to ProCredit Bank of 22 Dec 2005
- Email Communication: ENG; RE: Enguri: follow-up mobilizing of Contractors Staff; VSHK/PIU-0457
- ICF Contract with EBRD to undertake CDM for Enguri rehabilitation project
- Second Novation Loan being sanctioned to Engurhesi
- Status Protocol. CW 47-29 dated 21.12.2005
- Status Protocol. CW 47-29 dated 21.12.2005

The evidences for continuing and real actions taken to secure CDM status for the project in parallel with its implementation that were assessed are listed below:

- Letter from Voith Siemens dated 06.12.2010 on the staff returning to the project implementation site on 13.01.2006
- Carbon Mandate Letter (CML) signed between Engurhesi and ICF
- Email of Engurhesi to DNA
- Georgian Letter of Approval
- Authorization letters of governmental bodies to Engurhesi
- Signed Emission Reduction Purchase Agreement
- Executing the legal documents, required by the ERPA
- Selected emails on document collection in support of PDD
- ICF Contract with EBRD to assist validation of the Enguri rehabilitation project
- Validation contract signed



Based on the above assessment, the DOE hereby confirms that the proposed CDM project activity complies with the requirements of the latest version of the Guidance on prior consideration of CDM.

3.7.1.1 Historical information on project timeline

The planning and implementation status of the proposed project activity is presented below:

- Unit#2. The rehabilitation work was started in January 2006 and was expected to be concluded in 13 months, i.e. by February 2007. However, the rehabilitation work was completed in March 2008.
- Unit#4. The rehabilitation works began in January 2008 and was completed in August 2009.
- Unit#1. The rehabilitation works are expected to begin in July 2010 and expected to be completed by March 2012.
- Unit#5. The rehabilitation works are expected to begin after rehabilitation work of Unit # 1 is completed. The rehabilitation work is expected to start in April 2012 and expected to be completed by March 2013.

The initial rehabilitation plan envisaged the complete refurbishment of Unit 3 (not part of the CDM project scope) followed by works on Unit 2 and Unit 1. The 2001 EBRD loan ended up covering only the completion of works on Unit 3. Facing financial difficulties, Engurhesi was not able to carry on with the rehabilitation programme. Using CDM as an additional guarantee, Engurhesi managed to secure additional funding to cover the rehabilitation works on Units 2 and 1, and undertake the refurbishment of Unit 4 and 5.

However, due to technical reasons, Unit 1 was later replaced by Unit 4 in the schedule via amendment agreement signed with the contractor in 2007. The Amendment states: "during the execution of rehabilitation works the Employer requested the contractor, due to unforeseen design deviations (turbine head cover) within Employers scope of supply and works, to rehabilitate Unit #4 instead of Unit #1".

3.7.2 Identification of alternatives (107)

The DOE considers the listed alternatives to be credible and complete.

The alternatives to the project scenario where defined as:

- P1: The project activity implemented but not as a CDM project;
- P2: The continuation of the current situation, i.e. to use all power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance.

3.7.3 Investment analysis (114)

No investment analysis was provided for this project.

3.7.4 Barrier analysis (118)

Amongst barrier types listed in the Tool (investment, technological, barriers due to prevailing practice, and other barriers), investment barriers have been identified as



dominant in preventing the implementation of the proposed project activity. Particularly, the following investment barriers:

- ***Lack of Private Capital***

In order to validate the barrier of lack of private capital the following documents were analyzed:

- The credit rating of Georgia provided, for example, by Standard & Poor's (<http://www.standardandpoors.com/prot/ratings/entity-ratings/en/eu/?entityID=278577§orCode=SOV>
<http://www.standardandpoors.com/prot/ratings/entity-ratings/en/eu/?entityID=279239§orCode=FI>)
- Investigating Country Risk and its Relationship to Sovereign Ratings in Emerging Europe, dated 5/06/2007, issued by Standard & Poor's
- National Bank of Georgia, Bulletin of Monetary and Banking Statistics (January-December, 2006) (<http://www.nbg.gov.ge/uploads/publications/bulletinstatistics/nbg7.6moneratylfiscalreview06eng.pdf>)
- Bulletin of Monetary and Banking Statistics #4 (106), January-December, 2007, issued by the National Bank of Georgia
- Expected Cost of Rehabilitation of the Technology (for Unit #1 and Unit #5) as on Dec 2005
- Implementing Business Environment Reforms: Experience of Georgia, dated 19/06/2007
- Inflation report for 1 Quarter 2006, issued by National Bank of Georgia
- Second Novation Loan Agreement (Enguri Hydro Power Plant Rehabilitation Project), dated 29/12/2006 (Execution copy, operation #734).

EBRD was able to lend to Engurhesi only due to the promise that CER revenue will be used to repay its loan (which are independent of the collection ratios), which can be proved by the quotation from the Second Novation Loan Agreement Article III – EXECUTION OF THE PROJECT, Section 3.01. Other Affirmative Project Covenants, chapter (e), which says that Borrower (Engurhesi) shall “undertake and/or procure that all necessary steps are taken to enable the Project to qualify for the Clean development Mechanism and ensure that the funds raised through the CDM are used in priority for meeting the Borrower's and the Novation Project Company's obligations regarding the Project;” (please refer to References).

- ***Risks due to low collection rates***

In order to validate the barrier of risk due to low collection rates the following documents were analyzed:

- Sum of all total billed and total non collected energy payments from chart on website <http://www.minenergy.gov.ge> in the section Energy Statistics & Forecasts » Electricity » Combined Collections and Commercial Losses
- Power Generation by Customers, Revenue billed and Actual Collection for FY 2003, 2004, 2005 (Engurhesi Ltd)

- ***Risks due to devaluation of \$ vis-à-vis €***



In order to validate the barrier of exchange rate risks the following documents were analyzed:

- Contract with Voith-Siemens dated 25th of November 2002
- Invoice from Voith Siemens “Effective date, Start of Unit 3 – 20.08.2003”
- www.oanda.com/fxhistory for the US dollar/Euro ration in 2000, 2002 and 2006
- Minutes of Meeting # 4 of the Board of Directors of “Engurhesi” Ltd.
- Loan Drawdown Advice (from EBRD to Engurhesi) – The payments are made directly to VSH (Disbursement Application # 801)
- Loan Drawdown Advice (from EBRD to Engurhesi) – The payments are made directly to VSH (Disbursement Application # 802)
- Loan Drawdown Advice (from EBRD to Engurhesi) – The payments are made directly to VSH
- Payment of Grant (Disbursement Application # 207)
- Minutes of Meeting # 19 of the Board of Directors of “Engurhesi” Ltd.
- Emergency Loan from a Domestic Bank in Georgia (Procredit Bank)
- Second Novation Loan being sanctioned to Engurhesi

• ***Risks due to level of tariff***

In order to validate the barrier of risk due to level of tariff the following documents were analyzed:

- Documented in Minutes of Meeting of the Supervisory Board of Engurhesi Ltd, 25 December 2005
- “Collection of Bills 2003-2005” by Engurhesi Ltd.
- Status of Covenant Compliance of the Novation Agreements (October-December 2004)
- Historic rate:
<http://www.geres.ge/currency/rates.html?lang=en&d=27&m=12&y=2004&go.x=13&go.y=5>
- Rates as of 31 Dec of a given year (2003-2005). Source:
<http://www.geres.ge/currency/rates.html?lang=en&d=31&m=12&y=2003&go.x=7&go.y=8>

The alternative P2 is the only alternative that is not prevented by any barrier, and this alternative is not the proposed project activity undertaken without being registered as a CDM project activity – hence alternative P2 is the baseline option.

