



VALIDATION REPORT

HIDROENERGIA DEL GENERAL S.R.L.

EL GENERAL HYDROELECTRIC PROJECT

Report No: 5915 – 97/09

Date: 2012-03-27

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Validation Report:	Report No.	Rev. No.	Date of 1st issue:	Date of this rev.
	5915 – 97/09 V01	1	2011-05-13	2012-03-27
Project:	Title:	Initial PDD Version:		Final PDD Version
	El General Hydroelectric Project	V.1 , dated 2009-03-10		V.9.2, dated 2012-03-26
Client:	Hydroenergia Del General S.R.L.	Client ref:	Javier Matamoros Agüero	
Project Participant(s):	Host Party:		Other involved parties:	
	Costa Rica		n.a.	
Applied methodology/ies:	Title:	No.:	Scope / TA:	
	Consolidated baseline methodology for grid-connected electricity generation from renewable sources	ACM0002 Ver. 12.1	1 / 1.2	
Validation team / Technical Review and Final Approval	Validation Team:		Technical review:	Final approval:
	R. Mitre R. Lopes	Rainer Winter (TL)	E. Martin	M. Saalmann
Expected Emission reductions: [t CO₂e]	Expected emission reductions over the first crediting period:		Expected project starting date:	
	462,006 t CO ₂ e		2011-07-01	
Confidential content:	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
Summary of Validation Opinion:	<input checked="" type="checkbox"/> Positive validation opinion		<input type="checkbox"/> Negative validation opinion	
	<p>Hydroenergia Del General S.R.L. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "El General Hydroelectric Project" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board</p> <p>In the course of the validation 7 Corrective Action Requests (CARs) and 10 Clarification Requests (CLs) were raised and successfully closed.</p> <p>The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.</p> <p>In detail the conclusions can be summarised as follows:</p> <ul style="list-style-type: none"> - The project is in line with all relevant host country criteria (Costa Rica) and all relevant UNFCCC requirements for CDM. Project activity approval has been obtained from DNA of Costa Rica vide the Letter of Approval (LoA) dated 2011/05/13. - The project additionality is sufficiently justified in the PDD. - The monitoring plan is transparent and adequate. - The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 462,006 tCO₂e are most likely to be achieved within the (1st renewable) crediting period. <p>The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.</p>			
Document information:	Filename:			No. of pages:
	2012_03_27 FValR_El General_after RfRev.doc			191

Abbreviations

ARESEP	Public Services Regulator Authority - Autoridad Reguladora de los Servicios Públicos
BAU	Business as usual
BOT	Build-Operate-Transfer
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CNFL	National Power and Light Company (Compañía Nacional de Fuerza y Luz)
CO₂	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
DNA	Designated National Authority
DSE	Sectorial Direction of Energy (Dirección Sectorial de energía)
EB	CDM Executive Board
EGHP	El General Hydroelectric Project
EIA	Environmental Impact Assessment
EPC	Engineering, Procurement and Construction (contract)
FAR	Forward Action Request
GCS	Grupo Corporativo Saret S.A.
GHG	Greenhouse gas(es)
HDG	Hidroenergía Del General
ICE	Costa Rica's Institute of Electricity (Instituto Costarricense de Electricidad)
IPCC	Intergovernmental Panel on Climate Change
MINAE	Ministry of Environment and Energy
OPC	Oxbow Power Corporation
PP	Project Participant
PCF	Prototype Carbon Fund
PDD	Project Design Document
PPA	Power Purchase Agreement
SETENA	National Environmental Secretary, (Secretaría Técnica Nacional Ambiental)
QA/QC	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 OBJECTIVE / SCOPE

The purpose of a validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board and
- other relevant rules, including the host country legislation and sustainability 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 seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD and other relevant supporting documents, to ensure that the proposed CDM project activity meets all relevant and applicable CDM criteria.

The information included in the PDD and the supporting documents were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Manual^{VVM}, carried out a full assessment of all evidences to assess the compliance of the project with the key areas as outlined in section V.E. and V.F. of the VVM (version 01.2, EB 55).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions. TÜV NORD JI/CDM CP can not be held liable by any entity for making its validation opinion based on any false or misleading information supplied to it during the course of validation.

The validation is not meant to provide any consulting to the project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

2 GHG PROJECT DESCRIPTION

2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

Item	Data		
Project title	El General Hydroelectric Project		
Project size	<input checked="" type="checkbox"/> Large Scale	<input type="checkbox"/> Small Scale	
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	<input checked="" type="checkbox"/>	1	Energy Industries (renewable- /non-renewable sources)
	<input type="checkbox"/>	2	Energy distribution
	<input type="checkbox"/>	3	Energy demand
	<input type="checkbox"/>	4	Manufacturing industries
	<input type="checkbox"/>	5	Chemical industry
	<input type="checkbox"/>	6	Construction
	<input type="checkbox"/>	7	Transport
	<input type="checkbox"/>	8	Mining/Mineral production
	<input type="checkbox"/>	9	Metal production
	<input type="checkbox"/>	10	Fugitive emissions from fuels (solid, oil and gas)
	<input type="checkbox"/>	11	Fugitive emissions from production and consumption of halocarbons and hexafluoride
	<input type="checkbox"/>	12	Solvents use
	<input type="checkbox"/>	13	Waste handling and disposal
	<input type="checkbox"/>	14	Afforestation and Reforestation
	<input type="checkbox"/>	15	Agriculture
Applied Methodology	ACM0002 Version 12.1, "Consolidated baseline methodology for grid-connected electricity generation from renewable sources".		
Technical Area(s)	1.2 (S*) Energy generation from renewable energy sources		
Crediting period	<input checked="" type="checkbox"/> Renewable Crediting Period (7 y)	<input type="checkbox"/> Fixed Crediting Period (10 y)	
Start of crediting period	2011-07-01		

*According to the Accreditation Standard 1.1

2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

Table 2-2: Project Parties and project participants

Characteristic	Party	Project Participant
Host party	Costa Rica	Hidroenergía Del General S.R.L.

2.3 Project Location

The details of the project location are given in table 2-3:

Table 2-3: Project Location

No.	Project Location
Host Country	Costa Rica
Region:	Heredia and Limón
Project location address:	50 km from San José and 102 km from Limón Harbor in the Atlantic Cost. It is on the left bank of the General River, downstream of the Braulio Carrillo National Park
Latitude:	10° 12' 49" North
Longitude:	83° 54' 56" West

2.4 Technical Project Description

The proposed project activity consists of the construction, installation and operation of a hydropower power plant with two vertical shaft turbines and 2 generators with a combined total capacity of 40 MW, an average annual net generation of approximately 198,380 MWh and with a daily reservoir of 194,903 m³. This type of enterprise is called as “run of river” plant.

As the project is a renewable energy project, the project is intended to reduce CO₂ emissions to displace the electricity generated to the Costa Rican Interconnected System. The estimated amount of emission reductions over the chosen 7-year “renewable crediting period” is 462,006 tCO_{2e} during the first crediting period.

The technical key data are provided in table below

Table 2-4: Technical data of the project activity

Parameter	Unit	Value
Turbines ^{/GE_energy/}		
Type		Vertical Francis Turbine
Manufacturer		General Electric
Quantity		2
Power:	MW	20.7
Flow rate:	m ³ /s	9.25
Water head	m	247,6
Rotation:	rpm	720
Generators ^{/Tech/}		
Type:		ATI Synchronico
Manufacturer:		General Electric
Quantity:		2
Nominal Power	kVA	23530
Capacity factor	%	85
Power:	MW	20
Nominal Tension	V	13,800
Nominal Current	A	984
Frequency	Hz	60
Rotation	rpm	720

3 METHODOLOGY AND VALIDATION SEQUENCE

3.1 Validation Steps

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- A desk review of the PDD^{/PDD/} submitted by the client and additional supporting documents with the use of customised validation protocol^{/CPM/} according to the Validation and Verification Manual^{/VVM/},
- Validation planning,
- On-Site assessment,
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation.

The sequence of the validation is given in the table 3.1 below:

Table 3.1: Validation sequence

Topic	Time
Assignment of validation	2008-08-29
Submission of PDD for global stakeholder commenting process	2009-04-21
On-site visit	2009-05-05 & 6
Draft reporting finalized	2009-06-19
Technical review on draft reporting finalized	2009-06-26
Final reporting finalized	2011-04-16
Technical review on final reporting finalized	2011-04-16
Minor update to consider the LoA assessment	2011-05-13
Corrections finalized on the issues raised in the INCOMPLETE notification received on 10/09/2011	2011-12-04
Corrections finalized on the issues raised in the Request for Review received on 12/02/2012	2012-03-27

3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the verification can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consistent of one team leader and 2 additional team members, were appointed. Furthermore also the personnel for observation, the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

Table 3-2: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence	Technical competence ⁴⁾	Host country Competence	Team Leading competence
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Rainer Winter	TÜV NORD CERT, Germany	TL	LA	<input checked="" type="checkbox"/>	S	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Gonzalez Mitre, Raul	BRTUV (TUV NORD Brazil), Sao Paulo	TM	LA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Lopes, Ricardo	BRTUV (TUV NORD Brazil), Sao Paulo	TM	LA	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Martin, Emilio	TÜV NORD CERT, Germany	TR ³⁾	LA	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Saalmann, Martin	TÜV NORD CERT, Germany	FA	SA	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>

¹⁾ TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR, FA: Final approval

²⁾ GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

³⁾ No team member

⁴⁾ As per S01-MU03 or S01-VA070 A2 (such as A, B, C.....)

Certificates of appointment for the above mentioned team members are enclosed in annex 6 of this report.

3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PDD, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the validation activity commenced. Stakeholders have been invited to comment on the PDD within the 30 days public commenting period.

In case comments were received, they are taken into account during the validation process. The comments and the discussion of the same are documented in annex 5 of this report.

3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

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

The validation protocol as described in Figure 1.

Validation Protocol Table A-1: Requirement checklist				
Checklist Item	Validation Team Comment	Reference	Draft Conclusion	Final Conclusion
<i>The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVM shall be covered in this section.</i>	<i>Gives reference to the information source on which the assessment is based on</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft validation stage.</i>	<i>In case a corrective action or a clarification the final assessment at the final validation stage is given.</i>

Figure 1: Validation protocol tables

The completed validation protocol is enclosed in Annex 1 to this report.

3.6 Review of Documents

The published PDD (version 1) and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.7 Follow-up Interviews

The validation team has carried out interviews in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-3.

Table 3-3: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Representatives of Hidroenergía Del General S.R.L. Representatives of Econergy (project consultant)	<ul style="list-style-type: none"> - Chronological description of the project activity with documents of key steps of the implementation. - Current status of plant design - Technical details of the project realization, project

Interviewed Persons / Entities	Interview topics
.	feasibility, designing, operational life time, monitoring of the project - Host Government Approval - Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects - Crediting period - Project activity starting date - CER allocation / ownership - Baseline study assumptions - Additionality - Sustainable development issues - Monitoring - Analysis of local stakeholder consultation - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - National Legislation - Editorial issues of the PDD

A comprehensive list of all interviewed persons is part of section 7 'References'.

3.8 Project comparison

The validation team has compared the proposed CDM project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM registration process.

3.9 Resolution of Clarification and Corrective Action Requests

3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,

- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

3.9.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

3.9.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.10 Technical review

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.11 Final approval

After successful technical review of the final report an overall (esp. procedural) assessment of the complete validation will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for registration can be started (in case of a positive validation opinion).

4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarized:

Table 4-1: Summary of CARs, CLs and FARs issued

Validation topic ¹⁾	No. of CAR	No. of CL	No. of FAR
General description of project activity (A) - Project specification - Technical project description - Participation - Contribution to sustainable development - PDD editorial aspects - Technology to be employed	1	3	-
Project Baseline, Additionality and Monitoring Plan (B) - Application of the Methodology - Project Boundary - Baseline identification - Calculation of GHG emission reductions Project emissions Baseline emissions Leakage - Additionality determination - Monitoring Methodology - Monitoring Plan - Project management planning	5	5	-
Duration of the Project / Crediting Period (C)	1	1	-
Environmental impacts (D)	-	-	-
Stakeholder Comments (E)	-	1	-
SUM	7	10	-

¹⁾ The letters in brackets refer to the validation protocol

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of the verification process are summarized in the tables below.

General	CL A1		
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section A2: <ul style="list-style-type: none"> • Provide reference to the average annual net generation of electricity (198,380 MWh) • Provide reference to the statement “The project coincides with Costa Rica’s long term development and energy strategy to provide electric energy from small-scale, renewable sources (wind, biomass, hydro, geothermal)”. • Complete the “description of the project activity” following the guidance in A.2 of the Guidelines for completing the PDD, including the baseline scenario and the statement that the baseline scenario is the same as the scenario existing prior to the start of implementation of the project activity. 		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ul style="list-style-type: none"> - Regarding the reference to the average annual net generation, the document called “<i>Formulario D-4 Informacion sobre la Oferta Economica</i>” and the EIA (Environmental Impact Analysis) of the project provided to the DOE at the validation visit, evidence the value used by the PP. - This can be evidenced by the “<i>Plan de expansion de la generacion electrica – Periodo 2002 2016</i>”, made by ICE and provided to the DOE; - The description of the project activity, as well as the baseline scenario and the statement requested was included in the new version of the PDD. <p>CL is closed.</p>		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements		

General	CL A2		
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section A3 and Annex 1, the names of the project participants have to be exactly the same.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Econergy UK was removed from the project participants list and it was ensured that all information about the other PP name is correct stated in the PDD.		

General	CL A2
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Section A.3. and Annex 1 were revised accordingly. Econergy UK has been removed and only Hidroenergia Del General S.R.L. appears now as project participant. A voluntary withdrawn letter was provided ^{(withdrawn/} . TÜV NORD has a direct contractual relation with the remain PP. CL is closed
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	CAR A3
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Provide the No Objection Letter of the Project issued by DNA of Costa Rica and the Letter of approval issued by the DNA of UK.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The No Objection Letter of the project El General was provided to the DOE. Econergy UK was removed from the project participants list, then it is not necessary a letter of approval of the DNA of UK.

General	CAR A3
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The No Objection Letter was provided by the PP, reviewed and accepted. Section A.3. and Annex 1 were revised accordingly. Letter. Eenergy UK has provided a letter of voluntary withdrawn^{/withdrawn/} as a project participant. Therefore only Hidroenergía Del General S.R.L. is the only party involved.</p> <p>In accordance with the CDM M&P at the time of making the PDD public at the stage of validation, a Party involved may or may not have provided its approval. At the time of requesting registration the approval of the Parties involved is required.</p> <p>Letter num. DM-393-2011 signed and stamped by the DNA of Costa Rica on 2011/05/13 was provided by the PP and assessed by the validation team.</p> <p>The DNA listed in the UNFCCC web site is MINAE which has issued the LoA of the project activity.</p> <p>The LoA confirms that Costa Rica is a Party to the Kyoto Protocol, the participation of Hidroenergía del General (same as Hidroenergía Del General S.R.L. according to official letter/LoA/ Num. DCC-050-2011) is voluntary and the project activity contributes to the sustainable development in the country</p> <p>There is only one project participant listed in the PDD: Hidroenergía Del General S.R.L. (same as Hidroenergía del General according to official letter/LoA/ Num. DCC-050-2011) This is consistent with the Letter of Endorsement/LoE/ issued by the DNA of Costa Rica, prior to the issuance of the Letter of Approval.</p> <p>According to the Letter of Approval/LoA/ issued by the DNA of Costa Rica, the project activity contributes to the sustainable development of Costa Rica.</p> <p>CAR is closed.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	CL A4		
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR

General	CL A4
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section A4: <ul style="list-style-type: none"> Complete the description of the “technology to be employed by the project activity” following the guidance in A.4.3 of the Guidelines for completing the PDD, including the baseline scenario and the statement that the baseline scenario is the same as the scenario existing prior to the start of implementation of the project activity. Correct the capacity of the reservoir of 220,000 m³ as it is 194,903 m³.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ul style="list-style-type: none"> The section A.4.3. was updated to be in accordance with the Guidelines for completing the PDD. The reservoir capacity was corrected in the PDD.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Section A.4.3. was revised accordingly. The reservoir capacity was corrected. Nevertheless correct the statement about the baseline scenario (last paragraph) as it is not power plants connected to the Chilean SIN <u>CL remains open</u>
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Corrected in PDD, to Costa Rican Interconnected System.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Section A.4.3 was revised accordingly. Corrections were done. <u>CL is closed</u>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	CAR B1
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section B2 indicate the evidence presented for demonstration of each applicability condition and reference the corresponding source.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	This section was referenced in the new version of the PDD and the supporting documents were sent to the DOE.

General	CAR B1
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Section B.2. was revised accordingly.</p> <p>The following applicability condition is still missing:</p> <p><i>“The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available.”</i></p> <p>Evidence for demonstration and reference of the corresponding source is necessary.</p> <p><u>CAR remains open</u></p>
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>This paragraph was excluded from the PDD as this applicability condition was excluded from ACM0002 version 10.</p>
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Last version of ACM0002 was revised accordingly. No discrepancies were identified. All applicability conditions are described and met.</p> <p><u>CAR is closed</u></p>
Conclusion <i>Tick the appropriate checkbox</i>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input type="checkbox"/> The project complies with the requirements</p>

General	CAR B2
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Please provide further information to demonstrate additionality by providing credible information that suffice to comply with the “Guidance on the Demonstration and Assessment of prior consideration of the CDM” for existing project activities, as the case of the current project activity:</p> <p><i>“The project participant must indicate, by means of reliable evidence, that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation.”</i></p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>The Table 3 Implementation timeline of the EGHP was updated in the new version of the PDD, and all evidences were provided to the DOE, in order to demonstrate additionality.</p>

General	CAR B2
<p>DOE Assessment #1</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>According to EB41, Annex 46, Guidance on the demonstration and assessment of prior consideration of the CDM:</p> <p><i>“Proposed project activities with a start date before 2 August 2008, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are required to demonstrate that the CDM was seriously considered in the decision to implement the project activity. Such demonstration requires the following elements to be satisfied”:</i></p> <p><i>“(b) The project participant must indicate, by means of reliable evidence, that <u>continuing and real actions</u> were taken to secure CDM status for the project <u>in parallel with its implementation</u>. Evidence to support this should include, inter alia, contracts with consultants for CDM/PDD/methodology services, Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds), evidence of agreements or negotiations with a DOE for validation services, submission of a new methodology to the CDM Executive Board, publication in newspaper, interviews with DNA, earlier correspondence on the project with the DNA or the UNFCCC secretariat.”</i></p> <p><i>“If evidence to support the <u>serious</u> prior consideration of the CDM <u>as indicated above</u> is not available the DOE shall determine that the CDM was not considered in the decision to implement the project activity.”</i></p> <p>This has been not sufficiently provided by the PP for the following reasons:</p> <ol style="list-style-type: none"> 1. From 24/04/2006 starting date of dispatching electricity to the grid and 26/04/2007, date of conducting a new assessment of additionality, i.e. one year later, no signs of CDM consideration has been demonstrated. 2. Since the agreement with Econergy, in November 2007, no further relevant information on the CDM status has been provided until the validation officially started on 21st of April 2009 with the beginning of the public consultation period. 3. Why an additionality assessment is conducted 3 years after the starting date of the project? <p>Finally, providing data and references w.r.t. the financial parameters (investment costs, O&M costs, etc) and comparing these to those used for the FS (original FS is also necessary to be provided) at the time of management decision for investment will further support that <u>at the time the decision was taken, the project was actually not financially attractive</u>.</p> <p>Therefore it is necessary to provide <u>credible information</u> that suffices to comply with point (b) of EB41, Annex 46 to demonstrate prior consideration of the CDM.</p> <p>CAR remains open.</p>

General	CAR B2
<p>Corrective Action #2</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>According to the Guidelines on the Demonstration and assessment of prior consideration of the CDM, version 03:</p> <p>8. in validating proposed CDM project activities where:</p> <p style="padding-left: 40px;">(a) there is less than 2 years of a gap between the documented evidence the DOE shall conclude that continuing and real actions were taken to secure CDM status for the project activity;</p> <p>Then, there is no need for questions 1 and 2. The additionality assessment was conducted before by PCF more specifically in the PIN development, as indicated in Table 3 of the PDD.</p> <p>All the financial parameters indicated in the PDD were used for the FS at the time of investment decision to invest in the project activity, indicated in the milestone dated on 10/12/2002.</p>

General	CAR B2
<p>DOE Assessment #2</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p><u>Prior consideration:</u></p> <p>According to EB 49, Annex 22:</p> <p>(a) <i>“The project participant must indicate awareness of the CDM prior to the project activity start date”</i></p> <p>The PP had provided the following document, which is accepted by the validation team:</p> <p>Letter of intent of potential purchase of emission reductions of EGHP (issued 22/05/2003) by International Bank for Reconstruction and Development (IBRD), acting as the trustee of the PCF^{/LPPER/}.</p> <p><i>“...and that the benefits of the CDM were a <u>decisive factor</u> 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”</i></p> <p>This has not been demonstrated by the PP. Therefore provide more supporting evidences – e.g. minutes of board meeting, in case there is a board, e-mail communications, letters, business plan, with which can be demonstrated that the benefits of the CDM were <u>decisive</u> for the decision of implementing the project.</p> <p><u>Continuing consideration:</u></p> <p>(b) <i>“The project participant must indicate, by means of reliable evidence, that continuing and real <u>actions</u> were taken to secure CDM status for the project in parallel with its implementation”</i></p> <p>The e-mail^{/e-mailWB/} from the WB <u>does not qualify as continuous action from the PP</u>. The action was from the WB and that would have to trigger a new action from the PP to secure CDM status, which only happened 2 years later. It is necessary to provide further evidence to demonstrate that <u>continuing and real actions</u> were taken <u>by the PP</u>.</p> <p>Therefore, the validation team concludes that:</p> <p>(a) There is no evidence of the CDM being decisive for project implementation and</p> <p>(b) The gap is higher than 3 years (from 26/01/2004 to 26/04/2007);</p> <p><u>CAR remains open</u></p>
<p>Corrective Action #3</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Please refer to pages 8, 9 and 10 of the PDD.</p>

General	CAR B2
<p>DOE Assessment #3</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p><u>Prior consideration:</u></p> <p>The PP has provided further information to demonstrate that “<i>the benefits of the CDM were a <u>decisive factor</u> in the decision to proceed with the project</i>”:</p> <ul style="list-style-type: none"> • 2001/03/12 - E-mail from Oxbow detailing the cash flow analysis with and without carbon credits – CDM evidence and initial consideration of the CERs revenue in the cash flow analysis • 2003/03/20 - Negotiation minute between Hidroeléctrica Platanar, S.A. and Grupo Corporativo Saret, S.A.. One of the topics stated in this minute is about the meeting with the World Bank about the clean electricity generation and the CERs benefits. The World Bank showed interest in sending a letter of intention related to the EGHP <p>The E-mail from Oxbow detailing the cash flow analysis with and without carbon credits does not show that the CDM was a decisive factor for the project. Furthermore it is an old e-mail which has no traceability.</p> <p>The e-mail shows an IRR with carbon compensation of 10.9% and 11.4% and an IRR without carbon compensation of 9.6%. The IRR of the e-mail differs from the described in the PDD which is 14.86%. Furthermore the period stated is for 8 years while the period described in the PDD is for 18 years. Clarification is required.</p> <p>The verification team considers that the information provided by the PP until now do not demonstrate that the benefits of the CDM were <u>decisive</u> to proceed with the project.</p> <p>Therefore it is necessary to provide further information in which they can demonstrate that the benefits of the CDM were <u>decisive</u> for the decision of implementing the project.</p> <p><u>Continuing consideration:</u></p> <p>The PP has provided further information to demonstrate “that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation”:</p> <ul style="list-style-type: none"> • 2004/02/20 - Hidroenergía del General sent a letter to World Bank (Carbon Finance Unit) informing that they decided to authorize a modification to the path for the transmission line that interconnect the project’s power house with e ICE’s Leesville substation. They are committed to solve this situation before the date of signing an agreement with the World Bank regarding the purchase of emission reductions.

General	CAR B2
	<ul style="list-style-type: none"> • 2004/10/07 - Amendment to the Letter of intent for Hidroenergia del General S.R.L. by the World Bank - Carbon Finance. El General Hydroelectric Power Plant had signed it on 19/04/2004. The validity of the letter is until 19/01/2005 ("Exclusivity Period"). <p>The validation team considers that continuing and real actions (above) were taken to secure CDM status for the project in parallel with its implementation.</p> <p>Furthermore the PP had provided the following evidence:</p> <ul style="list-style-type: none"> • 2005/05/24 - Hidroeléctrica Platanar S.A. Board meeting 10-2005: it is proposed to request to Sr. Adrian Bellavita (Grupo Saret), information about the negotiation about the carbon credits. • 2005/08/25 - Hidroeléctrica Platanar S.A. Board meeting 15-2005: the project developer maintains the CERs revenue as a benefit for the project. • 2006/03/09 - Hidroeléctrica Platanar S.A. Board meeting 03-2006: it is presented a possible scenario of electricity and CERs revenue's ownership • 2006/05/23 - Hidroeléctrica Platanar S.A. Board meeting 06-2006: the project developer maintains the CERs revenue as a benefit for the project. • 2007/02/06 - E-mail with information about the contacts made to find alternatives to continue the actions to obtain the CERs revenue: 23/01/2007 - talks with Mr. Franz Tattenbach (Ex-member of UNFCCC Executive Board), 30/01/2007 - Meeting with Mr. Adrián Bellavita (Grupo Saret) and 01/02/2007 – Meeting with Mr. Oscar Coto <p>The Boarding meetings and e-mails from 2005/05/24 to 2007/02/06 do not qualify as real actions which were taken to secure CDM status. The documents presented are considered only intentions and not real actions to secure CDM status.</p> <p>Therefore, there is a gap of 2.5 years (931 days) from 2004/10/07 – (Amendment to the Letter of intent for Hidroenergia del General S.R.L. by the World Bank - Carbon Finance) to 2007/04/26 (Contract between a local consultant and Hidroenergía del General).</p> <p>According to the EB 49, Annex 22, where the gap between documented evidence is greater than 2 years and less than 3 years, the DOE may validate the continuing and real actions were taken to secure CDM status for the project activity.</p> <p><u>CAR remains open</u></p>

General	CAR B2
<p>Corrective Action #4</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The Table 3 Implementation timeline of the EGHP was updated in the new version of the PDD, and all evidences were provided to the DOE, in order to demonstrate additionality.</p> <p><u>Prior consideration:</u></p> <p>With respect to prior consideration and in particular to the issue of decisive consideration of the carbon revenues in the decision to carry out the project, the project participant has submitted new evidence to the DOE, represented as follows:</p> <p>On 30/03/2001, the Project Concept Note (PCN) prepared by OCIC on behalf of the project developer for submission to PCF was sent to the project developer. On page 14 of this document, it is stated: <i>“Emissions reductions payments will be incorporated by the project sponsor in its financial strategy for the project, thus increasing the feasibility.”</i> The PCN presents a financial analysis with and without CER revenues and since then all financial evaluations of this project have considered CER revenues.</p> <p>Letter dated on 19/08/2002 to Mr. John Stauffer at Oxbow Power Corporation from Mr. Juan Ramirez, President Grupo Saret, referencing the on-going negotiations related to the agreement to acquire the ownership rights that Oxbow Power Corporation had over the El General Hydro Project. In the document, it is acknowledged and clearly referenced the financial proforma being used by the parts in order to assess the merits of the project. That referenced proforma is named “Rev.08-b” (p.15). Such proforma incorporates the revenues of the carbon in the project financial analysis, therefore indicating the decisive character of the consideration of carbon revenues in the investment analysis.</p> <p>On 10/12/2002, Grupo Saret sent a letter to Hidroeléctrica Platanar S.A. enclosing a document entitled “Proyecto Hidroeléctrico El General”, with the purpose of further consideration by the Board of Directors at Hidroeléctrica Platanar to invest in the acquisition of the project. Grupo Saret states that the project has the possibility of obtaining additional revenues due to carbon, based on the consideration of the carbon revenues stated in the record of communications and the financial proformas that were subjected of negotiations with Oxbow power Corporation.</p> <p>On 07/05/2004 the financing agreement entered among Hidroenergía del General as borrower and RBTMB as initial lender and administrative agent. This agreement defines the terms and conditions of the financings and that all forms of revenues were to be captured by the Lender and included the calculation of Financial Covenants, Dividend Payments and cash Flow available for Debt Service. The revenues derived from the sale of carbon bonds were highlighted in the financial projections analyzed by RBTMB and all participating banks. Ratios included in the Credit Agreement would be breached if revenue derived from the sale of carbon bonds was not included in the overall financial position.</p>

General	CAR B2
<p>Corrective Action #4</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The project participant has submitted new evidence via a testimony letter from Mr. Darryl White, Head of Investment Banking at RBTT Merchant Bank Limited and dated on 28/01/2010, providing testimony on the decisive consideration of the carbon revenues at the time of finalizing the financing agreement in 2004.</p> <p>The new evidence submitted by the project reinforces the prior consideration and decisiveness of carbon revenues at the time of taking the decision to acquire the project from Oxbow Power Corporation in 2002, and through the negotiations with the lending institution and the financial agreement signed in 2004.</p> <p><u>Continuing consideration:</u></p> <p>The CDM consideration was active up until the time of reception of the e-mail dated on 01/03/2005, from Odil Tunali Payton, acting as Project Manager of the Carbon Finance Business Unit at the World Bank. In such e mail, it is stated that: <i>While project preparation involving technical, financial, and environmental due diligences - as well as the ERPA negotiations - have advanced smoothly and significantly, as you are also aware, we have not been able to obtain key data for the Costa Rican power sector to allow us to complete the baseline methodology and ER calculations, as required under the Clean Development Mechanism rules.</i></p> <p>Letter sent by the Costa Rica DNA to the EGHP on 07/09/2005 following up telephone conversations started by the project participant, requesting a visit to the project site as part of periodic communications and follow up of projects in the Costa Rican CDM portfolio.</p> <p>The project participant submits new evidence related to a visit conducted on 13/09/2005, by representatives of the Costa Rica DNA as for discussing and receiving information on the status of advance of CDM registration efforts for the project.</p>