The DOE hereby confirms that the barrier analysis performed is credible.

3.7.5 Common practice analysis (121)

The geographical scope for assessing the rehabilitation activity at hydro power plants has been restricted to Georgia only, as (A) there is sufficient information regarding operating history of hydro power plants in Georgia and (B) different neighboring countries have very different access to energy resources (e.g. both Azerbaijan and Russia are rich in oil and gas) and that would define the state/ national priority for undertaking hydro rehabilitation activity in neighboring countries differently, and finally



(C) achieving access to information regarding rehabilitation of hydro power plants in the neighboring countries would have been extremely difficult and might not have been possible.

In general, rehabilitation of hydro power plants to increase the efficiency and capacity of the hydro plants is not at all practiced in Georgia. Rehabilitation of hydro power plants is done only in case a unit had to be shut down due to any electrical and/or mechanical fault.

Rehabilitation of hydro power plant of such magnitude – leading to an overall increase in the capacity of the project by >200MW and at units with a unit nameplate capacity of 260MW is not a common practice at all.

The current operating age of all the Enguri Hydro Power Plant's Units is far below the operating life of other hydro units in Georgia where rehabilitation work was conducted because operating history of Units of Enguri plant (ranging from 97,266 to 131,221), far below the chosen $DATE_{Baseline\ Retrofit} = 220,150$ hours. Thus, the rehabilitation work at hydro power plant's units, where the units are already operational, is not a common practice. And generally the hydro power plant units in Georgia have went on to operate for at least as long as 220,150 hours before needing any rehabilitation, which is almost two times the current operational lifetime of Enguri units (at the time of CDM decision making).

In order to validate the common practice analysis the following documentation was assessed:

- Generators, cooling system, temperature measurement, Unit #1 before and after modifications, issued by the Ministry of Power Economy and Electrification of the USSR
- Report dated 31/10/1989 on scientific and research work, issued by the Ministry of Power Economy and Electrification of the USSR
- Letter #158/211-a dated 23/06/2001 concerning units of the Enguri Hydro Power Plant, Georgia (information on hours of operation and hours of being in reserve mode since initial commissioning in 1978-1980)
- Charts on rehabilitated and non-rehabilitated units operation (Enguri historical operations, historical hydro rehab data)
- Chart dated 27/05/2011 on hours of operation of each unit since start of operation in 1978-80 until 2005 (Units 1,2,4,5)

The DOE hereby confirms that the proposed CDM project activity is not common practice.

3.8 Monitoring plan (124)

The DOE hereby confirms that the monitoring plan complies with the requirements of the methodology.

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the project design are described below.



As stated by the latest version of the monitoring methodology “ACM0002 Consolidated monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources”, the monitoring of the following is required: “Electricity generation from the proposed project activity”. The other data listed in the methodology should not be monitored for this CDM project activity since the ex-ante method was applied for the calculation of the build margin and the operating margin and since this project is not a new hydro electric power project.

This monitoring plan is developed in a project specific manner specifically addressing the unique features of the Enguri HPP and the specifics of electricity metering and meters verification currently in practice in Georgia.

The spatial extent of the monitoring plan will be the physical project site of the CDM project activity that corresponds to the Unit # 2, Unit #4, Unit # 1 and Unit # 5.

Validation site visit has reflected that monitoring of the electricity supplied annually to the grid by Enguri HPP (the only parameter that is supposed to be monitored in accordance to the monitoring plan developed in compliance with the methodology ACM0002 ver.12.1.0.) is performed in the following way:

1. Measurements are taken every eight hours (three times a day after each shift, which is 8 hours long) by a representative of Engurhesi Ltd from an electricity meter fitted to the unit and reported as well to the Commercial Operator of the National Electricity Network. The meters, which have the accuracy class as 0,2S, are continuous recording electricity transfer as the electricity is exported.
2. The data from the energy meter at each of the units are fixed in the information certificate as well as in the logbook by the operator.
3. Any electricity imported in the period is subtracted from the amount of electricity produced by the rehabilitated units and measured by respective meters to give the net electricity exported to the grid.

All the abovementioned was validated on site and with the help of document assessment of the following:

- Enguri Generation Data for 2005
- Data on active power generation by units for 2005 and units in operation, 2001 (units #1-5)
- Yearly report for 2008, “Engurhesi” Ltd
- Information certificate on electricity production dated 16.05.2011, shift I
- Log book on electricity production started 04.04.2011
- Log book on electricity production started 21.10.2010
- Log book on accidents registration for 20.01.2009-25.10.09

Each of the units has their own individual meters. Meters are installed at the Control Panels of each generator of the Enguri HPP. Each of these meters (at the end of Unit) reading is used to get the net power generation by each of these units. Also, each of these meters are also routinely calibrated and sealed (performed by the State Electric System and the Commercial Operator). To ensure that metering equipment cannot be tampered with it is initially certified by the State Standardization Organization and is



checked on a regular basis by three parties: State Electric System, Commercial Operator of the National Electricity Network and Engurhesi Ltd. The meters are stamped by all parties and they cannot be opened or manipulated by any single party.

The DOE hereby confirms that the project participants are able to implement the monitoring plan.

3.9 Sustainable development (127)

The host Party's DNA confirmed the contribution of the project to the sustainable development of the host Party. Refer to item 3.1 of this report.

3.10 Local stakeholder consultation (130)

The steps taken to assess the adequacy of the local stakeholder consultation are described below.

The Stakeholder Consultation was held on Monday 12 March 2007, at 14.00 at the Meeting Hall "Salkhino", Metekhi Sheraton Palace Hotel, 20 Telavi street, Tbilisi, 0103, Georgia. The meeting was conducted both in Georgian and English and simultaneous translation was provided. All attendees received a copy of the draft Project Design Document (version of January 2007 in English) and a questionnaire (in Georgian).

In order to assess the adequacy of the local stakeholder consultation the validation team reviewed the following documentation:

- Stakeholder Consultation Enguri Hydro Power Plant Rehabilitation Clean Development Mechanism Project, 12/03/2007
- Summary of the questionnaires, Enguri HPP CDM PSF, March 2007 (translation)
- List of participants of stakeholder consultation for the Enguri Hydro Power Plant Clean Development Mechanism Project (12/03/2007)
- Invitation letter dated 20/02/2007 on inviting to the stakeholder consultation for the Enguri Hydro Power Plant Clean Development Mechanism Project

The DOE hereby confirms that the process of local stakeholder consultation is observed to be adequate.

3.11 Environmental impacts (133)

Letter #05/02.16/595 dated 13/04/2007 on environmental permit, issued by the Department for Licenses and Permits of the Ministry of Environmental Protection and Natural Resources of Georgia was presented as evidence of the fact that CDM project does not need EIA according to the national legislation. The letter states that the Enguri rehabilitation project does not require issuance of environmental permit for the project. The letter has been signed by "Giorgi Tskhakaia", who is the Head of Department at "The Department of Licenses and Permits" at the "Ministry of Environmental Protection and Natural Resources of Georgia".