General	CAR B2
<p>DOE Assessment #4</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p><u>Prior consideration:</u></p> <p>The PP has provided further information to demonstrate that “<i>the benefits of the CDM were a <u>decisive factor</u> in the decision to proceed with the project</i>”:</p> <p>a) <u>2001/03/30</u> - The Project Concept Note (PCN) prepared by OCIC</p> <p><u>DOE assessment:</u> the validation team has reviewed the document and had identified that:</p> <p>It is stated in page 1, the section S.5 Project Financing:</p> <ul style="list-style-type: none"> - Total Project cost - Underlying finance (percentage for investor’s equity/dept) - <u>“PCF purchase of Emission Reductions sought”</u> <p>It is stated in page 12, section 3.5.5:</p> <p><i>“Therefore, for private sector renewable generation projects to move forwards, <u>the incremental cost must be covered by carbon offset sales or other incentives</u>”</i></p> <p>In page 13 section 4.2, it is also stated that the Project Idea Note application to the <u>Prototype Carbon Fund (PCF)</u> has been finished and submitted on March 2001 and the PCF <u>Emission Reductions Purchase Agreements (ERPA)</u> would be finished on August 2001.</p> <p>In page 14, section 5.3 it is stated the <u>Expected Schedule for PCF Purchase of ERs.</u></p> <p>In section 5.6 <u>key parameters affecting project feasibility</u> it is also included the emissions reductions payments.</p> <p>It is stated in several sections of the document (PCN) that the emissions reductions payments are important and necessary to go ahead with the project. <u>This document is accepted as evidence to demonstrate the benefits of the CDM were a decisive factor.</u></p> <p>b) <u>2002/08/19</u> - Letter and Financial Model dated on 19/08/2002 to Mr. John Stauffer at Oxbow Power Corporation from Mr. Juan Ramirez, President Grupo Saret, referencing the on-going negotiations related to the agreement to acquire the ownership rights that Oxbow Power Corporation had over the EI General Hydro Project.</p> <p><u>DOE assessment:</u> it is included a financial model used by the parties in order to assess the benefits of the project. Such model incorporates the <u>revenues</u> in the project financial analysis (page 15), such as capacity payment, energy payment and <u>carbon credits.</u></p>

General	CAR B2
<p>DOE Assessment #4</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The benefits of CDM (revenues from sale of carbon credits) were considered in the financial model used by Grupo Saret to demonstrate the financial structure of the project activity. <u>This document is accepted as evidence to demonstrate the benefits of the CDM were a decisive factor.</u></p> <p>c) <u>2002/12/10</u> - Saret sent a letter to Hidroeléctrica Platanar S.A. enclosing a document entitled “Proyecto Hidroeléctrico El General”.</p> <p><u>DOE assessment:</u> The document “Proyecto Hidroeléctrico El General” was checked accordingly. It is stated in page 9 that the project has the possibility of obtaining additional revenues due to environmental services from clean energy generation. It is clear that the PP had considered the revenues of the CDM; nevertheless <u>this document does not provide evidence that the CDM was a decisive factor in the decision to proceed with the project.</u></p> <p>d) <u>2004/05/07</u> - The financing agreement entered among Hidroenergía del General as borrower and RBTTMB as initial lender and administrative agent.</p> <p><u>DOE assessment:</u> <u>This document can not be considered as evidence to demonstrate that the benefits of the CDM were a decisive factor</u> in the decision to proceed with the project because this event had occurred after the project starting date (2004/01/26).</p> <p>In resume, the information that qualify as <u>prior consideration</u> (including evidence to demonstrate that the benefits of the CDM were a decisive factor) are the following:</p> <ol style="list-style-type: none"> 1. <u>2000/06/16</u> - Draft of the proposed Rio General Emissions Purchase Agreement between Hidroenergía Del General and Prototype Carbon Fund (PCF). 2. <u>2001/03/30</u> - The Project Concept Note (PCN) prepared by OCIC (<u>decisive factor</u>). 3. <u>2002/08/19</u> - Letter and Financial Model dated on 19/08/2002 to Mr. John Stauffer at Oxbow Power Corporation from Mr. Juan Ramirez, President Grupo Saret, referencing the on-going negotiations related to the agreement to acquire the ownership rights that Oxbow Power Corporation had over the El General Hydro Project (<u>decisive factor</u>).

General	CAR B2
	<p>4. <u>2003/05/22</u> - Letter of intent of potential purchase of emission reductions of EGHP by International Bank for Reconstruction and Development (IBRD),</p> <p><u>Final conclusion regarding prior consideration:</u></p> <p>The DOE has validated that the project has considered the benefits of the CDM prior to the project activity start date and that the benefits of the CDM were a decisive factor to proceed with the project.</p> <p>Evidence to demonstrate this was properly assessed as real actions to secure CDM status. All remaining evidence provided by the PP to demonstrate this were properly assessed and finally excluded as evidence of prior consideration. This had occurred during the process to close finding B2. Therefore the DOE confirms that the PP had demonstrated prior consideration of the CDM, according to EB 49, Annex 22.</p> <p><u>Continuing consideration:</u></p> <p>According to EB 49, Annex 22, paragraph 6, <i>“The project participant must indicate, by means of reliable evidence, that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation. Evidence to support this should include, inter alia, contracts with consultants for CDM/PDD/methodology services, Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds), evidence of agreements or negotiations with a DOE for validation services, submission of a new methodology to the CDM Executive Board, publication in newspaper, interviews with DNA, earlier correspondence on the project with the DNA or the UNFCCC secretariat.”</i></p> <p>In resume, the information that qualify as <u>continuing and real actions</u> by the PP to secure CDM status after the project starting date (26/01/2004) are the following:</p> <p>1. <u>2004/02/20</u> - Hidroenergia del General sent a letter to World Bank (Carbon Finance Unit) informing that they decided to authorize a modification to the path for the transmission line that interconnect the project's power house with the ICE's Leesville substation. They are committed to solve this situation before the date of signing an agreement with the World Bank regarding the purchase of emission reductions.</p>

General	CAR B2
<p>DOE Assessment #4</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>2. <u>2004/10/07</u> - Amendment to the Letter of intent for Hidroenergía del General S.R.L. by the World Bank - Carbon Finance. El General Hydroelectric Power Plant had signed it on 19/04/2004. The validity of the letter is until 19/01/2005 ("Exclusivity Period").</p> <p>3. <u>2007/04/26</u> - Contract between a local consultant and Hidroenergía del General SRL. As part of management decisions, in order to continue with CDM project development.</p> <p>4. <u>2007/11/06</u> – Econergy enters into agreement with Hidroenergía del General SRL in order to finalize and retake the CDM project cycle.</p> <p>5. <u>2008/08/29</u> - Assignment of validation with TÜV NORD.</p> <p>6. <u>2009/04/21</u> - Submission of PDD for global stakeholder commenting process.</p> <p><u>Final conclusion regarding continuing consideration:</u></p> <p>The longer gap is 2.5 years (931 days) from 2004/10/07 – (Amendment to the Letter of intent for Hidroenergía del General S.R.L. by the World Bank - Carbon Finance) to 2007/04/26 (Contract between a local consultant and Hidroenergía del General).</p> <p>Although the PP had to face several problems to go ahead with the project, such as the cancellation of the agreement between the World Bank regarding the purchase of emission reductions, the gap between documented evidence is less than 3 years.</p> <p>The DOE has validated that continuing and real actions were taken by the PP to secure CDM status and those actions do not have a gap greater than 3 years. Evidence (see above) to demonstrate this was properly assessed and accepted as <u>real</u> actions to secure CDM status. All remaining evidence provided by the PP to demonstrate this were properly assessed and finally excluded as evidence of continuing and real actions. This had occurred during the process to close finding B2. Therefore the DOE confirms that the PP had demonstrated continuing consideration of CDM, according to EB 49, Annex 22.</p> <p><u>CAR is closed</u></p>
<p>Conclusion</p> <p><i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input type="checkbox"/> The project complies with the requirements</p>

General	CAR B3		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>For the excel spread sheet “El General Equity IRR 2009 03 10”:</p> <p>Provide reference to all input values (construction and supply contracts, construction drawdowns, loans, depreciation and amortization regulations and application rules, etc) as it was not possible to validate it on site. Evidence has to be provided but also included in the Excel table in order to be transparent, and made the whole calculation table traceable. Special mention to the income fields and the load capacity factor which is not clearly indicated in the Excel table as an input value.</p> <p>In folder “base case” please clarify and if necessary revise:</p> <ul style="list-style-type: none"> • On base of which assumptions/parameter is the energy production linked so that it varies along the lifetime? • Further explain the rationale of linking the O&M Variable expenditures to the revenues?. • Depreciation & amortization <ul style="list-style-type: none"> • The sum of yearly “depreciation & amortization” terms should equal the total CAPEX. • Some values have been input manually and not linked to the EBT • Calculation of taxes: <ul style="list-style-type: none"> • Please further clarify why they are not counted already in year 1 • Values have been input manually and not linked to the EBT <p>For the Sensitivity analysis please clarify and correct:</p> <ul style="list-style-type: none"> • Taxes at +10% EPC not only do not start in year 1 but also in a different year (year 4) than considered in the base case. • The capacity terms in the base case have been entered manually, at the max Revenue case are given as 36,35*39000*3/1000. Presumably is the factor 39000 above referred to the installed capacity. If this is the case, a right value should be applied there, i.e. 40000. • The increase of the capacity factor up to 52.5% cannot be traced back in the max Revenue case. • Please further explain how the energy payments for all the cases have been calculated <p>How the energy payments for all the cases have been calculated?</p>		

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<p>Corrective Action #1</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The reference to the input values was sent to the auditor. The excel table CRITERIA_Rev_18_05_09_MB explain the variables indicated in the cash flow.</p> <p>In folder “base case”:</p> <ul style="list-style-type: none"> • Energy tariff is subject to a bi-annually adjustment (PPA Contract). The adjustment is defined as 20% of the variation (only if positive) in the US Consumer Price Index. Estimations were done considering a yearly increase in US CPI of 2.62% (10 year average) so that the tariff for energy is adjusted by an annual factor of 1.00524. • According to the PPA “2003.05.05 Archivo_Nº7_Contrato_ICE.pdf”, item 6.3.2 – a, the O&M varies with the hydrological cycle which also is related to the revenues. • Depreciation & amortization <ul style="list-style-type: none"> • Correct, except for land, right of ways and reserves that are not subject to devaluation and cash (working capital and reserves). • Details of the depreciation and amortization calculation were inserted in a new sheet. • Calculation of taxes: <ul style="list-style-type: none"> • According to the financial pro-forma and the spread sheet where it is summarized, there are losses in USD during the first three years of operations. When translating the Statements of Operations to local currency, the losses are extended to the first five or six years of operation. The local tax authorities permit losses to be carried forward to subsequent periods. According to the complete analysis from the fiscal point of view, there will be not applicable income tax for the first nine years of operations. • They are calculated as a percentage of the Earnings before Taxes from the pro-forma model's projection of the Statements of Operations in local currency, subject to exchange rate variations, financial losses originated in registry in local currency of the debt in US dollars, depreciation at historical costs in local currency, revaluation of assets for compensating for the last, etc.

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<p>Corrective Action #1</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ul style="list-style-type: none"> It is necessary to translate the USD based pro-forma calculations into local currency (colones). In Costa Rica the Law requires that all accounting records are kept in “colones” and because of that, income taxes must be calculated based on that information. <p>The process of translating the numbers from one monetary unit to another is not as easy as multiplying by the exchange rate. It requires several additional calculations. For example, if the company is strongly leveraged in foreign currency, the liability is initially registered in colones at the exchange rate of the date when the obligation is signed. But as the exchange rate fluctuates, the amount of the liability has to be adjusted to reflect the fact that the obligation is in foreign currency. This generates currency losses if the exchange rate goes up or a currency gain if it goes down. Something similar happens to depreciation and the value of the assets because the assets are initially recorded at its value in colones and depreciation is estimated as a fixed percentage of that fixed value in colones. When the exchange rate fluctuates, the value of the assets in foreign currency also fluctuates accordingly, making necessary to revalue the assets to compensate for the variations, something that can only be made once a year. Many other things have to be taken into consideration and this is why the calculation is so complex only to estimate the income tax in US dollars.</p> <p>For the Sensitivity analysis:</p> <ul style="list-style-type: none"> More construction costs equals more depreciation and more amortization of financial cost and that means more losses at the beginning. Since the company is losing money during the first years of operation it will not have to pay taxes. In the base case, there are only losses in the very beginning and profit thereafter. For the +10% the losses are extended to other periods.

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<p>Corrective Action #1</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ul style="list-style-type: none"> The 39,000 kW value refers not to installed capacity but to “compromised capacity” as defined in the Power Purchase Agreement (PPA). According to the PPA, HDG is committed to supply 39,000 kW for five hours a day for 3 months and in exchange, ICE is committed to pay USD36.35 per month for three months for each of the 39,000 kW of “compromised.” The capacity factor of 52.5% corresponds to the base case, not to the max Revenue case. Please, see the spreadsheet Generation EGHP.xls. The formula presented in the max revenue case: $(0.05 \cdot 30 \cdot 24 \cdot 39000 \cdot 12 \cdot 0.6 + 0.2 \cdot 0.05 \cdot 30 \cdot 24 \cdot 39000 \cdot 12 \cdot (0.6051 - 0.6))$ Explaining factor by factor (calculated according to the PPA pg. 28): 0.05 – The electricity price. According to the PPA sent to the DOE; 12 – Number of months in a year; 30 – Number of the days in a month; 24 – Number of hours in a day; 39000 – power capacity 0.6 – Load factor, in which the full electricity price is applied (according to the PPA); 0.2 – According to the PPA, factor applied when the load factor is between 0.6 and 0.66; 0.6051 – according to the hydrological study, during 33 years, the average load factor is 52.5% with a standard deviation of 8.01%. Thus, the maximum value is 0.6051. As the price will be applicable only to the part that is above 0.6, the difference between 0.6051 and 0.6 was calculated. <p>The formula presented in the min revenue case: $(0.05 \cdot 30 \cdot 24 \cdot 39000 \cdot 12 \cdot 0.4449)$ The same explanation above is used here, except the value 0.4449 which is explained in the 33 year hydrological study as the min load factor $(52.5\% - 8.01\% = 44.49\%)$, indicated in the spreadsheet: Generation EGHP.xls.</p> <p>The energy payments for the base case are detailed in cell B15 of spreadsheet: Generation EGHP.xls.</p>

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<p>DOE Assessment #1</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ul style="list-style-type: none"> • The excel table “CRITERIA_Rev_18_05_09_MB” which explains the variables indicated in the cash flow shall be presented in English, included in the main excel spread sheet “B3 – El General equity IRR 2009 08 21” and <u>clearly linked</u> with the cash flow in order to be completely <u>traceable</u> and transparent <u>for any person</u>. • All justifications provided by the PP in finding B3 of this document shall be included in the main excel spread sheet. • Depreciation & amortization: In “depr+am” sheet provide reference of the depreciation development costs (5 years) and amortization (10 years) based on local legal regulations. This is still not clear. • Calculation of taxes: <ul style="list-style-type: none"> • Provide reference that the local tax authorities permit losses to be carried forward to subsequent periods. • Justification shall be still provided about the method to calculate taxes. Data that has been input manually has to be clearly referenced or justified with credible sources and not only with statements. • Sensitivity analysis: <ul style="list-style-type: none"> • Provide reference or calculate the capacity payment in “base case” sheet and in “min Revenue” sheet as they have been entered manually. Data that has been input manually has to be clearly referenced • Reference the capacity factor of 52.5% in the main excel spread sheet. • Justification for calculation of energy payments for every sheet shall be included in the main excel spread sheet. <p>All input data should be <u>clearly referenced</u> in the main excel spread sheet, with the corresponding sources given.</p> <p><u>CAR remains open.</u></p>

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<p>Corrective Action #2</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ul style="list-style-type: none"> • The information contained in the spreadsheet “CRITERIA_Rev_18_05_09_MB” was included in the cash flow. • The information provided in finding B3 was included in the cash flow. • The information about depreciation and amortization can be found in Law 7092, article 7, item f and article 8, item n. • Calculation of taxes: <ul style="list-style-type: none"> • This information can be found in Law 7092, article 8, item g and article 15, item a. • The taxes calculations are referenced in the cash flow spreadsheet. • Sensitivity analysis: <ul style="list-style-type: none"> • The reference of the capacity payment was included in the cash flow. • The capacity factor of 52.5% is referenced in the hydrology study Generation EGHP.xls cell AA73. • The references for calculation of energy payments were included in the base case, max revenue and min revenue spreadsheets.

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<p>DOE Assessment #2</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ul style="list-style-type: none"> • In the excel spread sheet: “B3 – ElGeneral equity IRR 2009.11.09”: <ul style="list-style-type: none"> - Clarify why the construction expenses in line 31(USD36,398) differ from the offer “Oferta Obras civiles Marshall” (USD35,995). - In line 62, provide reference of the 25% of the property tax and include it in all sheets. - In order to provide traceability, it is necessary to link every amount of taxes direct from the calculation spread sheet, as it is has been put manually (see as example Depreciation and Amortization). - Reference of changes in working capital (line 77) is still missing. - Provide further reference of the senior Loan (line 85). • There is no item f in article 7 of the Law 7092 and clarify also why amortization is considered as a deduction and not as a payment. • Calculation of taxes: <ul style="list-style-type: none"> - Please link or reference lines 4, 5, 26, 27, 32, 34 in sheet “base case taxes”. • Sensitivity analysis: <p>As described in the PDD and clearly demonstrates in the financial spreadsheet, a sensitivity analysis with the most relevant parameters was performed.</p> <p>As a result of the investment analysis the maximum IRR of 18.57% was obtained with a variation of -10% of the CAPEX. This occurrence of this scenario is not very likely to happen because all construction contracts have been already</p> <p>Actually value applied for the EPC contract are quite similar to the value (USD51,800 x 1000) stated in the signed Engineering, Procurement and Construction Contract/EPCC/ dated on 2004/01/26 (project starting date). If we apply the value stated in the signed EPC contract in the IRR calculation, the IRR would be 15.01% which is still not beyond the applied benchmark (17,2%). The EPC contract represents 70% of the total project investment.</p> <p>The revenues due to energy generation consider two aspects: capacity payment and energy payment.</p> <p>The Capacity Payment is paid only during the dry season period. The PP has applied a sensitivity analysis. Applying a +10% of the capacity payment the IRR goes from 14.86% to 15.53% which is still below the applied benchmark (17.2%). This is very unlikely to happen as the capacity payment is calculated through the compromised power capacity stated in the PPA (39 MW). Although the PP could generate more energy, the compromised capacity which is paid for is 39 MW. Therefore the capacity payment will remain always the same through the project activity lifetime.</p> <p>The Energy Payment is calculated through the energy generation and the energy price. The average annual energy generation is estimated in 196.21 GWh based on the EGHP hydrology study calculation spreadsheet/HI/ and the plant load factor of the project of 57% which are also based on the studies performed by Bel Ingenieria/HI/ & /FS/.</p>

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	<p>The <u>energy price</u> or electricity tariff is defined by the PPA between the ICE and the PP. The electricity tariff is 0.05 USD/KWh. Energy tariff is subject to a bi-annually adjustment according also to the PPA. The PP has already applied such adjustment in the IRR calculation obtaining an IRR of 14.86%. ICE will pay also the energy which exceeds the maximum annual energy generation (39 MW) as a percentage of 20%, 15% or 10% of the official tariff. This is taking into consideration the average capacity factor used by the plant in a year of operation.</p> <p>The PPA (paragraph 7.1.2, item a) defines how the electricity tariff is calculated:</p> <ul style="list-style-type: none"> • The electricity generated with a load factor up to 0.6 will have the price of 5 USD cents (0.05 USD/kWh); • The electricity generated with a load factor from 0.61 to 0.66, will have the price of 20% of the electricity tariff (i.e. $0.05 \times 20\% = 0.01$ USD/kWh); • The electricity generated with a load factor from 0.67 to 0.72, will have the price of 15% of the electricity tariff (i.e. $0.05 \times 15\% = 0.008$ USD/kWh); • The electricity generated with a load factor from 0.73 to 1, will have the price of 10% of the electricity tariff (i.e. $0.05 \times 10\% = 0.005$ USD/kWh). <p>The plant load factor of the project activity (0.57) based on 33 years hydrology database leads to energy price of 5 USD cents (0.05 USD/kWh). In case of an increase in the plant load factor of the project activity, the electricity will be also increased.</p> <p>According to the PDD and the PPA there is a <u>non-linear relation</u> between the energy generation and energy price. An increase of the electricity generation of 10% would not increase the revenues (electricity tariff) in 10%. In order to increase the energy revenues till 10%, it would be necessary to increase the energy generation till 22% resulting in an average load factor of 70%. According to the evidence provided this scenario is very unlikely to happen.</p> <p>The PP has applied a sensitivity analysis. Applying a +10% of the energy revenue the IRR goes from 14.86% to 16.41% which is still below the applied benchmark (17.2%).</p> <p>Both scenarios (increase till 10% the capacity payment and energy payment) are not very likely to happen according to the explanation given above.</p> <p>Furthermore the validation team has crosschecked the IRR value (14.9%) stated in the Investment Analysis Report^{/IA/} (used for the investment decision) against the value stated in the IRR calculation spread sheet^{/IRR/} (14.86%). Both values are exactly the same as all inputs were also the same. The PP has used the investment calculation used at the time of investment decision (December 2002). <u>CAR remains open.</u></p>

General	CAR B3
<p>Corrective Action #3</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ul style="list-style-type: none"> • In the excel spread sheet: “B3 – ElGeneral equity IRR 2009.11.09”: <ul style="list-style-type: none"> - Clarify why the construction expenses in line 31(USD36,398) differ from the offer “Oferta Obras civiles Marshall” (USD35,995). The value of “Oferta Obras civiles Marshall” was estimated in 2000 by Marshall Asociados. The new values are from 2002, and was estimated by Saret Sistemas de Energía (please refer to page 15 of the milestone 10/12/2002 – Investment analysis). - In line 62, provide reference of the 25% of the property tax and include it in all sheets. The reference of 0.25% is the Law 7509 and was included in base case sheet. - In order to provide traceability, it is necessary to link every amount of taxes direct from the calculation spread sheet, as it is has been put manually (see as example Depreciation and Amortization). The taxes in base case are linked with the base case taxes spreadsheet. - Reference of changes in working capital (line 77) is still missing. The “changes in working capital” line 77 is linked with line 42 (working capital investment). The references are indicated in line 42 of the base case spreadsheet. - Provide further reference of the senior Loan (line 85). The equity investment is 30% of the total investment, and senior Loan is 70%. The reference is indicated in the cell B50. • There is no item f in article 7 of the Law 7092 and clarify also why amortization is considered as a deduction and not as a payment. Please refer to the article 8 item f. Amortization is a deduction of capital expenses during assets life, usually consumption of value of intangible assets. • Calculation of taxes: <ul style="list-style-type: none"> - Please link or reference lines 4, 5, 26, 27, 32, 34 in sheet “base case taxes”. The references were included in the spreadsheet.

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<p>DOE Assessment #3</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ul style="list-style-type: none"> Investment Analysis Ref. SRTGDN 018-D dated on 10.12.2002 was checked accordingly and it refers to the construction expenses in line 31(USD36,398). Reference was provided to the 25% of the property tax. Taxes were linked directly to taxes calculation. Reference of changes in working capital is corrected referenced. Reference was provided to the senior Loan. Reference and concept is correctly applied. References were provided to lines. <p>Nevertheless, further clarifications and corrections shall be given:</p> <ol style="list-style-type: none"> Regarding energy generation: <ol style="list-style-type: none"> Please provide reference to the excel spread sheet “B4 – Generation EGHP”. Which entity has performed such analysis? original records shall be also provided in order to demonstrate the veracity of the values stated in such spread sheet. Please clarify how was calculated the plant load factor stated in file “B4 – Generation EGHP”. The feasibility study of the project shall be provided in order to crosscheck the input values and IRR. Regarding the financial parameters: <ol style="list-style-type: none"> Engineering/Administration (line 37): it is not clear the note referring 200 included in the development costs. Senior Loan: Please justify and clarify better the value. Minor maintenance, major maintenance, Variable O&M Cost and O&M Fee: were estimated based on the operation and maintenance contract between Hidroeléctrica Platanar and O&M Eléctrica Matamoros (5.5%) of the operation and maintenance costs. Further clarification is required and the maintenance contract shall be provided in order to cross checked the value. Specify details shall be provided (section, page, etc.) Municipality Taxes & Licenses: Reference is still missing. <p><u>CAR remains open.</u></p>

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<p>Corrective Action #4</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> 1. <ol style="list-style-type: none"> a) The spreadsheet “B4 – Generation EGHP” is based on the hydrological study prepared by Bel Ingenieria. This study was revised by Harza in February 2000, and validated again by Acres International in September 2005. The reports from Bel Ingenieria, Harza, and Acres International are provided along with this response. b) An error was identified in the calculation of the plant load factor stated in file “B4 – Generation EGHP”. The calculation in column was correct and the load factor shown now is 57%, which is the correct one. This was also correct in the PDD. It is important to note, however, that this does not change any other value in the file. In the report prepared by Bel Ingenieria, it is stated (in section 2.9 “Producción de Energía y Potencia”) that the annual average gross energy generation is expected to be 200.12 GWh and net energy generation is expected to be 195.21 GWh, considering a nominal power of 39 MW and a load factor of 0.57. The reports from Harza and Acres International confirm the energy volumes presented by Bel Ingenieria, except for some minor adjustments that do not affect the plant load factor. Also, it is important to note that the plant has been operating since 2006 and the actual energy production is close to the values estimated. 2. The feasibility study has been provided to the DOE along with this response (file “Bel Ingenieria Estudio de Factibilidad_HDG.pdf”). However, the feasibility study prepared by Bel Ingenieria in February 2000 did not include a financial analysis of the project. The earliest document with financial data of the project is the offer presented to ICE (file “Anexo_I_Oferta_Licitacion_Publica.pdf”), which presents a total CAPEX higher than the value indicated in the financial model presented to the DOE. 3. Please note that the values presented in the financial model are identical to the values in the file “SRTGDN-018-D_EL_GENERAL_Info_Dic_2002.pdf”, which has already been presented to the DOE. <ol style="list-style-type: none"> a) This cost is related to a contract signed between Oxbow Power Corp. and BEL Ingenieria (a copy of this contract is provided along with this response). The price of the contract USD3,600,000 (see article 5.1 of the contract provided with this response), of which only USD200,000 was paid as upfront payment, which was included in the project acquisition price. b) This value is presented in greater detail in the file “GENERAL_FINANCIAL_MEMO_(final)_confidential.xls” already provided to the DOE on 25th November 2009. This file is being resubmitted along with this response. The project owners were considering a Debt to Equity ratio of 70:30 at the time of project start date and this is reflected in the model. Please note that the values presented in the model are also in line with the values indicated on page 17 of the file “SRTGDN-018-D_EL_GENERAL_Info_Dic_2002.pdf”,

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	<p>c) See pages 14 and 17 of file "SRTGDN-018-D_EL_GENERAL_Info_Dic_2002.pdf". On page 14, it is stated that the O&M costs were based on offers SARET (the previous owner of the project) received from Hydro Quebec from Canada and Consolidated Hydro from USA. On page 17, one can see that the total O&M values in this document are identical to the values in the financial model presented to the DOE. Specific evidences for these individual sub-items have not been identified, but the total O&M costs are properly evidenced.</p> <p>d) Part of the Municipal Taxes and Licenses can be evidenced by the document "sarapiqui7321.pdf", which indicates in Article 4 a tax of 1.2 per thousand units of gross revenue. However, again, the total O&M costs are properly evidenced by the file "SRTGDN-018-D_EL_GENERAL_Info_Dic_2002.pdf".</p>
<p>DOE Assessment #4</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>1. Regarding energy generation:</p> <p>a) The PP has provided the following records to demonstrate the source of energy generation data stated in the spread sheet "Generation EGHP"^{HI/}:</p> <ul style="list-style-type: none"> - Feasibility Study by BEL INGENIERIA S.A., San Jose, Costa Rica, February 2000^{/FS/}. - Review of the historical flow and energetic production potential "Revisión del Flujo Historico y del Potencial de Producción Energética" by Harza Engineer Company, 2000/02/25^{/RHF/}. - Hydrology Report "Informe Hidrológico - Proyecto Hidroelectrico Rio General" by BEL Ingenieria S.A., September 2000^{/HI/}. - Assessment of the Reference Hydrology for El General Hydroelectric Project DRAFT, by RBTT Merchant Bank, Port of Spain, Trinidad y Tobago, September 2005, Ref. 15832F0^{/ARH/}. <p>Nevertheless data of energy generation stated in the spread sheet "Generation EGHP"^{HI/} has not been identified from the given sources. Detailed references such as name of document, chapter, page, number of table, etc. shall be provided (in corrective action #5) and also included in the spread sheet "Generation EGHP"^{HI/}. All references shall be easily identified by any person.</p> <p>b) Feasibility Study by BEL INGENIERIA S.A.^{/FS/} was checked accordingly. It is stated in section 2, item 10, page 87 a plant load factor of 0.57%. The spread sheet "Generation EGHP"^{HI/} was corrected accordingly.</p>