4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD using methodology ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” was webhosted on the UNFCCC for global stakeholders comments as per CDM requirements. The project was webhosted from 31/05/2011 to 29/06/2011.

Comments were received from 5 persons. The project participant provided response to these comments. Validation team took due account of these comments and the respective responses while making the validation opinion. The details of the comments received, responses by the project participant/s and the explanation of how due account of these is taken by the validation team are attached as Appendix B with this validation report.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the “Refurbishment of Enguri Hydro Power Plant, Georgia” Project in Georgia. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

Project participant used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides analysis technological and other barriers to determine that the project activity itself is not the baseline scenario.

By increasing the operating capacity of the Enguri Hydro Power Plant (HPP) by a total of 210 MW by undertaking rehabilitation of the four units, the project is likely to result in reductions of GHG emissions partially. An analysis of technological barriers demonstrates that the proposed project activity 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. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation (version 6) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country



criteria. Bureau Veritas Certification thus requests registration of 'project title' as CDM project activity.

Annual average amount over the crediting period of estimated reductions is 730,478 tonnes of CO₂eq.

6 REFERENCES

Category 1 Documents:

Documents provided by ICF International and "Engurhesi" Ltd that relate directly to the GHG components of the project.

- /1/ PDD ""Refurbishment of Enguri Hydro Power Plant, Georgia" version 1 dated 09/05/2011
- /2/ PDD ""Refurbishment of Enguri Hydro Power Plant, Georgia" version 2 dated 23/06/2011
- /3/ PDD ""Refurbishment of Enguri Hydro Power Plant, Georgia" version 3 dated 30/06/2011
- /4/ PDD ""Refurbishment of Enguri Hydro Power Plant, Georgia" version 4 dated 20/07/2011
- /5/ PDD ""Refurbishment of Enguri Hydro Power Plant, Georgia" version 5 dated 01/09/2011
- /6/ PDD ""Refurbishment of Enguri Hydro Power Plant, Georgia" version 6 dated 21/09/2011
- /7/ ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" version 12.1.0
- /8/ "Combined Tool to identify the baseline scenario and demonstrate additionality" version 03.0.0
- /9/ "Tool for the demonstration and assessment of additionality" version 05.2
- /10/ "Tool to calculate the emission factor of an electricity system" version 02.2.0

Category 2 Documents:

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

- /1/ Generators, cooling system, temperature measurement, Unit #1 before and after modifications, issued by the Ministry of Power Economy and Electrification of the USSR
- /2/ Report dated 31/10/1989 on scientific and research work, issued by the Ministry of Power Economy and Electrification of the USSR
- /3/ Contract agreement dated 25/11/2002 on Enguri HPP Rehabilitation (between Engurhesi Ltd. And Voith Siemens Hydro Kraftwerkstechnik GmbH &.Co.KG.
- /4/ Letter #28/151-9 dated 15/06/2009 concerning technical information on Hydro Power Plants of "ENERGO-PRO Georgia" JSC
- /5/ Letter #158/211-a dated 23/06/2001 concerning units of the Enguri Hydro Power Plant, Georgia (information on hours of operation and hours of being in reserve mode since initial commissioning in 1978-1980)



- /6/ Charts on rehabilitated and non-rehabilitated units operation (Enguri historical operations, historical hydro rehab data)
- /7/ Protocol CW04-09/2008, Engurhesi Rehabilitation Project, Georgia (unit #4)
- /8/ Power Generation by Customers, Revenue billed and Actual Collection for FY 2003, 2004, 2005 (Engurhesi Ltd)
- /9/ Investigating Country Risk and its Relationship to Sovereign Ratings in Emerging Europe, dated 5/06/2007, issued by Standard & Poor's
- /10/ Tariff for 2003
- /11/ Tariff for 2006
- /12/ Protocol CW47-49, Engurhesi Rehabilitation Project, Georgia (unit #3)
- /13/ Baseline emission factor for the electricity system of Georgia (Updated version recommended for the CDM projects), issued by Clean Development Mechanism Designated National Authority of the Ministry of Environment Protection and Natural Resources of Georgia, 2008
- /14/ Enguri Generation Data for 2005
- /15/ Letter #65-255 dated 17/06/2005 of Director of Engurhesi CAP(BL)
- /16/ Data on active power generation by units for 2005 and units in operation, 2001 (units #1-5)
- /17/ Calibration certificate on Unit #1 (power meter EA0205RTL, serial #1086183)
- /18/ Calibration certificate on Unit #4 (power meter EA0205RTL, serial #1086184)
- /19/ Calibration certificate on Unit #5 (power meter EA0205RTL, serial #1086185)
- /20/ Calibration certificate dated 30/11/2007 on Unit #2 (power meter EA0205RL-4, serial #01079247)
- /21/ Act #0288 dated 30/11/2007 on electricity metering validation and checking of measuring circles and operation norms (generator #2 of Enguri HPP, power meter type EA02RL-4, manufacturing #01079247)
- /22/ Invitation letter dated 20/02/2007 on inviting to the stakeholder consultation for the Enguri Hydro Power Plant Clean Development Mechanism Project
- /23/ List of participants of stakeholder consultation for the Enguri Hydro Power Plant Clean Development Mechanism Project (12/03/2007)
- /24/ Summary of the questionnaires, Enguri HPP CDM PSF, March 2007 (translation)
- /25/ Summary of the questionnaires, Enguri HPP CDM PSF, March 2007 (translation)
- /26/ Stakeholder Consultation Enguri Hydro Power Plant Rehabilitation Clean Development Mechanism Project, 12/03/2007
- /27/ Expected Cost of Rehabilitation of the Technology (for Unit #1 and Unit #5) as on Dec 2005
- /28/ Implementing Business Environment Reforms: Experience of Georgia, dated 19/06/2007
- /29/ Inflation report for 1 Quarter 2006, issued by National Bank of Georgia
- /30/
- /31/ Appendix 5 to the Contract agreement dated 25/11/2002 on Enguri HPP Rehabilitation, List of Subcontractors
- /32/
- /33/ Information dated 12/06/2009 on expected lifetime of Units ##1-5, issued by EDF,