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	<p>2. The Feasibility Study by BEL INGENIERIA S.A.^{/FS/} performed on February 2000 was provided. No financial analysis was identified in this document.</p> <p>The PP has provided the following documents to provide evidence of the input values and IRR:</p> <ul style="list-style-type: none"> - Financial calculation spread sheet^{/GFM/}; - Investment Analysis Report^{/IA/} <p>Please refer to Annex 3 for a detailed analysis.</p> <p>3. Regarding the financial parameters:</p> <p>a) Engineering/Administration (line 37): Engineering contract was checked^{/EC/}. It is still not clear where the amount of USD200,000 is included in the financial calculation. None of the development costs include such value. Please make it clearer.</p> <p>b) Senior Loan: The IRR calculation spread sheet^{/IRR/} was provided by the PP and checked by the validation team. The project considers a Debt of the 70% (USD53,042) and an equity contribution of 30% (USD22,732) of the total investment costs (USD75,773). The senior loan value (USD53,042) stated in the IRR calculation spread sheet^{/IRR/} was crosscheck against:</p> <ul style="list-style-type: none"> - Sheet "DEBT" of the financial calculation spread sheet^{/GFM/}; - Page 17 of the Investment Analysis Report^{/IA/} <p>No discrepancies were identified.</p> <p>c) Minor maintenance, major maintenance, Variable O&M Cost and O&M Fee: The operation and maintenance costs were estimated. In first term the PP has justified the values as follow: <i>"estimated based on a operation and maintenance contract between Hidroeléctrica Platanar and O&M Eléctrica Matamoros"</i> (5.5% of the operation and maintenance costs)</p> <p>No evidence was provided to crosscheck the values. Then the PP has provided the Investment Analysis Report^{/IA/} where is stated that the O&M costs were based on offers received from Hydro Quebec from Canada and Consolidated Hydro from USA. No further evidence was provided. The validation team has crosschecked the O&M values stated in the Investment Analysis Report^{/IA/} against the values stated in the IRR calculation spread sheet^{/IRR/}. No discrepancies were identified.</p> <p>Nevertheless please eliminate notes (cell B29, B36 and B37) in sheet "INPUTS operation" of the IRR calculation sheet "El General equity IRR 2010.11.08 v2".</p>

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	<p>d) Municipality Taxes & Licenses: Reference was provided. The Municipal Tax Regulation^{/TAX/} was checked. No discrepancies were identified between the IRR calculation and the information provided in article 4 of the Regulation^{/IRR/}. Furthermore the validation team has crosschecked the tax values stated in the Investment Analysis Report^{/IA/} against the values stated in the IRR calculation spread sheet^{/IRR/}. No discrepancies were identified.</p>
<p>Corrective Action #5 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>1. The correct evidence for this parameter is the file "SRTGDN-018-D_EL_GENERAL_Info_Dic_2002.pdf". In page 1, section called "<i>Especificaciones técnicas más relevantes</i>", the presented the value is mentioned.</p> <p>3.</p> <p>a) This statement was removed, as the reference "SRTGDN-018-D_EL_GENERAL_Info_Dic_2002.pdf" presents the value of USD 3,400. This evidence was already provided to the validation team.</p> <p>c) The mentioned comments were removed.</p>
<p>DOE Assessment #5 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>1. Data of energy generation stated in the spread sheet "<i>Generation EGHP</i>"^{/HI/} was not referenced from the given sources. This information has an important role in the calculation of IRR.</p> <p>3.</p> <p>a) Engineering/Administration (line 37): No up dated version of the IRR calculation sheet was provided by the PP. Nevertheless it can be acceptable such justification as in the Engineering contract^{/EC/} is stated an amount of USD3,600 instead of an amount of USD3,400, which is conservative.</p> <p>c) No up dated version of the IRR calculation sheet was provided by the PP. Please eliminate notes (cell B29, B36 and B37) in sheet "INPUTS operation" of the IRR calculation sheet "El General equity IRR 2010.11.08 v2".</p> <p><u>CAR remains open.</u></p>
<p>Corrective Action #6 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>1. The data of energy generation stated in the spreadsheet is evidenced in page 1 item "<i>produccion annual de energia</i>" in page 1 of the file: SRTGDN-018-D_EL_GENERAL_Info_Dic_2002.pdf shows a value of 196.2 GWh/y.</p> <p>2. Please find attached the IRR calculation sheet, with the required modifications.</p>

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DOE Assessment #6 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Data of energy generation was correctly referenced in the spread sheet “<i>Generation EGHP</i>”^{/HI/}. The validation team checked the source^{/HI/} referenced. No discrepancies were identified.</p> <p>An up dated version of the IRR calculation sheet^{/IRR/} “<i>B3_ElGeneral_equity_IRR_2010.11.08 v2 MR</i>” was provided by the PP. Unnecessary notes (cell B29, B36 and B37) were eliminated. The spread sheet is traceable and completely referenced.</p> <p><u>CAR is closed.</u></p>
Conclusion <i>Tick the appropriate checkbox</i>	<div> <input type="checkbox"/> To be checked during the first periodic verification </div> <div> <input type="checkbox"/> Appropriate action was taken </div> <div> <input checked="" type="checkbox"/> Project documentation was corrected correspondingly </div> <div> <input type="checkbox"/> Additional action should be taken </div> <div> <input checked="" type="checkbox"/> The project complies with the requirements </div>

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Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section B5:</p> <p><u>Investment Analysis</u></p> <ul style="list-style-type: none"> • Provide reference to the benchmark CAPM (Capital Asset Pricing Model). • Explain “CSRP” from the equation to calculate K_e, as well as the others components of the equation. • Reference the values 60.51%, 44.49% and 52.5% in page 13. • Reference the statement “which is a medium value for a 33 years period, according to hydrology studies”. <p><u>Investment Barriers and other barriers</u></p> <p>Provide reference to the following statements:</p> <ul style="list-style-type: none"> • “Costa Rican economy is operated with a deficit and it faces a heavy internal debt burden”. • “Faced a financing arrangement barrier due to the nature of private project development”. • “The prices for steel, fuel and materials during the construction phase increased considerably”. • “The revenue of the electricity commercialization was fixed in 5 cent USD/KWh”. • “ICE is a state owned entity with a monopoly over the Costa Rican electricity distribution to”. • “EGHP had experience serious delays in obtaining the water use concession from MINAE”. 		

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Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ul style="list-style-type: none"> - The reference to the benchmark CAPM was included in the PDD. - The components of the equation to calculate Ke were explained in the PDD. - The reference to values 60.51%, 44.49% and 52.5% in page 13 is the hydrology studies. - The reference to the statement “which is a medium value for a 33 years period, according to hydrology studies” is the excel spreadsheet “Generation EGHP.xls”. <p>Regarding investment Barriers and other barriers:</p> <ul style="list-style-type: none"> - This is evidenced in the document “Informe Económico I semestre 2003.doc” provided to the DOE and available at http://www.bccr.fi.cr/documentos/publicaciones/archivos/INFEC1S03.zip - The documents that supports the difficulty in finance this project was submitted to the DOE. - This is evidenced by the file: KPMG_Jul,31,07.pdf, provided to the DOE. - The information about the electricity price is stated in the PPA, provided to the DOE. - It is possible to verify this information in the website: http://www.grupoice.com/esp/gsomos/infobase/organiza.htm. - This is evidenced by the file: water concession barrier.zip and Dictamen_288_20_11_2000_Concesion_aguas_BOT.pdf.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>All input data should be clearly referenced in the PDD.</p> <ul style="list-style-type: none"> • Provide reference in the PDD <u>which</u> hydrology studies are the PP using as reference (values 60.51%, 44.49% and 52.5% and value for a 33 years period). • The documents that support the difficulty in finance the project shall be also referenced in the PDD. <p>CAR remains open</p>
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ul style="list-style-type: none"> • This reference was indicated in the PDD as Generation EGHP.xls. • These references were indicated in the PDD.

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<p>DOE Assessment #2</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>References were provided. The PDD was checked. Nevertheless</p> <ol style="list-style-type: none"> 1. Please provide evidences to support that the benchmark used at the time the investment decision was taken was the same as the benchmark calculated by KPMG in year 2009. 2. According to the Guidelines for objective demonstration and assessment of barriers (EB 50, Annex 13): <ol style="list-style-type: none"> a) Guideline 6: <i>"In case the PPs make the claim for investment barriers, they should demonstrate in the PDD that the financing of the project was assured <u>only due to the benefit of the CDM</u>. Therefore, it should be demonstrated that the loan approval (or other significant financing decision(s)) by the lender takes explicitly the CDM registration into account."</i> <u>This has not yet been demonstrated by the PP.</u> Further justification and proper evidence is required. b) Guideline 2: <i>"Demonstrate in an objective way <u>how the CDM alleviates each of the identified barriers</u> to a level that the project is not prevented anymore from occurring by any of the barriers"</i> This has not yet been demonstrated by the PP. <u>This has not yet been demonstrated by the PP. Further justification and proper evidence is required.</u> 3. Regarding common practice analysis, <ol style="list-style-type: none"> a) Please define which region is established for comparison; b) No specific time range has been considered to determine the criteria for choosing a cohort of power plants for conducting the common practice analysis, considering that a proper time range should be consistent with a similar economic environment, i. e. please take into account events like energy market reforms. c) As it has been stated, 12% of the generation has been commissioned privately. Please justify why none of the power plants belonging to the private sector are included in the common practice analysis. d) Finally after correction would be done, please provide a <u>complete and transparent analysis</u> of any other activities that are similar to the proposed project activity, according to the last version of the combined tool to identify the baseline scenario and demonstrate additionality. <p>All this information has to be included in the PDD.</p> <p>CAR remains open.</p>

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<p>Corrective Action #3</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>1. The <i>Tool for the demonstration and assessment of additionality</i> indicates that “When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the specific characteristics of the project type, <u>but not linked to the subjective profitability expectation or risk profile of a particular project developer</u>. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered.” Therefore, this request from the DOE is not in accordance with the CDM rules. Nonetheless, evidence from April 2001 is being provided along with this response indicating that the benchmark used by the PP is similar to the benchmark presented in the PDD.</p> <p>2. The barrier analysis has been removed due to the fact that the investment analysis should be sufficient to prove the additionality of the project. The project developer believes that the project faced several barriers, but it seems difficult to present these barriers in a manner that fulfills all the current expectations for the barrier analysis.</p> <p>3. Please see revised PDD. The Common Practice Analysis section has been completely revised.</p>
<p>DOE Assessment #3</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>1. According to the Guidelines on the Assessment of Investment Analysis version 03.1 (EB 51 , Annex 58):</p> <p>Guidance 6: “<u>Input values used in all investment analysis should be valid and applicable at the time of the investment decision taken by the project participant. The DOE is therefore expected to validate the timing of the investment decision and the consistency and appropriateness of the input values with this timing</u>”.</p> <p>“<u>This decision will therefore be based on the relevant information available at the time of the investment decision and not information available at an earlier or later point</u>”.</p> <p>The Report^{/DRA/} performed by KPMG was elaborated on 2009/01/05. As the investment decision was taken in 2002, this Report was not available at the time of the investment decision. Therefore such report^{/KPMG/} can be used only as a cross check reference (17.63%) of the suitability of <u>the benchmark used at the time of the investment decision</u>.</p> <p>Furthermore a signed letter^{/FAL/} from Juan B. Ramirez S., President of GCS and dated on 2001/04/19 was provided by the PP. It is stated in such letter a minimum rate of return of the project activity of 16%. In case such IRR is the benchmark, please refer to Guidance 13 of the Guidelines on the Assessment of Investment Analysis version 03.1 (EB 51, Annex 58):</p>

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	<p><i>"In the cases of projects which could be developed by an entity other than the project participant <u>the benchmark should be based on publicly available data sources which can be clearly validated by the DOE. Such data sources may include local lending and borrowing rates, equity indices, or benchmarks determined by relevant national authorities.</u></i></p> <p>This has not yet been demonstrated by the PP. Therefore please provide evidence of the origin of the benchmark applied <u>at the time of investment decision</u> and that <u>such benchmark complies with the requirements of the Guidelines</u> on the Assessment of Investment Analysis.</p> <p>Please note that a particular benchmark value such as 16% which is not based in objective evidence could be considered as a <u>"subjective profitability expectation or risk profile of a particular project developer"</u>.</p> <p>Is the DOE's understanding that the project activity could be developed by a different entity because Oxbow Power Corporation was the entity which was awarded to the owner as part of the Public International Bid 6670-E^{/PO/} for Costa Rica utility "ICE". Therefore the project activity could be developed for any other entity which could be entered into agreement with Oxbow Power Corporation. Moreover it is stated in page 6 of the document "Proyecto Hidroeléctrico El General"^{/CSC/} dated on December 2002 provided by the PP: "Oxbow company received 3 offers from 3 different construction consortiums", which confirms the assumption stated above.</p> <p>2. No evidence was provided to demonstrate that barriers prevent the implementation of the project. Barriers analysis was eliminated from the PDD. Additionality will be demonstrated through financial analysis.</p> <p>3. According to version 05.2 of the Tool for the demonstration and assessment of additionality, the following steps shall be applied:</p> <ul style="list-style-type: none"> - Analyze other activities similar to the proposed project activity - Discuss any similar options that are occurring <p>The PP has defined the following criteria to perform the analysis:</p> <ul style="list-style-type: none"> - <u>Type of projects</u>: Hydroelectric power plants; - <u>Region</u>: Costa Rica; - <u>Project commissioning date</u>: from 1995 onwards. - <u>Scale</u>: large (above 20 MW); - <u>Type of developer</u>: by private entities that are not cooperatives;

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<p>Continuation</p> <p>DOE Assessment #3</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Costa Rica National Expansion Plan^{/EPEG/} was checked by the validation team directly from the source. All information included in step 4 of section B.5 of the PDD was crosschecked against the Expansion Plan^{/EPEG/}. No discrepancies were identified.</p> <p>As stated in the Tool for the demonstration and assessment of additionality: <i>“This test is a credibility check to complement the investment analysis”</i>. Therefore additionality shall be clearly demonstrated through investment analysis.</p> <p>Nevertheless no specific time range has been considered to determine the criteria for choosing a cohort of power plants for conducting the common practice analysis, considering that a proper time range should be consistent with a similar economic environment, i. e. please take into account events like energy market reforms, regulatory framework, etc.</p> <p>Furthermore please provide reference to the statement: <i>“cooperatives can be considered self-generators as the energy from their projects is mainly dedicated to fulfill the demand of the members of the cooperative”</i>.</p> <p><u>CL remains open.</u></p>
<p>Corrective Action #4</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The PPs deem appropriate the report from KPMG, since the benchmark was calculated by KPMG for year 2003.</p> <p>The input values used for benchmark calculation are in accordance with the guidance <i>“Input values used in all investment analysis should be valid and applicable at the time of the investment decision taken by the project participant. The DOE is therefore expected to validate the timing of the investment decision and the consistency and appropriateness of the input values with this timing.”</i> Note that it is not required that the references be from the timing of the investment decision. In other words, the guidance does not indicate that current references indicating data from the past be excluded as possible references.</p>

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	Input	Value	References indicating values from 2003
	Rf	5.02%	KPMG study Geometric average treasury bonds for period of 1928-2003 - Excel file HistRetSP.xls available at http://pages.stern.nyu.edu/~adamodar/
	B	0.8	KPMG study Electric utility (Central) - Excel file Betas03.xls available at http://pages.stern.nyu.edu/~adamodar/
	ERP	.82%	KPMG study Geometric average equity risk premium – difference between stocks return and treasury bonds return; period of 1928-2003; excel file: HistRetSP.xls; http://pages.stern.nyu.edu/~adamodar/
	SRP	4%	KPMG study Table A-6; period of 1926-2003; Ibbotson Associates
	CRP	3.75%	KPMG study Damodaran http://www.stern.nyu.edu/~adamodar/pc/archives/ctryprem03.xls
	CSRP	1%	KPMG study
$K_e = 5.02\% + 0.8 \times 4.82\% + 4\% + 3.75\% + 1\%$			
$K_e = 17.63\%$			
<p>In case we remove the CSRP from this calculation for lack of other references other than the KPMG study, the final K_e would be 16.63%. Please note that if this lower value were used as benchmark, the project would remain additional. In case the DOE requests the removal of the CSRP for lack of additional reference, this adjustment could be made, although the PPs believes that this would be an arbitrary request not based on any existing guidance.</p>			

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	<p>Regarding the statement on cooperatives, please refer to article 23 of Law 6756 (available at http://www.pgr.go.cr/Scij/), which clearly states that the cooperatives have the objective of fulfilling the specific needs of their associates and electricity services are indicated as one of those needs. Also, please refer to Article 2.d. of Law 8345 from 2003 (also available at http://www.pgr.go.cr/Scij/), which clearly indicates that the main objective of rural electrification cooperatives is to solve the energy shortage problem in the rural areas.</p>
<p>DOE Assessment #4 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p><u>BENCHMARK ANALYSIS:</u></p> <p>The PP has provided further justification of the appropriateness of the benchmark used. The benchmark study performed by KPMG^{/DRA/} in year 2009 has used an expanded CAPM which incorporates further risk premiums (size risk premium, country risk premium & company specific risk premium) other than the common used CAPM. The used benchmark was not applied using a conservative approach because the expanded CAPM results in a higher benchmark than the common used CAPM. Please consider the following:</p> <ul style="list-style-type: none"> a) Rf: How can be demonstrated that a serial data from years 1928 to 2003 can be considered as appropriate? b) β: Why is considered more representative the value (0.80) of the <u>central part</u> instead of the east (0.73) or west (0.79) part as this is not a conservative approach? Moreover these data is from year 2003. Data from year 2002 is even lower (0.68, 0.73 & 0.72) taking into consideration that the investment decision was taken on December 2002: Clarification is required. c) ERP: Why the selected period stated from 1928-2003 is more representative than the period of 1994-2003? d) SRP: Clarification is required regarding the reasons to chose the data serial from year 1926 to 2003 (4.0%) instead of other serial data which could be more conservative. e) CRP: No comments. f) CSRP: According to the guidelines of investment anylsis (and as the project can be performed by other company), the specific company risk premium <u>should not be considered</u>.

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	<p><u>COMMON PRACTICE.</u></p> <p>Regarding the common practice analysis, according to the Tool for the demonstration and assessment of additionality, version 05.2, sub-step 4b.: <i>“Therefore, if similar activities are identified above, then it is necessary to demonstrate why the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers. This can be done by comparing the proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities <u>enjoyed certain benefits that rendered it financially/economically attractive (e.g., subsidies or other financial flows)</u> and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject.</i></p> <p>The project participant has excluded projects developed by cooperatives and argues that <i>“cooperatives can be considered self-generators as the energy from their projects <u>is mainly dedicated to fulfill the demand of the members of the cooperative</u>”.</i></p> <p>No benefits enjoyed by the cooperatives have been described by the PP in order to conclude that cooperatives get certain benefits and which the project activity cannot use. Further clarification is required.</p> <p>As stated in the Tool for the demonstration and assessment of additionality: <i>“This test is a credibility check <u>to complement</u> the investment analysis”.</i> Therefore additionality shall be clearly demonstrated through investment analysis.</p> <p>CAR remains open.</p>

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<p>Corrective Action #5</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>BENCHMARK ANALYSIS</p> <p>The capital asset pricing model (CAPM) is a simple and elegant model that describes the expected rate of return on any security or portfolio of securities. It is among the most widely used techniques to estimate the cost of equity. However, the model does not reflect all characteristics of the project, in this case the size effect and the region effect.</p> <p>According to the Ibbotson publication¹: <i>“The firm size phenomenon is remarkable in several ways. First, the greater risk of small stocks does not, in the context of capital asset pricing model (CAPM), fully account for their higher returns over the long term. In the CAPM only systematic, or beta risk, is rewarded; small company stocks have had returns in excess of those implied by their betas.</i></p> <p><i>Second, the calendar annual return differences between small and large companies are serially correlated. This suggests that past annual returns may be of some value in predicting future annual returns. Such serial correlation, or autocorrelation, is practically unknown in the market for large stocks and in most other equity markets but is evident in the size premia.</i></p> <p><i>Third, the firm size effect is seasonal. For example, small company stock outperformed large company stocks in the month of January in a large majority of the years. Such predictability is surprising and suspicious in light of modern capital market theory.”</i></p> <p>In addition, regarding the country risk premium, Damodaran² states: <i>“While historical risk premiums for markets outside the United States cannot be used in risk models, we still need to estimate a risk premium for use in these markets. To approach this estimation question, let us start with the basic proposition that the risk premium in any equity market can be written as:</i></p> <p><i>Equity Risk Premium = Base Premium for Mature Equity Market + Country Premium”</i></p> <p>The information above presented leads the project participant to conclude that the use of expanded CAPM as detailed below is accurate and financially sound.</p> <p>Another approach to ensure the accuracy of expanded CAPM is the financial expert opinion. The financial expert is KPMG which provided a comprehensive report on the benchmark. Their answer for the use of the expanded CAPM is detailed below:</p>

¹ 2007 Yearbook Valuation edition, Morningstar page 134

² <http://www.stern.nyu.edu/fin/workpapers/papers99/wpa99021.pdf>

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	<p><i>“From an investment point of view, conservatism implies risk aversion (lower risk). Accordingly, the conservatism will depend on whether the investor is situated at a sell or buy-side.</i></p> <p><i>The CAPM was developed at organized capital markets characterized, such as NYSE, Nasdaq, and others.</i></p> <p><i>Applying the CAPM to analyze assets which are not traded in a developed capital market is not appropriate because the CAPM does not account for risk components such as: country, size, liquidity, and control risk premiums.</i></p> <p><i>The expanded CAPM tries to address and account for those risk premiums; hence the expanded CAPM is more appropriate to evaluate investment decisions on assets which are not traded in a developed capital market.</i></p> <p><i>Using the expanded CAPM instead of the standard CAPM to analyze an asset which is not traded on a developed capital market is appropriate and the usual practice to valuing projects and enterprises in Latin America.”</i></p> <p>Regarding each expanded CAPM parameter, you will find below the Project participants response as well as the KPMG response. Bear in mind that each parameter was taken in data available in 2002.</p> <p>a) Risk free:</p> <p>The project participants, based on the Damodaran’s discussion on risk free rates, believe that the most appropriate approach is to use all data available (this means the use of 1928-2002). It seems appropriate to avoid misleading long term risk free rate due to euphoric or risk aversion periods. The risk free calculated by the PPs, using the T-bonds for the years 1928 to 2002 would be 5.35%. The financial expert in its calculations considers appropriate to use a punctual value at the date in which the PPs would have made the financial decision. As KPMG itself explained:</p> <p><i>“The “risk free rate” is usually understood as the rate of return that is available in the market on an investment that is free of default risk. Usually the yield to maturity on the US government security is deemed the risk free rate for investment evaluation purposes, as of the valuation date.”</i></p> <p>KPMG has also used the T-Bonds and the value is 5.02% taken from the Federal Reserve statistical release. The value of 5.02% was used for benchmark calculation purposes.</p> <p>b) Beta</p>

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	<p>According to KPMG research, <i>“the data provided by the Bureau of Economic Analysis show that the US wealth is concentrated in both the East and West regions of the United States.</i></p> <p><i>One key criterion applied to selecting data used in our discount rate analysis was similarity with the subject asset characteristics.</i></p> <p><i>KPMG has chosen the beta of electricity utilities central US as the risk of these companies may be more similar to HDG Project in the following terms.</i></p> <p><i>We considered that data belonging from significantly wealthier regions as compared with Costa Rica should imply a bias than a comparison with data gathered from a less wealthy region.”</i></p> <p>This value for the year of 2002 is 0.73 and it was the value used for the benchmark calculation.</p> <p>It is important to notice that, even using the lowest value of beta available at Damodaran website (0.68) for the year of 2002, we would have a benchmark of 16.48%. I.e. the project remains financially additional.</p> <p>c) ERP</p> <p>The KPMG opinion is aligned with the project participants opinion, as is detailed below:</p> <p><i>“The equity risk premium (“ERP”) is defined as the extra return over the expected yield on risk-free securities, that investors are expected to receive from an investment in a diversified portfolio of common stocks.</i></p> <p><i>We believe that the selected period (1928-2002) is more appropriate because it is difficult to expect a significant economy expansion, SP500 index doubling, and another 9/11 similar event in the foreseeable future.</i></p> <p><i>Instead, the 1928-2002 period encompasses a more diverse events impacting the market and risk levels in different ways; which we believe are more representative of the average market participant expectations over the investment environment future.</i></p> <p><i>According with specialized literature, “since the equity risk premium is a random variable, a longer time frame (which encompasses a stock market crash, expansions, recessions, two wars, and stagflation) is probably the better estimate of the future than a short, but more recent time frame” (Tom Copeland, Tim Koller, Jack Murrin, Valuation – Measuring and managing the value of companies, Third Edition, John Wiley & Sons, Inc, 2000).”</i></p> <p>The value available in 2002 and used for the benchmark calculation was 4.53%.</p> <p>d) SRP</p> <p>The reason for large periods is the same as above, or in the words of KPMG:</p> <p><i>“The 1928-2002 period encompasses a more diverse events impacting the market and risk levels in different ways; which we believe are more representative of the average market participant expectations over the investment environment future.</i></p>

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	<p>The value updated for 2002, using the same source (Ibbotson SBBI) is 3.5%.</p> <p>e) CRP</p> <p>As there were no comments on the Country risk premium, the project participants used the same source (Damodaran) to get the data for 2002. The value used was 4.88%³. KPMG report supports this approach.</p> <p>f) CSRP</p> <p>KPMG argues that: “<i>The company specific risk premium represents a risk premium that an average market participant will consider. Hence if the objective is to arrive at a discount rate market benchmark, it would not be appropriate to ignore the CSRP. There is room to discuss what specific figure should be accounted for as CSRP. We would argue that a 1% CSRP for the subject investment is a low rather than high estimate. An average market investor will consider liquidity, control, time horizon, client concentration, uncertainty related to revenue streams, price escalation, and building risks, and will account for those CSRP in their expected rate of return.</i>”</p> <p>In fact one may argue that this is a risk specific of the project developer. To avoid problems, the project participants will not use this value in the benchmark calculation.</p> <p>To sum up, the benchmark using 2002 data is presented below:</p> <table><tr><td>A</td><td>Risk free</td><td>5.02%</td></tr><tr><td>B</td><td>Beta</td><td>0.73</td></tr><tr><td>C</td><td>Equity risk premium</td><td>4.53%</td></tr><tr><td>D</td><td>Size risk premium</td><td>3.50%</td></tr><tr><td>E</td><td>Country risk premium</td><td>4.88%</td></tr><tr><td>F=A+BxC+D+E</td><td>Total Benchmark</td><td>16.71%</td></tr></table> <p>The PDD was updated accordingly.</p>	A	Risk free	5.02%	B	Beta	0.73	C	Equity risk premium	4.53%	D	Size risk premium	3.50%	E	Country risk premium	4.88%	F=A+BxC+D+E	Total Benchmark	16.71%
A	Risk free	5.02%																	
B	Beta	0.73																	
C	Equity risk premium	4.53%																	
D	Size risk premium	3.50%																	
E	Country risk premium	4.88%																	
F=A+BxC+D+E	Total Benchmark	16.71%																	

³ <http://www.stern.nyu.edu/~adamodar/pc/archives/ctryprem02.xls> accessed on 01/03/2011

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	<p>COMMON PRACTICE</p> <p>In accordance with law 7092 article 3 item c states that:</p> <p><i>“Articulo 3°. – Entidades no sujetas al impuesto...</i> <i>d) Las cooperativas debidamente constituidas de conformidad con la Ley no 6756 del 5 de mayo de 1982 y sus reformas”</i></p> <p>So, the competitive advantage and thus essential distinction between EI General and cooperatives is that cooperatives are not subject to income taxes. This fact increases the project/power plant profitability, an advantage that a private company did not have. In CDM terms, the cooperatives enjoyed (and enjoy) benefits that may render their projects to be financially/economically attractive and consequently shall be excluded from the common practice analysis. The entire content of law 7092 was submitted to the audit team.</p>

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<p>DOE Assessment #5</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p><u>BENCHMARK ANALYSIS</u></p> <p>Further clarification and evidence was provided by the PP to demonstrate the adequacy of the benchmark used.</p> <p>a) Rf (risk free rate) 5.02%: the US 20 year Treasury securities^{/DRA/} released by the US Federal Reserve on 2002/12/16 was taken as a risk free rate (5.02%). The rate corresponds to the data when the decision to proceed with the project was taken (December 2002). The risk free rate matches also with the geometric average Treasury bond rate indicated by Damodaran^{/bench1/}. Further clarification was also provided regarding the serial data taken (years 1928 to 2003) according to Damodaran approach. According to PP responses in order <i>“to avoid misleading long term risk free rate due to euphoric or risk aversion periods”</i> a longer period was taken. Clarification provided by the PP is accepted as a longer period used for estimation of a risk free rate reduces uncertainty of abnormal events which can occur.</p> <p>b) β (beta) 0.73%: According to PP responses the value (0.80) of the US <u>central part</u> was used instead of the US east part (0.73) or the US west part (0.79) due to the US central part conditions are more similar to the host country (more develop) as the US east or west conditions. According to the references provided^{/bea/} the US wealth is concentrated in the east and west regions of the United States. Therefore the less wealthy region was used. Furthermore the PP has changed the value of year 2003 (0.80) for a value of year 2002 (0.73) as the decision to proceed with the project was taken in December 2002. The value chosen is more conservative and results in a lower benchmark.</p> <p>c) ERP (Equity risk premium) 4.53%: was taken as a result of the geometric average equity risk premium (difference between stocks return and treasury bonds return) for the period of 1928-2002 according to Damodaran reference^{/bench3/}. Further clarification was also provided regarding the serial data taken. According to PP responses <i>“the 1928-2002 period encompasses a more diverse events impacting the market and risk levels in different ways; which we believe are more representative of the average market participant expectations over the investment environment future”</i>. An adequate period for this kind of analysis should be a long period which represents better the market situation. Clarification provided by the PP is accepted as a longer period used for estimation reduces uncertainty of abnormal events which can occur during the assessment period.</p>