- /34/ Letter #05/02.16/595 dated 13/04/2007 on environmental permit, issued by the Department for Licenses and Permits of the Ministry of Environmental Protection and Natural Resources of Georgia
- /35/ Letter of commitment #175/211-a dated 14/07/2011 from Engurhesi Ltd
- /36/ Bulletin of Monetary and Banking Statistics #4 (106), January-December, 2007, issued by the National Bank of Georgia
- /37/ Enguri Hydropower Rehabilitation Project (Financed by the European Bank for Reconstruction and Development), 18th Quarterly Report, January-March 2004, issued by Engurhesi Ltd.
- /38/ Enguri Hydropower Rehabilitation Project (Financed by the European Bank for Reconstruction and Development), 19th and 20th Quarterly Reports, April-September 2004, issued by Engurhesi Ltd.
- /39/ Enguri Hydropower Rehabilitation Project (Financed by the European Bank for Reconstruction and Development), 21st Quarterly Report, October-December 2004, issued by Engurhesi Ltd.
- /40/ Minutes of Meeting #4 of the Board of Engurhesi Ltd., dated 17/12/2004
- /41/ Enguri Hydropower Rehabilitation Project (Financed by the European Bank for Reconstruction and Development), 22nd Quarterly Report, January-March 2005, issued by Engurhesi Ltd.
- /42/ Enguri Hydropower Rehabilitation Project (Financed by the European Bank for Reconstruction and Development), 23nd Quarterly Report, April-June 2005, issued by Engurhesi Ltd.
- /43/ Enguri Hydropower Rehabilitation Project (Financed by the European Bank for Reconstruction and Development), 24th Quarterly Report, July-September 2005, issued by Engurhesi Ltd.
- /44/ Protocol CW39, Engurhesi Rehabilitation Project, Georgia (Status of Rehabilitation Works), dated 27/09/2005
- /45/ Notification dated 01/11/2005 of Suspension due to late Payments from the Employer (Engurhesi)
- /46/ Protocol CW46, Engurhesi Rehabilitation Project, Georgia (Status of Rehabilitation Works), dated 19/11/2005 (Preliminary Notice of Suspension of Start of Unit 2, Status of Rehabilitation Works on Unit 3)
- /47/ Preliminary Notice dated 07/12/2005 on Termination of Contract due to non-payment by the Employer (Engurhesi)
- /48/ Letter dated 19/12/2005 on security measures
- /49/ Loan Drawdown Advice dated 16/12/2005, issued by European Bank for Reconstruction and Development
- /50/ Application for direct payment drawdown dated 15/12/2005
- /51/ Minutes of Meeting #19 of the Supervisory Board of Engurhesi Ltd., dated 21/12/2005
- /52/ Financing through Procredit Bank 22/12/2005, (#8-01/97)
- /53/ Letter dated 10/01/2006 on follow-up mobilizing of Contractors staff
- /54/ Second Novation Loan Agreement (Enguri Hydro Power Plant Rehabilitation Project), dated 29/12/2006 (Execution copy, operation #734)
- /55/ Call-off notice under framework agreement: FC286/ETCF-2005-04-06F, dated 12/09/2006
- /56/ Enguri HPP Rehabilitation Project, Environmental and Workers Health and



- Safety Report for the period ended 31/12/2006
- /57/ Electrical Diagram (units ##1-3)
 - /58/ Final report on Feasibility Study of Rehabilitation. Part II: Environmental Health and Safety Audit, February 1998
 - /59/ Chart dated 27/05/2011 on hours of operation of each unit since start of operation in 1978-80 until 2005 (Units 1,2,4,5)
 - /60/ Letter #05-255 of Director of Engurhesi CAP(BL) dated 17/06/2005
 - /61/ Letter of Approval #08-01-12/4119 dated 28.12.2007 for the project "Refurbishment of Enguri Hydro Power Plant, Georgia"
 - /62/ Operational Acceptance Certificate dated 03/03/2008 related to Unit #2
 - /63/ Operational Acceptance Certificate dated 15/08/2009 related to Unit #4
 - /64/ Single Line Diagram
 - /65/ Photo – Unit #2
 - /66/ Photo – Unit control board 3UCP-GH 001
 - /67/ Photo – Unit #3, which is not included in the project boundary
 - /68/ Photo – Unit #4
 - /69/ Photo – Unit #1 under the rehabilitation
 - /70/ Photo – Unit #4 spherical valve electrical diagram
 - /71/ Photo – Unit control board 4-UCP-GH 001
 - /72/ Photo – Unit #4 Single Line Diagram
 - /73/ Photo – Unit #4 Electrical Flow chart
 - /74/ Photo – Unit #4
 - /75/ Photo – Relay control board
 - /76/ Photo – Unit #5
 - /77/ Photo – 4AH-GS007 control board
 - /78/ Photo – 4-EXC-GH-001, 4-EXC-GH-002, 4-EXC-GH-003, 4-EXC-GH-004 control board
 - /79/ Photo – Junction box for aux. control 4SPG-GH 003
 - /80/ Photo – Junction box for aux. control 2SPG-GH 003
 - /81/ Station unit construction sectional drawing, form 28
 - /82/ Unit #5 nomenclature repair
 - /83/ Unit #1 operational regime logbook
 - /84/ Unit #2 operational regime logbook
 - /85/ Unit #4 operational regime logbook
 - /86/ Unit #5 operational regime logbook
 - /87/ Yearly report for 2008, "Engurhesi" Ltd
 - /88/ Information certificate on electricity production dated 16.05.2011, shift I
 - /89/ Log book on electricity production started 04.04.2011
 - /90/ Log book on electricity production started 21.10.2010
 - /91/ Log book on accidents registration for 20.01.2009-25.10.09
 - /92/ Letter from Voith Siemens dated 06.12.2010
 - /93/ Status Protocol. CW 47-29 dated 21.12.2005
 - /94/ Status Protocol. CW 47-29 dated 21.12.2005
 - /95/ Letter from Voith Siemens dated 06.12.2010 on the staff returning to the project implementation site on 13.01.2006
 - /96/ Contract with Voith-Siemens dated 25th of November 2002



- /97/ Invoice from Voith Siemens “Effective date, Start of Unit 3 – 20.08.2003”
- /98/ “Collection of Bills 2003-2005” by Engurhesi Ltd.
- /99/ Status of Covenant Compliance of the Novation Agreements (October-December 2004)



Persons interviewed:

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

- /1/ Malkhaz Tskvitishvili – Project Manager, Enguri HPP Rehabilitation
- /2/ Levan Mebonia – Chairman of the Board of Engurhesi Ltd
- /3/ Jeiran Aronia – Manager of the purchase department of Engurhesi Ltd
- /4/ Gia Khubua – Technical director of Engurhesi Ltd
- /5/ Kunal Sharma –Project consultant ICF International

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7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Ivan G. Sokolov, Dr. Sci. (biology, microbiology)

Climate Change Lead Verifier, Bureau Veritas Certification Holding SAS
Local Climate Change Product Manager for Ukraine

Acting CEO Bureau Veritas Ukraine

He has over 25 years of experience in Research Institute in the field of biochemistry, biotechnology, and microbiology. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered), Quality Management System (IRCA registered), Occupational Health and Safety Management System, and Food Safety Management System. He performed over 140 audits since 1999. Also he is Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and Lead Tutor of the IRCA registered ISO 9000 QMS Lead Auditor Training Course. He is Lead Tutor of the Clean Development Mechanism /Joint Implementation Lead Verifier Training Course and he was involved in the determination/verification over 60 JI/CDM projects.

Mr. Leonid Yaskin, PhD (thermal engineering)

Bureau Veritas Certification Rus General Director, Climate Change Local Manager, Lead Auditor, IRCA Lead Tutor, Climate change Lead Verifier,

He has over 30 years of experience in heat and power R&D, engineering, and management, environmental science and investment analysis of projects. He worked in Krzhizhanovsky Power Engineering Institute, All-Russian Teploelectroproject Institute, JSC Energoperspektiva. He worked for 8 years on behalf of European Commission as a monitor of Technical Assistance Projects. He is a Lead auditor of Bureau Veritas Certification for Quality Management Systems (IRCA registered), Environmental Management System (IRCA registered), Occupational Health and Safety Management System (IRCA registered). He performed over 250 audits since 2002. Also he is a Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and a Lead Tutor of the IRCA registered OHSAS 18001 Lead Auditor Training Course. He is an Assuror of Social Reports. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and was/is involved in the determination of over 50 JI projects.

Kateryna Zinevych, M.Sci. (environmental science)

Verifier

**Bureau Veritas Ukraine Health, Safety and Environment Project Manager**

Kateryna Zinevych has graduated from National University of Kyiv-Mohyla Academy with the Master Degree in Environmental Science. She has experience at working in a professional position (analytics) involving the exercise of judgment, problem solving and communication with other professional and managerial personnel as well as customers and other interested parties at analytical centre “Dergzovnishinform” and “Bureau Veritas Ukraine” LLC. She has successfully completed IRCA registered Lead Auditor Training Course for Environment Management Systems and Quality Management Systems. She has successfully completed Climate Change Verifier Training Course and she participated as verifier in the determination/verification of 26 JI projects.

Denis Pishchalov**Financial Specialist**

Bureau Veritas Ukraine Specialist in economics

Master of foreign trade, he has more than five year of experience in foreign trade and procurement. In particular one year as foreign trade manager in the Engineering Corporation (manufacturer and contractor in the municipal sector) and one year in the NIKO publishing house, one year as sales manager in the ITALCOM srl. In addition Denis has spent four years working as procurement specialist in Ukrainian Energy Service Company and two years as chief product manager in the Altset JSC. At the moment Denis is deputy director for finance and economy in the SUD of UTEM JSC.

Ashok Mammen, PhD (Oils & Lubricants)

Bureau Veritas Certification Internal Technical Reviewer

Over 20 years of experience in chemical and petrochemical field. Dr. Mammen is a lead auditor for environment, safety and quality management systems and a lead verifier and trainer for GHG projects. He has been involved in the validation and verification processes of more than 100 CDM/JI and other GHG projects.



VALIDATION PROTOCOL

Table 1 Validation requirements based on the Clean Development Mechanism Validation and Verification Manual (Version 01.2) and methodology ACM0002 (Version 12.1.0) – “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
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**BUREAU
VERITAS**

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			COUNTRY A (Georgia)	COUNTRY B (insert the country name)		
1. a. Have all Parties involved approved the project activity?	VVM	44	Georgia has approved the project activity by issuance the Letter of Approval.	No other country is indicated in the PDD version 1	OK	OK
b. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participatn or directly from the DNA)	VVM	45	Georgia is indicated as a Host Party and has issued the Letter of Approval for the project "Refurbishment of Enguri Hydro Power Plant, Georgia"#08-01-12/4149 date 28 th of December 2007. (LoA was presented to the validation team by PP)	See above.	OK	OK
c. Does the letter of approval from DNA of each Party involved:	VVM	45			OK	OK
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	Yes, Georgia is is a Party of the Kyoto Protocol	-	OK	OK
confirm that participation is voluntary?	VVM	45.b	Yes, participation is voluntary	-	OK	OK
iii. confirm that, in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	VVM	45.c	Yes, since Georgia is a host Party the proposed CDM project activity contributes to the sustainable development of the	-	OK	OK

VALIDATION REPORT



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			country		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iv. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration?	VVM	45.d	Yes, LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration.	OK	OK
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	Yes, LoA issued by the Minister of Environment Protection and Natural Resources of Georgia.	OK	OK
e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under validation?	VVM	47	Yes, the letter of approval has been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under validation	OK	OK
f. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	No, there is no doubt with respect to the authenticity of the letter of approval	OK	OK
g. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	n/a	OK	OK
2. Participation			PP1 (Engurhesi Ltd)	PP2 (insert PP2 name)	
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Yes, project participant from the host Party is listed in a consistent manner.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
b. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	Yes, the participation of the project participants in the project activity has been approved by a Party to the Kyoto Protocol	OK	OK
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes, the project participant is listed in tabular form in section A.3 of the PDD	OK	OK
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	Yes, the information in section A.3 is consistent with the contact details provided in annex 1 of the PDD	OK	OK
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	Georgia is indicated as a Host Party and has issued the Letter of Approval for the project "Refurbishment of Enguri Hydro Power Plant, Georgia" #08-01-12/4149 date 28th of December 2007 (LoA was presented to the validation team by PP).	OK	OK
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	No, there are no entities other than those approved as project participants included in these sections of the PDD	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
g. Has the approval of participation issued from the relevant DNA?	VVM	53	Yes, the letter of approval has been issued by the relevant designated national authority (DNA) and is valid for the CDM project activity under validation		
h. Is there doubt with respect to (g) above?	VVM	53	No, there is no doubt with respect to above	OK	OK
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed CDM project participant?	VVM	53	n/a	OK	OK
3. Project design document					
a. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website?	VVM	55	No, the PDD used as a basis for validation is not prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website. CAR 01. The latest version of CDM PDD form available at UNFCCC website is 03, while the PDD developer uses version 03.1. Please correct.	CAR 01	OK
b. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Yes, the PDD is in accordance with the applicable CDM requirements for completing the PDD.	OK	OK
c. In CDM-PDD section A.1 are the following provided?	EB 41	Ann 12	-	OK	OK
i. Title of project	EB 41	Ann 12	"Refurbishment of Enguri Hydro Power Plant, Georgia"	OK	OK
ii. Current version number and date of document	EB 41	Ann 12	Version 1 of the document Version Date: 9/05/2011 CAR 02. Please correct the date format.	CAR 02	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
d. In CDM-PDD section A.2 are following provided (max. one page)?	EB 41	Ann 12	-		
i. A brief description of the project activity covering purpose which includes the scenario existing prior to the start of project, present scenario and baseline scenario	EB 41	Ann 12	Yes, brief description of the project activity covering purpose which includes the scenario existing prior to the start of project, project scenario and baseline scenario is presented in the PDD version 01 section A.2.	OK	OK
ii. Explanation on how the GHG emission reductions are effected	EB 41	Ann 12	Yes, explanation on how the GHG emission reductions are effected is presented in the PDD version 01 section A.2.	OK	OK
iii. The PP's views on the contribution of project activity to sustainable development	EB 41	Ann 12	Yes, the PP's views on the contribution of project activity to sustainable development is presented in the PDD version 01 section A.2. CL 01. Clarify in a more transparent way how economic effect on the region is achieved. CL 02. Please clarify how new employment for locals is created since the construction works are performed by European employees? CL 03. Please clarify in what more efficient way water resources are going to be used if the water reservoir is not going to be increased.	CL 01, 02, 03	OK
iv. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No, there are no changes/modifications compared to the webhosted PDD since this is the version that was published.	OK	OK
e. In CDM-PDD section A.3 are following provided in the tabular format?	EB 41	Ann 12	-	OK	OK
List of project participants and parties	EB 41	Ann 12	Yes, list of project participants and parties is presented in the PDD version 01 section A.3.	OK	OK
Identification of Host Party			Yes, Georgia is indicated as a host Party	OK	OK
iii. Indication whether the Party wishes to be considered as project participant	EB 41	Ann 12	Georgia does not wish to be considered as project participant.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
f. In CDM-PDD section A.4.1 are following provided?	EB 41	Ann 12	-		
i. Technical description, location, host party(ies) and address as required	EB 41	Ann 12	Enguri Hydro Power Plant is located in the Gali Region of Abkhazia, near to the north-east coast of the Black Sea.	OK	OK
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 41	Ann 12	Yes, detailed physical location with unique identification of the project activity is presented in the PDD version 01 section A.4.1.4	OK	OK
iii. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No, there are no changes/modifications compared to the webhosted PDD since this is the version that was published.	OK	OK
g. In CDM-PDD section A.4.2 is the list of categories of project activities provided?	EB 41	Ann 12	This CDM project correspond to a project within the Sectoral Scope Number 1: Energy Industries (renewable -/ non-renewable sources).	OK	OK
h. In CDM-PDD section A.4.3 are following provided?	EB 41	Ann 12	-	OK	OK
i. A description of how environmentally safe and sound technology, and know-how, is transferred to the Host Party(ies)	EB 41	Ann 12	The proposed project activity is a rehabilitation project. By rehabilitation the overall output from each of the units of Enguri HPP has been increased. The project activity does not lead to any increase in the overall reservoir capacity. The project will substitute the power plants on the margin of the electricity system in Georgia. Thus, this is an environmentally safe and sound technology. CAR 03. Please provide information on how know-how technology is transferred to the Host Party (if any).	CAR 03	OK
ii. Explanation of purpose of project activity with scenario existing prior to the start of project, scope or present activities and the baseline	EB 41	Ann 12	Yes, explanation of purpose of project activity with scenario existing prior to the start of project, scope or present activities and the baseline scenario is	CAR 04, 05, 06	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
scenario			presented in the PDD version 01 section A.4.3. CAR 04. Please provide the calculation file for DATE _{BaselineRetrofit} . CAR 05. The document (SD #21) that proves project works restart states that rehabilitation work at unit#2 started in January 2006 while PDD states they started in February of the same year. Please correct. CAR 06. Please provide evidence of the unit#4 rehabilitation works start in January 2008.		
iii. List and arrangement of the main manufacturing/production technologies, systems and equipments involved	EB 41	Ann 12	CAR 07. Please provide list and arrangement of the main manufacturing/production technologies, systems and equipments involved	CAR 07	OK
iv. The emissions sources and GHGs involved	EB 41	Ann 12	CAR 08. Please include the emissions sources and GHGs involved in the PDD section A.4.3.	CAR 08	OK
v. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No, there are no changes/modifications compared to the webhosted PDD since this is the version that was published.	OK	OK
i. In CDM-PDD section A.4.4 is the estimation of emission reductions provided as requested in a tabular format?	EB 41	Ann 12	CAR 09. Please follow the format presented in the Guidelines for completing the Project Design Document (CDM-PDD)	CAR 09	OK
j. In CDM-PDD section A.4.5 is Information regarding Public funding provided?	EB 41	Ann 12	Yes, information regarding Public funding is provided in CDM-PDD section A.4.5. EBRD is providing a loan to Engurhesi Ltd. for the rehabilitation works at the Enguri HPP. EBRD funding does not result in a diversion of official development assistance. In addition the European Commission provides a grant to Engurhesi Ltd. for the rehabilitation works at the Enguri HPP. The European Commission states that this grant does not constitute diversion of official development	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			assistance funds.		





VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
k. In CDM-PDD section B.1 are following provided?	EB 41	Ann 12	-	-	-
i. The approved methodology and version number	EB 41	Ann 12	Version 11 of ACM0002 Consolidated baseline methodology for grid-connected electricity generation from renewable sources is used. CAR 10. Please update the PDD with the latest version of methodology.	CAR 10	OK
ii. Any methodologies or tools which the above approved methodology draws upon and their version number	EB 41	Ann 12	Version 02.2 of the Combined Tool to identify the baseline scenario and demonstrate additionality Version 05.2 of the Tool for the demonstration and assessment of additionality Version 01.1 of the Tool to calculate the emission factor of an electricity system CAR 11. Please update the PDD with latest version of the "Tool to calculate the emission factor of an electricity system".	CAR 11	OK
I. In CDM-PDD section B.2 are following provided?	EB 41	Ann 12	-	-	-
i. Justification of the choice of methodology that the project activity meets each of the applicability conditions	EB 41	Ann 12	Yes, justification of the choice of methodology that the project activity meets each of the applicability conditions is provided in the PDD section B.2. ACM0002 ver.12.1.0. is applicable because: <ul style="list-style-type: none"> The refurbishment of Enguri hydro power plant is a renewable power generation project activity connected to the Georgian power grid. The project activity belongs to type (c) involve a retrofit of (an) existing plant (s) The refurbishment of Enguri hydro power plant is retrofit of hydro power plant with an accumulation reservoir. 	CAR 12	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<ul style="list-style-type: none"> The project includes an existing reservoir whose volume will not be increased during or after the project implementation. The refurbishment of Enguri hydro power plant does not involve switching from fossil fuels to renewable energy at the site. The refurbishment of Enguri hydro power plant does not involve biomass fired power plants The refurbishment of Enguri hydro power plant does not involve any increase in existing reservoir <p>CAR 12. Please update the section in accordance with the latest version of the methodology.</p>		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Documentations with references that had been used. This can be provided in Annex 3 instead	EB 41	Ann 12	Yes, documentations with references that had been used are provided in the PDD section B.2.	OK	OK
m. In CDM-PDD section B.3 are following provided?	EB 41	Ann 12	-	-	-
i. Description of all sources and gases included in the project boundary in the table	EB 41	Ann 12	Yes, description of all sources and gases included in the project boundary in the table is presented in the PDD section B.3. CAR 13. Please clarify the source of emissions in the Table.	CAR 13	OK
ii. A flow diagram of the project boundary physically delineating the project activity	EB 41	Ann 12	Yes, the flow diagram of the project boundary physically delineating the project activity is presented in the PDD section B.3. CAR 14. Please correct spelling in the schematic representation of the area around Enguri HPP	CAR 14	OK
iii. The flow diagram with all equipments, systems and flows of mass and energy etc	EB 41	Ann 12	Yes, the flow diagram with all equipments, systems and flows of mass and energy etc is presented in the PDD section B.3.	OK	OK
n. In CDM-PDD section B.4 are following provided?	EB 41	Ann 12	-	-	-
i. Explanation how the most plausible baseline scenario is identified in accordance with the selected baseline methodology	EB 41	Ann 12	Yes, explanation how the most plausible baseline scenario is identified in accordance with the selected baseline methodology is presented in the PDD section B.4.	OK	OK
ii. Justification of key assumptions and rationales	EB 41	Ann 12	CAR 15. Please provide justification of key assumptions and rationales in the section B.4.	CAR 15	OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources, etc.)	EB 41	Ann 12	CAR 16. Please provide transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources, etc) in the section B.4. CL 04. Please clarify why an annual operation of 5,000 hours has been considered for the expected	CAR 16, CL 04	OK

VALIDATION REPORT



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			lifetime calculation.		