General	CAR B4																		
	<p>d) SRP (size risk premium) 3.50%: calculated based on Ibbotson SBBI 2010 Valuation Yearbook^{/bench4/}. Clarification was also provided regarding the chosen serial data. According to PP responses <i>“The 1928-2002 period encompasses a more diverse events impacting the market and risk levels in different ways; which we believe are more representative of the average market participant expectations over the investment environment future”</i>. An adequate period for this kind of analysis should be a long period which represents better the market situation. Clarification provided by the PP is accepted as a longer period used for estimation reduces uncertainty of abnormal events which can occur during the assessment period. Furthermore the PP has changed the value of year 2003 (4.0%) for a value of year 2002 (3.5%) using the same source^{/bench4/} as the decision to proceed with the project was taken in December 2002. The value chosen is more conservative and results in a lower benchmark.</p> <p>e) CRP (Country risk premium) 4.88%: the country risk premium was updated using data from year 2002 when the decision to proceed with the project was taken. The data is higher than the data originally used (3.75%). Nevertheless all input data shall be valid at the time when the decision to proceed with the project was taken. The same source^{/bench5/} was used but applying data of year 2002.</p> <p>The CSRP (company specific risk premium) was eliminated as a conservative assumption.</p> <p>As a result the applied benchmark for the project activity is:</p> <table><tr><td>Rf</td><td>Risk free</td><td>5.02%</td></tr><tr><td>β</td><td>Beta</td><td>0.73 %</td></tr><tr><td>ERP</td><td>Equity risk premium</td><td>4.53%</td></tr><tr><td>SRP</td><td>Size risk premium</td><td>3.50%</td></tr><tr><td>CRP</td><td>Country risk premium</td><td>4.88%</td></tr><tr><td colspan="2">Applied Benchmark: Expanded CAPM</td><td>16.71%</td></tr></table> <p>According to the evidence provided^{/FAL/} the expected rate of return estimated on 2001/04/19 (before the investment decision) was 16%. Nevertheless no further evidence was provided to demonstrate that such rate complied with the Guidelines on the Assessment of Investment Analysis version 03.1 (EB 51, Annex 58). Therefore the PP has calculated a similar benchmark performed by KPMG in order to demonstrate fulfillment with CDM requirement.</p>	Rf	Risk free	5.02%	β	Beta	0.73 %	ERP	Equity risk premium	4.53%	SRP	Size risk premium	3.50%	CRP	Country risk premium	4.88%	Applied Benchmark: Expanded CAPM		16.71%
Rf	Risk free	5.02%																	
β	Beta	0.73 %																	
ERP	Equity risk premium	4.53%																	
SRP	Size risk premium	3.50%																	
CRP	Country risk premium	4.88%																	
Applied Benchmark: Expanded CAPM		16.71%																	

General	CAR B4
	<p>The benchmark used for this project is the cost of equity (K_e) which is derived from the expanded CAPM (Capital Asset Pricing Model).</p> <p>The PP has justified the use of the expanded CAPM due to the following reason: <i>"The expanded CAPM tries to address and account for those risk premiums; hence the expanded CAPM is more appropriate to evaluate investment decisions on assets <u>which are not traded</u> in a developed capital market". "Using the expanded CAPM instead of the standard CAPM to analyze an asset which is not traded on a developed capital market is appropriate and the usual practice to valuing projects and enterprises in Latin America".</i></p> <p>Properly justification was provided. Every factor from the applied benchmark was checked and assessed. The validation team has concluded that the applied benchmark fulfill the requirements of Guidelines on the Assessment of Investment Analysis version 03.1 (EB 51, Annex 58) and it is appropriate for the type of IRR chosen. Furthermore it can be also assumed that no investment would be made at a rate of a lower return than the benchmark.</p> <p>Moreover there are only two hydroelectric projects registered as CDM projects in Costa Rica. None of them has applied benchmark analysis to demonstrate additionality. Therefore it is not possible to compare the suitability of the benchmark with same projects in the region. There is wind project registered on 2011/02/11 in Costa Rica (Num. 4147 - Guanacaste Wind Project in Costa) which has used also the expanded CAPM performed also by KPMG. The resulting benchmark is 17.7%.</p> <p><u>COMMON PRACTICE</u></p> <p>The PP has provided an analysis of similar activities developed in the host country. The criteria used are taking into consideration type of project and location, type of developer, scale and projects registered as a CDM. The analysis was performed for hydroelectric projects located in the host country. Projects developed by the government or entities from the government were excluded from the analysis as such projects are normally developed as a result of a political strategy stated by the government. The project participant has also excluded projects developed by cooperatives from the common practice analysis. According to the Law 7092^{/LG7092/} (page 3, article 3, item d) <u>cooperatives</u> are exempted to pay the income tax. The Law was checked accordingly. This is a benefit which the cooperatives enjoy and the project activity cannot get. Therefore exclusion from the common practice analysis is accepted. Furthermore small scale projects (below 20 MW) were also excluded as financial terms differ from large scale projects. Moreover environmental regulation also differs from small to large scale projects. As a result projects developed by private entities which are not cooperatives, over 20MW, located in Costa Rica and published for stakeholders consultation are not common practice.</p>

General	CAR B4
	<p>Further clarification is required by the validation team regarding the suitability of the benchmark based on the request for review submitted by the EB on 2012/03/27</p> <p><u>CAR remains open.</u></p>
<p>Corrective Action #6</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Acknowledging that version 05 of “Guidelines on the assessment of investment analysis”¹ presents on its Appendix values for return on equity for all Non Annex countries as a default benchmark to be applied, under a voluntary basis, to assess the additionality of a CDM project activity.</p> <p>Furthermore, given that this new guidance was not available to the Project Participants at the time of the investment decision of the proposed project activity, nor when started its validation process, Project Participants were not able to follow this alternative course of action to assess the additionality of the proposed project activity on a way more consistent with the up dated CDM guidance.</p> <p>Then, according to the guidance Costa Rica, is classified within the Ba1 level in Moody’s rating for bonds. Additionally, the project activity is included in group 1 of this assessment within the Energy generation industry. Therefore, for the host country, a 12% value (i.e. in real terms) for the required/expected return on equity is recommended by the guidance.</p> <p>Taking note of paragraph 7 of the said guidance “In situations where an investment analysis is carried out in nominal terms, Project Participants can convert the real term values provided in table below to nominal values by adding the inflation rate. The inflation rate must be obtained from the inflation forecast of the central bank of the host country for the duration of the crediting period. If this information is not available, the target inflation rate of the central bank shall be used. If this information is also not available, then the average forecasted inflation rate for the host country published by the IMF (International Monetary Fund World Economic Outlook) or the World Bank for the next five years after the start of the project activity shall be used”.</p> <p>The two first options above were not available and the information from the IMF was only available for two years (e.g. 2012 and 2016). Therefore, Project Participants considered, as an additional option for the average five years forecasted inflation (2012 to 2016), the use of The Economist® Views Wire as data source in addition to the IMF data.</p>

General	CAR B4
<p>Continuation</p> <p>Corrective Action #6</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Furthermore, the Project Participants discern that for the expected return on equity adjustment to nominal terms, it is necessary a consistency between the currency of the cash flow and the currency of the forecasted inflation. This is of particular importance when a mixture of “hard” currencies, such as the US Dollar and local currency are incorporated into the financial analysis in various ways, such as in the case of the proposed project activity.</p> <p>Therefore, as a conservative approach the forecasted inflation rate in the currency of the host country was dollarized (i.e. USD) using the forecasted exchange rate between the two currencies. The same source of information (i.e. The Economist) was considered for the forecasted exchange rate since this information was not available from the IMF.</p> <p>As per expert opinion and practice of KPMG, the data used in the adjustment of the expected return on equity in nominal terms, as well as the results of such adjustment are shown on the attached letter.</p> <p>Considering all these premises, the return on equity in nominal terms for this project type according to the latest guidance of the CDM is approximately between 17.2% (i.e. using IMF data source) and 17.3% (using The Economist data source). The calculation using IMF data source is the most suitable due to the fact that is recommended by the EB.</p> <p>With the intention of being in accordance with the guidelines of the EB, project participants have chosen to use the value of 17.2% for the project. This benchmark change was updated in the CDM-PDD.</p>

General	CAR B4
<p>DOE Assessment #6</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>After several rounds of clarification regarding the selected benchmark (Please refer also to CAR B4) the PP decided to apply the Guidance on the assessment of investment analysis, Version 05 which specifies for the type of project a benchmark of 12%. Furthermore according to paragraph 7 of the Guidance on the assessment of investment analysis, Version 05:</p> <p><i>“In situations where an investment analysis is carried out in nominal terms, Project Participants can convert the real term values provided in table below to nominal values by adding the inflation rate. The inflation rate must be obtained from the inflation forecast of the central bank of the host country for the duration of the crediting period. If this information is not available, the target inflation rate of the central bank shall be used. If this information is also not available, then the average forecasted inflation rate for the host country published by the IMF (International Monetary Fund World Economic Outlook) or the World Bank for the next five years after the start of the project activity shall be used”</i></p> <p>According to the PP the two first options above were not available and the information from the IMF^{/impf/} was only available for two years (e.g. 2012 and 2016). The International Monetary Fund World Economic Outlook^{/impf/} was checked.</p> <p>Therefore an additional option was proposed by the PP for the average five years forecasted inflation (2012 to 2016) which is the use of the Economist Views Wire^{EVW/} as data source in addition to the IMF data.</p> <p>Furthermore in order to get a consistency between the currency of the cash flow and the currency of the forecasted inflation as a conservative approach the forecasted inflation rate in the currency of the host country was dollarized (i.e. USD) using the forecasted exchange rate between the two currencies stated in The Economist Views Wire since this information was not available from the IMF.</p> <p>As a result the return on equity in nominal terms for the project activity type according to the Guidance on the Assessment of Investment analysis, version 5 is:</p> <ul style="list-style-type: none"> • 17.3% based on The Economist data source • 17.2% based on IMF data source <p>As a conservative assumption the PP selected the most conservative value which is 17.2%.</p> <p>The PP provided the following evidence to demonstrate calculation of the return on equity in nominal terms:</p>

General	CAR B4						
<p>Continuation DOE Assessment #6</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Engagement Study^{SRP/} dated 2012/03/17 by KPMG regarding calculation of a nominal rate of return benchmark based on data provided by HDG and forecasted data provided by Economist Intelligence Unit for the period 2012-2016</p> <p>However, further justification is requested on whether country risk premium for the host country (given by Moody's rating) used for calculating the default value in the version 05 of "Guidelines on the assessment of investment analysis" is applicable to the calculation of the benchmark for the proposed project at the point of the investment decision.</p> <p><u>CAR remains open.</u></p>						
<p>Corrective Action #7</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>PP understands that the version 05 of "Guidelines on the assessment of investment analysis" was calculated by the EB using current information, but PP can demonstrate that the using of this value is conservative due to the fact that this value has been reduced since 2002. All the information was taken from Aswath Damodaran data base (http://pages.stern.nyu.edu/~adamodar/), which is a well reputed source.</p> <p>PP is presenting a table below evidencing the statement above:</p> <table border="1" data-bbox="754 1108 1181 1256"> <thead> <tr> <th>Year</th><th>Country risk premium</th></tr> </thead> <tbody> <tr> <td>2002</td><td>4.88%⁴</td></tr> <tr> <td>2011</td><td>3%⁵</td></tr> </tbody> </table>	Year	Country risk premium	2002	4.88% ⁴	2011	3% ⁵
Year	Country risk premium						
2002	4.88% ⁴						
2011	3% ⁵						
<p>DOE Assessment #7</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The PP could demonstrate that country risk value as per Moody's ranking has decreased from 2002 till 2011, evidenced by Aswath Damodaran data base⁴^{/damodaran-1//damodaran-2/}, which is a well reputed source. Therefore, the calculation of the benchmark calculated in this way is conservative.</p> <p>In conclusion, every factor from the <i>calculation of the return on equity in nominal terms</i> was checked and assessed. The validation team has concluded that the applied benchmark fulfill the requirements of Guidelines on the Assessment of Investment Analysis version 5 (EB 62, Annex 5). Furthermore it can be also assumed that no investment would be made at a rate of a lower return than the benchmark.</p> <p><u>CAR is closed.</u></p>						
<p>Conclusion</p> <p><i>Tick the appropriate checkbox</i></p>	<p> <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements </p>						

⁴ <http://www.stern.nyu.edu/~adamodar/pc/archives/ctryprem02.xls> (Cell E43)

⁵ <http://www.stern.nyu.edu/~adamodar/pc/archives/ctryprem10.xls> (Cell F45)

General	CL B5
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In agreement with the PPA Annex B, section 3.2, the ICE verifies every 6 months the meters and issues a document: "Constancia de la aceptación de la calibración de los medidores" to prove that the meters are calibrated. Prior to validation, the ICE had not yet issued the document.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Although during the validation visit the document "Constancia de la aceptación de la calibración de los medidores" has not been issued, the PP received 13 July 2009 this document, which was later provided to the DOE.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The validation team has received the following document issued by ICE and dated on 2009/07/13: <i>"Constancia de la aceptación de la calibración de los medidores"</i> The document provides enough evidence that the meters are calibrated. Therefore the FAR B5 is not necessary anymore. <u>CL is closed</u>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	CL B6
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section B.6.1 provide reference about the area of the reservoir (46,993 m ²) measured in the surface of the water.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	This is evidenced by the file: Areas y volúmenes embalse (as built).pdf provided to the DOE.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Section B.6.1. was revised accordingly. Appropriate references were provided. ^{/Dra/} <u>CL is closed</u>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	CAR B7		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Correction is necessary for the calculation spread sheet:</p> <ul style="list-style-type: none"> Wrong formulation in the GEF calculation, when weighting the fuel consumption at COLIMA, MOIN PISTON and MOIN GAS. The factors 92% and 8% have been applied to calculate a weighted EF, NCV and density; then the total CO₂ emissions for these power plants have been obtained by multiplying Total Fuel Consumed x EF_{weighted} x NCV_{weighted}. Actually according to this formulation the factors 92% and 8% are being used three times. For the calculation of lambda 05, lambda 06 and lambda 07, it cannot be traced back that for the LCMR total electricity produced value, as given in cell T12 of the Lambda calculation table sheets, the corresponding net electricity imports have been considered, as stipulated by the "Tool to calculate the emission factor for an electricity system", v 2.0 In folder "Operational start (BM)" provide reference for each value in column E. In folder "OM & BM" provide reference to the values in cell H11 and I11. It has to be further justified that the vintage data used was the latest available at the time the PDD was uploaded for public consultation on April 21, 2009. For example, justify why data of 2008 have not been used. The project activity should not be included in the cohort of power stations for the calculation of the EF_{BM} Has the bunker been also used in Pujol Martí power station as indicated in the Excel sheet OM&BM? If not, please eliminate this confusing info from the table. Why is hydro Pujol Caldera and Guápiles not listed for the EF_{BM} here if operation started in 2006? The project activity cannot be included in the cohort of power stations for the calculation of the EF_{BM}. Please revise. <p>For the excel spread sheet "CERs EI General_2009 01 02 VG", correct the value of the reservoir area (46,000) as it is 46,993.</p>		

General	CAR B7
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>Regarding the emission factor:</p> <ul style="list-style-type: none"> - The project developers believe that this calculation is correctly done. - Regarding the lambda calculation, the imports were considered in a new version of the EF calculation. - Regarding the operational start references, it has been included in the new version of the spreadsheet. - The references requested have been included in the new version of the EF spreadsheet. - Data of 2008 was not available when the public consultation happened. As an evidence, the data of imports/exports for December 2008 was not available on 17/07/2009. - Yes, it is. - The confusing information has been removed from the table. - The thermal power generator named Pujol is included in the Build Margin and it corresponds to Caldera and Guápiles. - EI General has been removed from the Build Margin. - There information available to calculate the EF data vintage 2008 is not available now and was not available at that time. The evidence was provided to the DOE. <p>Regarding the EI General CERs estimative, the value of the reservoir area has been updated.</p>
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Regarding the emission factor:</p> <ul style="list-style-type: none"> • In “lambda 2005” the new percentage of Low-Cost/Must-Run is not visible (Cell L50). • In sheet “plants BM” (before “Operational start (BM)”) the source of the data (column E) is given but it is not traceable. • In folder “OM & BM” cell H11 and I11 (fuel consumed) justification is still necessary because they are calculated from power generation and not from ICE information as the other thermal power plants. <p><u>CAR remains open</u></p>
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ul style="list-style-type: none"> • Please refer to cell L01 and not L50. • It is necessary to request a login and a password to SIEN (Consulta en línea) on http://www.dse.go.cr/. The information available in this website was copied in the spreadsheet <i>DSE data 2005-2007.xls</i> and was sent to the auditor. • The quantity of fuel consumed by Pujol Marti plants was not made available by ICE. This information was requested to ICE, which informed that the factor of the plant is 4.6 KWh/l (the email which reference this information was sent to DOE).