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iv. A transparent and detailed description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed project activity	EB 41	Ann 12	Yes, transparent and detailed description of the identified baseline scenario, including a description of the technology that would be employed and the activities that would take place in the absence of the proposed project activity is presented in the PDD section B.4.	OK	OK
v. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No, there are no changes/modifications compared to the webhosted PDD since this is the version that was published.	OK	OK
o. In CDM-PDD section B.5 are following provided?	EB 41	Ann 12	-	-	-
i. Explanation of how and why this project activity is additional and therefore not the baseline scenario in accordance with the selected baseline methodology	EB 41	Ann 12	Yes, explanation of how and why this project activity is additional and therefore not the baseline scenario in accordance with the selected baseline methodology is presented in the PDD section B.5.	OK	OK
ii. Justification of key assumptions and rationales	EB 41	Ann 12	CAR 17. Please provide justification of key assumptions and rationales in the section B.5.	CAR 17	OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources etc)	EB 41	Ann 12	CAR 18. Please provide transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources, etc) in the section B.5.	CAR 18	OK
iv. Evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation	EB 41	Ann 12	Yes, evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation is presented in the PDD section B.5.	OK	OK
p. In CDM-PDD section B.6.1 are following provided?	EB 41	Ann 12	-	-	-
i. Explanation as to how the procedures, in the approved methodology to calculate project emissions, baseline emissions, leakage	EB 41	Ann 12	Yes, explanation as to how the procedures, in the approved methodology to calculate project emissions, baseline emissions, leakage emissions	OK	OK



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emissions and emission reductions are applied to the proposed project activity			and emission reductions are applied to the proposed project activity is presented in the PDD section B.6.1.		
ii. Equations used in calculating emission reductions	EB 41	Ann 12	Yes, the equations used in calculations of emission reductions are properly described. The equations numbers mentioned are from ACM0002 as would apply to the current project activity.	OK	OK
iii. Explanation and justification for all relevant methodological choices, including different scenarios or cases, options and default values	EB 41	Ann 12	Yes, explanation and justification for all relevant methodological choices, including different scenarios or cases, options in the PDD section B.6.1.	OK	OK
q. In CDM-PDD section B.6.2 are following provided?	EB 41	Ann 12	-	-	-
i. A compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period AND that are available when validation is undertaken	EB 41	Ann 12	Yes, compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period AND that are available when validation is undertaken is presented in the PDD section B.6.2. CAR 19. Please remove all the parameters which were used to calculate emission factor for grid connected power generation since it was not calculated by PDD developer but provided by the DNA of Georgia.	CAR 19	OK
ii. The actual value period	EB 41	Ann 12	Yes, the actual value period is provided.	OK	OK
iii. Explanation and justification for the choice of the source of data	EB 41	Ann 12	Yes, the explanation and justification for the choice of the source of data	OK	OK
iv. Clear and transparent references or additional documentation in Annex 3	EB 41	Ann 12	CAR 20. Please provide clear and transparent references for the data sources.	CAR 20	OK
v. Where values have been measured, a	EB	Ann	CAR 21. Please provide description of the	CAR 21	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
description of the measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results	41	12	measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results		
r. In CDM-PDD section B.6.3 are following provided?	EB 41	Ann 12	-	-	-
i. A transparent <i>ex ante</i> calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology	EB 41	Ann 12	CAR 22. Ex ante calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology are not transparent, moreover they differ from the calculation patterns in the excel supporting file. In the section B.6.3. it is absolutely not clear how $EG_{facility,y}$ is calculated. While according to ACM 0002 ver 12.1.0 the $BE = (EG_{facility,y} - (EG_{historical} + \sigma_{historical})) * EF_{grid,CM,y}$ in the excel spreadsheet it is calculated as of $EF_{grid,CM,y} * \text{total additional power generation (which is not actually supposed to be monitored) * years into crediting period}$. Please correct all the inconsistencies and provide transparent explanation of all the calculations.	CAR 22	OK
ii. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 41	Ann 12	See CAR 22 above.	-	-
iii. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 41	Ann 12	Excel spreadsheet was provided to the DOE	OK	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
s. In CDM-PDD section B.6.4 are the results of the <i>ex ante</i> estimation of emission reductions for all years of the crediting period, provided in a tabular format?	EB 41	Ann 12	Yes, the results of the ex ante estimation of emission reductions for all years of the crediting period, provided in a tabular format CAR 23. Baseline emissions for the year 2011 differ from emission reductions for the respective period while they should be the same. Please correct.	CAR 23	OK
t. In CDM-PDD section B.7.1 are following provided?	EB 41	Ann 12	-	-	-
i. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity	EB 41	Ann 12	Yes, the section B.7.1. contains information considering the fact how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity	OK	OK
ii. For each parameter the following below information, using the table provided:	EB 41	Ann 12	-	-	-
a. The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where several sources may be used, explain and justify which data sources should be preferred.	EB 41	Ann 12	Yes, the source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). CAR 24. For Electricity supplied annually to the grid by Enguri HPP method c “And finally, at the point of connection between the plant’s switchyard and Central Transmission Line there is final power-meter used (and sealed) by the transmission company for the invoicing purposes. Difference between 2 and 3 is “Own Consumption of the Plant” which is not invoiced because it is internally consumed, but is still recorded as generation”, which is not correct since this meter provides information considering electricity supplied to the grid by all units, while in this particular CDM project unit# 3 is not included.	CAR 24	OK

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			Please correct and choose appropriate method.		




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b. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person/entity that should undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment. Provide any relevant further background documentation in Annex 4.	EB 41	Ann 12	Yes, data or parameters are supposed to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person/entity that should undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment is provided in the section B.7.1. of the PDD version 1.	OK	OK
u. In CDM-PDD section B.7.2 are following provided?	EB 41	Ann 12	-	-	-
i. A detailed description of the monitoring plan	EB 41	Ann 12	Yes, detailed monitoring plan is provided in the section B.7.2 of the PDD version 01. As stated by the latest version of the monitoring methodology "ACM0002 Consolidated monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources", The monitoring of the following is required: "Electricity generation from the proposed project activity". The other data listed in the methodology should not be monitored for this CDM project activity since the ex ante method was applied for	OK	OK



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			<p>the calculation of the build margin and the operating margin and since this project is not a new hydro electric power project.</p> <p>This monitoring plan is developed in a project specific manner specifically addressing the unique features of the Enguri HPP and the specifics of electricity metering and meters verification currently in practice in Georgia.</p> <p>The spatial extent of the monitoring plan will be the physical project site of the CDM project activity that corresponds to the Unit # 2, Unit #4, Unit # 1 and Unit # 5.</p>		


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ii. The operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity	EB 41	Ann 12	Yes, the operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity is provided in the section B.7.2 of the PDD version 01.	OK	OK
iii. The responsibilities for and institutional arrangements for data collection and archiving	EB 41	Ann 12	Yes, the responsibilities for and institutional arrangements for data collection and archiving are provided in the section B.7.2 of the PDD version 01. The day to day data collection is completed by shift engineer at the Enguri plant. The recording of power generated at each unit is conducted every 8 hours. The information is recorded on both paper and electronically. This information will be stored as part of CDM project activity for a period of at least two years over and above the crediting period of the CDM project. Further, every month at the time of financial settlement of Engurhesi by transmission company – the copies of invoices will be stored (both paper and electronically after scanning) for a period of at least two years over and above the crediting period of the CDM project activity.	OK	OK
iv. Indication that the monitoring plan reflect good monitoring practice appropriate to the type of project activity	EB 41	Ann 12	CAR 25. Please indicate if the monitoring plan reflects current good practices appropriate to the type of project activity.	CAR 25	OK
v. Relevant further background information in Annex 4	EB 41	Ann 12	The monitoring of the CDM project activity has been described in detail in the section B.7 of the PDD.	OK	OK
v. In CDM-PDD section B.8 are following provided?	EB	Ann	-	-	-



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	EB 41	Ann 12	04/18/2010 CAR 26. Please correct the date of completion of the application of the methodology to the baseline study and monitoring methodology	CAR 26	OK
ii. Contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity	EB 41	Ann 12	Yes, contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity is provided in the section B.8.	OK	OK
iii. Indication if the person/entity is also a project participant listed in Annex 1	EB 41	Ann 12	ICF International is not a project participant	OK	OK
w. In CDM-PDD section C.1.1 are following provided?	EB 41	Ann 12	-	-	-
i. The starting date of a CDM project activity, which is the earliest of the date(s) on which the implementation or construction or real action of a project activity begins/has begun (EB33, Para 76/CDM Glossary of terms/EB41, Para 67)	EB 41	Ann 12	21/12/2005	OK	OK
ii. A description of how this start date has been determined, and a description of the evidence available to support this start date	EB 41	Ann 12	The date when the Engurhesi Board decided to continue to proceed with the project after works on the project had been suspended due to financing deficit faced by the project activity. The CDM consideration was made in the Board meeting.	OK	OK
iii. If this starting date is earlier than the date of publication of the CDM-PDD for global stakeholder consultation by a DOE, description in Section B.5 contain a of how the benefits of the CDM were seriously considered prior to the starting date (EB41, Para 68).	EB 41	Ann 12	The starting date of the project is earlier then the dae of PDD webhosting, which is why prior consideration is explicitly described in the section B.5.	OK	OK
x. In CDM-PDD section C.1.2 is the expected operational lifetime of the project activity in years	EB 41	Ann 12	CAR 27. Please present expected operational lifetime in years and months.	CAR 27	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
and months provided?					
y. In CDM-PDD section C.2 is it stated whether the project activity will use a renewable or a fixed crediting period and is C.2.1 or C.2.2 completed accordingly?	EB 41	Ann 12	Project will used fixed crediting period.	OK	OK
z. In CDM-PDD section C.2.1 is it indicated that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable?	EB 41	Ann 12	n/a	n/a	n/a
aa. In CDM-PDD section C.2.1.1 are dates in the following format: (DD/MM/YYYY) provided?	EB 41	Ann 12	n/a	n/a	n/a
bb. In CDM-PDD section C.2.1.2 is the length of the first crediting period in years and months provided?	EB 41	Ann 12	n/a	n/a	n/a
cc. In CDM-PDD section C.2.2 is the fixed crediting period at most ten (10) years provided?	EB 41	Ann 12	Yes, in CDM-PDD section C.2.2 the fixed crediting period at most ten (10) years is provided	OK	OK
dd. In CDM-PDD section C.2.2.1 are the dates provided in the following format: (DD/MM/YYYY)?	EB 41	Ann 12	01/10/2011	OK	OK
ee. In CDM-PDD section C.2.2.2 is the length of the crediting period in years and months Provided?	EB 41	Ann 12	CAR 28. Please provide the length of the crediting period in months.	CAR 28	OK
ff. In CDM-PDD section D.2 are the conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the Host Party, if environmental impacts are considered significant by the project participants or the Host, provided?	EB 41	Ann 12	Yes, the conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the Host Party, if environmental impacts are considered significant by the project participants or the Host, are provided.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			The Parliament of Georgia gave its approval in 1998 of the Enguri Rehabilitation Project including the Environmental Health and Safety Audit conducted in 1997-1998..Reporting on the Environmental Action Plan was done annually. In 2007, Engurhesi Ltd received a letter from the Ministry of Environmental Protection stating that the environmental impacts of the rehabilitation project yet to be undertaken are not considered significant because of the rehabilitative nature of the project and a full environmental impact assessment is not required.		



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
gg. In CDM-PDD section E.1 are the following provided?	EB 41	Ann 12	-	-	-
i. The process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilitates comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.	EB 41	Ann 12	CAR 29. Please describe the process by which comments by local stakeholders have been invited and compiled.	CAR 29	OK
ii. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures.	EB 41	Ann 12	There is no information on how the project activity was described to the project stakeholders. CAR 30. Please provide information whether project activity was described in a manner, which allowed the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures.	CAR 30	OK
iii. The local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation.	EB 41	Ann 12	Yes, the local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation.	OK	OK
hh. In CDM-PDD section E.2 are following provided?	EB 41	Ann 12	-	-	-
i. Identification of local stakeholders that have made comments	EB 41	Ann 12	Yes, local stakeholders that have made comments are mentioned in PDD section E.2 with their questions and answers they've received.	OK	OK
ii. A summary of this comments.	EB 41	Ann 12	See above.	OK	OK
ii. In CDM-PDD section E.3 is the explanation of how due account have been taken of comments received from local stakeholders provided?	EB 41	Ann 12	The Environmental Action Plan was sent to those participants that required further information on the environmental aspects of the project. No other comments were received. All the comments given	OK	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			during the Stakeholder Consultation were taken into account in the final version of the Project Design Document.		



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
jj. In CDM-PDD Annex 1 are the following provided?	EB 41	Ann 12	-	-	-
i. Contact information of project participants	EB 41	Ann 12	Yes, contact information of project participants is provided in Annex 1	OK	OK
ii. For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	EB 41	Ann 12	Yes, all the required fields are filled in.	OK	OK
kk. In CDM-PDD Annex 2 is information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties provided?	EB 41	Ann 12	Yes, Annex 2 provides information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties provided	OK	OK
ll. In CDM-PDD Annex 3 is the background information used in the application of the baseline methodology provided?	EB 41	Ann 12	Annex 3 contains information considering calculation the grid emission factor of Georgia provided by Georgian DNA	OK	OK
mm. In CDM-PDD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 41	Ann 12	The monitoring of the CDM project activity has been described in detail in the section B.7 of the PDD.	OK	OK
4. Project description					
a. Does the PDD contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?	VVM	58	Yes, the PDD contains a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation	OK	OK
b. Is the description of the proposed CDM project activity as contained in the PDD:	VVM	59	-	-	-
sufficiently covering all relevant elements?	VVM	59	Yes, the description of the proposed CDM project	CAR 31	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>covers all relevant elements.</p> <p>CAR 31. Please remove from the section A.2 “The project scenario, including a summary of the scope of activities/measures that are being implemented within the proposed project activity” the following “improvements to the dam structure and reduction in leakages from the high pressure pipeline; repair of the water gates at the dam site; and completion of the grouting work at the dam galleries and pressure tunnel” since it is not part of the project.</p>		

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