General	CAR B7
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The EF calculation spread sheet was revised accordingly. Justification and evidence was provided and accepted.</p> <p>Nevertheless, please reference the e-mail in the sheet "OM & BM" from the excel spread sheet "B7 – CR – Grid EF 2005 to 2007 exante-20091005 VG"</p> <p><u>CAR remains open</u></p>
Corrective Action #3 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	It was referenced.
DOE Assessment #3 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>EF calculation spread sheet was revised accordingly and properly reference was given.</p> <p><u>CAR is closed.</u></p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	CL B8
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section B.7.1 Parameter EG_y:</p> <ul style="list-style-type: none"> • Give details for the measurement and recording methods and procedures on how to deal with erroneous measurements. • Explain the accuracy of the measurement method and who is the responsible person/entity that should undertake the measurements. • Introduce which measurement equipment is used and which calibration procedures are applied. • Describe the quantity, location, bi or uni directional nature, accuracy class and calibration frequency of meter(s). • Include which accepted industry standards or national/international standards will be applied for calibration. • Introduce more consistent cross check procedures (e.g. buyer's measurement)
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	All this information was included in the new version of the PDD.

General	CL B8
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Section B.7.1. was revised accordingly. Information was included or referenced in the PDD Ver. 2.</p> <p>Nevertheless, in B.7.2 page 24 “data recording” information is now missing.</p> <p><u>CL remains open</u></p>
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>Data recording was included in section B.7.2.</p>
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Section B.7.2. was revised accordingly. Missing information was included. Nevertheless,</p> <ol style="list-style-type: none"> 1. For the parameter EG_y correction is necessary, as electricity meters <u>measure continuously</u> and <u>record daily, hourly</u>, etc. 2. It is stated in section B.7.2 of the PDD that “<i>all measurements shall be conducted with calibrated measurement equipment according to the section 7.3 of the PPA</i>”. Nevertheless, detailed information regarding calibration arrangements (quantity, location, bi or uni directional nature, accuracy class, calibration frequency, calibration standards, etc) shall be included in the PDD and not only referenced to the PPA. Therefore correction is necessary. <p><u>CL remains open.</u></p>
Corrective Action #3 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>Please see revised PDD.</p>
DOE Assessment #3 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. Parameter EG_y was corrected accordingly. 2. According to the Guidelines for completing the Project Design Document (CDM-PDD) version 12 (EB41, Annex 12): <i>“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> <p>This information is still missing for all parameters in section B.7.1. Correction is necessary.</p>
Corrective Action #4 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>The required information was included in the PDD. The only parameter that involves only a meter is the Electricity dispatch, and all information was provided. The Cap_{PJ} involves personnel and the A_{PJ} area will involve a third part company, thus some information required was not applicable for these factors.</p>

General	CL B8
DOE Assessment #4 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Required information was included in section B.7.1 and now is according to specification described in the Guidelines for completing the Project Design Document (CDM-PDD) version 12 (EB41, Annex 12). CL is closed.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification, <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	CAR B9
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	During the validation process the applied methodology ACM0002, v.9 has expired. The PDD shall apply a valid version of the methodology. Revision is requested.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The PDD has been revised and updated to the latest valid version, version 12.1
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The PDD has been revised accordingly. The nature of revision from version 9 to version 12.1 does not relate to the propose project and therefore applicability, baseline and monitoring specifications are not affected by the update. CL is closed
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	CL B10
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Please provide detailed information to clarify why the starting date of the project activity established in the PDD, comply with the definition given in the CDM glossary of terms (the date when the commitment to the major investment is done).

General	CL B10
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>This explanation has been included in the PDD, as the starting date is the date of signature of the EPC contract.</p>
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Section C.1.1. was revised accordingly. Information regarding the starting date of the project activity was changed to the signed EPC (Engineering, Procurement and Construction) contract. Information was reviewed and accepted as the date when the commitment to the major investment is done.</p> <p>Concluding the earliest date when the commitment to the <u>major</u> investment (USD51,800,000) was done was at the time of signature of the Engineering, Procurement and Construction Contract^{/EPCC/} dated on 2004/01/26. This value would represent 70% of the total investment costs.</p> <p>There are other actions happened before the signature of the EPC^{/EPCC/} contract but they do not qualify as major investment actions.</p> <p>For example the Vatech Equipment Offer^{/CSC-3/} is only an offer provided by VATECH Hydro updating the prices upon request, as the decision to invest was not taken at that moment. As this offer does not represent a purchase of equipment, it cannot be used to demonstrate the project starting date.</p> <p>In December 2002 the Hidroeléctrica Platanar S.A. decided to enter in agreement with Oxbow Power Co. an American company which has been assigned the EGHP. The PP will cooperate to build and operate the EGHP. This agreement does not represent any financial commitment with Oxbow Power Co but agrees on the Stock Purchase for the project in the future in case the PPA is signed and the water license is given by the authority.</p> <p>Chapter 7 of this agreement, which explicitly mentions in paragraph 7 (a) (ii) and 7 (a) (iii) that in case the project fails to have a PPA signed or to legally have a Water concession, then this agreement is terminated. The PPA and the Water concession were granted respectively on 05/05/2003 and the 30/01/2003. So this agreement entered into force on 05/05/2003 and it is to capitalize the company that has the rights to develop the project, and not the project itself</p> <p>Furthermore the Engineering contract^{/EC/} between Oxbow Power Co. and Bel Ingenieria represents an agreement to provide the following services:</p>

General	CL B10
	<ul style="list-style-type: none"> a. Preliminary drawings of non-powerhouse facilities; b. Establish a formal document control procedures c. Equipment supplier drawings; d. Obtain permits and approvals related to the project; e. Preliminary drawing of powerhouse; f. Submit all design drawings to ICE; g. Prepare a set of construction drawings; h. Prepare the start up procedures; i. Prepare preventive maintenance program for the civil works; j. Prepare a training manual; k. After the Commercial Operation Date (COD), prepare a start up testing report and the as-built drawing and calculation <p>From the abovementioned services it is clear that this agreement can be considered as pre-operational expenses. In fact, this agreement was only used to reference the development costs. Furthermore according to the PP this agreement was never executed.</p> <p>Moreover the Pre-contract^{/L&R/} or agreement of <u>optional</u> buy of real state with Maderal Atlantic S.A. was signed on 05/10/1999 and is valid for 3 years and extendable for 2 more years. This document represents only an agreement of the intention (Item 3.1, page 6) to buy a real state where the project activity would be installed and it can be cancelled at any time. As a guarantee Oxbow Power Corporation paid USD76,500 which represents only 0.10% of the total investment costs (USD75,773,000) and therefore is not considered as project starting date.</p> <p>Concluding none of the actions mentioned above can be considered as the date on which the PP has committed to mayor expenditures related to the implementation or related to the construction of the project activity, but are considered as minor pre-project expenses and, therefore, should not be considered in the determination of the start date. In the context of the above mentioned facts and evidences, pre-project planning is not considered “real action”.</p> <p>Therefore the project activity starting date is considered correct as no evidence were identified to demonstrate an earlier date when the commitment to the <u>major</u> investment was done.</p> <p><u>CL is closed</u></p>

General	CL B10
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	CL C1
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Please provide reference of the technical life time of the equipment.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	This is evidence in the PPA, provided to the audit team.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The <u>technical</u> life time of the equipment shall be justified. Information about the supplier's declaration or an expert's declaration, for example, shall be provided. The PPA is not an evidence for this point.</p> <p>The cash flow of the project cannot be completely assessed if evidence of the technical life time of the equipment is not provided.</p> <p><u>CL remains open</u></p>
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	It is important to note that the lifetime of the EGHP was determined based on 17 years of concession for the PP to operate the project (BOT contract). After that, the ownership of the EGHP will be transferred back to the ICE. The cash flow analysis was based on this 17 period which will be operated by the PP, and not based on the technical operation of the project, which is considered 40 years. Evidences were sent to DOE.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The verification team has checked the information^{/PPA/} (item 11.1.6) provided by the PP. At the end of the Power Purchase Agreement (after 17 years), the PP has to transfer back the project to the ICE and no other benefits will be given back to the PP.</p> <p><u>CL is closed</u></p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	CAR C2
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General	CAR C2
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Please correct the starting date of the crediting period, as it is not plausible.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The starting date of the crediting period was changed to 01/01/2010.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Starting date has to be revised again. Please include a plausible date. <u>CAR is open.</u>
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The starting date of the first crediting period was changed to "15/01/2011 or the date of registration, whichever is later."
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The starting date has to be revised again because it is not plausible. <u>CAR is open.</u>
Corrective Action #3 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The starting date was revised to 1 st August 2011 or the registration date, which is earlier. Even if the completeness check takes longer, the later date is the one applicable.
DOE Assessment #3 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Corrections were done in the PDD. The starting date of the crediting period was up dated. <u>CAR is closed.</u>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	CL E1
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section E.1 describe the process by which comments by local stakeholders have been invited and how the meetings were announced.</p> <p>In section E.3, provide reference to the major changes resulting of the local consultation process.</p>

General	CL E1
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	This information was included in the new version of the PDD.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Sections E.1 and E.3. were revised accordingly. <u>CL is closed</u>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

5 VALIDATION ASSESSMENT SUMMARY

5.1 General Description of the Project Activity

5.1.1 Participation

LOA

Costa Rica, the host country, has ratified the Kyoto Protocol on 09th August 2002, and as a non Annex I party meets all relevant participation requirements.

The Costa Rica DNA assigned for CDM is the MINAE (Ministry of Environment and Energy), which has been checked directly from the UNFCCC website.

In accordance with the CDM M&P at the time of making the PDD public at the stage of validation, a Party involved may or may not have provided its approval. At the time of requesting registration the approval of the Parties involved is required.

Letter num. DM-393-2011 signed and stamped by the DNA of Costa Rica on 2011/05/13 was provided by the PP and assessed by the validation team.

The DNA listed in the UNFCCC web site is MINAE which has issued the LoA of the project activity.

The LoA is authentic and confirms that Costa Rica is a Party to the Kyoto Protocol, the participation of Hidroenergía del General (same as Hidroenergía Del General S.R.L. according to official letter^{/LoA/} Num. DCC-050-2011) is voluntary and the project activity contributes to the sustainable development in the country

Project Participants

There is only one project participant listed in the PDD: Hidroenergía Del General S.R.L. (same as Hidroenergía del General according to official letter^{/LoA/} Num. DCC-050-2011) This is consistent with the Letter of Endorsement^{/LoE/} issued by the DNA of Costa Rica, prior to the issuance of the Letter of Approval.

5.1.2 Contribution to Sustainable Development

According to the Letter of Approval^{/LoA/} issued by the DNA of Costa Rica, the project activity contributes to the sustainable development of Costa Rica.

The project participant contributes to the sustainable development through the following actions: clean and renewable electricity generation, better working conditions and increases opportunity for employment and contribution for local economy.

5.1.3 PDD Editorial Aspects

The project activity complies with latest PDD Template and latest version of the guideline for completing PDDs and when a deviation has been identified, a corresponding CAR or CL was raised.

5.1.4 Technology to be employed

As the project is a Greenfield project, it does not involve any alteration of existing facilities. In PDD, section A.4.3, description of the technology is provided. The validation team has checked the key technical data by reviewing the technical documentation and key technical operational personnel were interviewed. The technology is environmentally safe and sound.

A comprehensive project description is given in sections A.2 of the PDD. When a deviation has been identified, a corresponding CAR or CL was raised.

5.1.5 Small Scale Projects

The project does not qualify as small-scale CDM project activity.

5.2 Project Baseline, Additionality and Monitoring Plan

5.2.1 Application of the Methodology

The project activity applies version 12.1 of the approved methodology ACM0002. At the time of publishing the PDD for public comments version 09 of the applied methodology was valid and applicable. To ensure that the applied methodology is approved by the executive board and the PP has chosen the latest version, the methodologies section of UNFCCC CDM website was visited. During the validation process, however, the version 09 of the methodology expired and the corresponding updates to the currently applying version have been addressed without affecting the applicability of the methodology.

The PDD was reviewed and every applicability determination was counterchecked against the criteria given in the applicability section of the methodology. This was also applied to all requirements and stipulation mentioned in all sections of the applied methodology. When a deviation has been identified, a corresponding CAR or CL was raised.

As this is a run of river with a daily reservoir, the project activity is not expected to result in significant emissions, related both to project and leakage, other than those listed in the methodology.

5.2.2 Project Boundary

The spatial extent of the project activity boundary encompasses the power project plant. ACM0002 version 12.1 allows to choose several emission sources to be included in the project boundary. CO₂ emissions from electricity generation in fossil fuel fired power plants that is displaced due to the project activity is included as an emission source. Properly and reasonable justification was provided by the PP and assessed by the validation team. There are not any other sources which are impacted by the project and not addressed by the ACM0002, version 12.1.

5.2.3 Baseline Identification

The applied methodology establishes a one unique option for baseline scenario, in case the project activity is the installation of a new grid-connected renewable power plant/unit. This applied to the project activity.

5.2.4 Calculation of GHG Emission Reductions

Methodologies for calculating emission reductions are documented. The project intends to reduce carbon dioxide (CO₂) emissions by generating electricity from a hydroelectric project, which would be exported to the grid.

The calculation of GHG emission reductions was done in agreement with the applied methodology. As the project emissions are zero and leakage is not considered by the applied methodology, the emission reductions are calculated through calculation of the baseline emission. Baseline emission is calculated by multiplying the electricity baseline emission factor or grid emission factor and the net electricity exported to the grid. The emission reduction calculation was reviewed by the validation team. All underlying data/ values are transparent presented and assessed to be adequate

The emission coefficient calculation is deemed to be adequate and transparent. All data required for emission coefficient calculation are derived from publicly available data of the ICE.

All values for the monitoring and non monitoring parameters and estimated emission reductions are plausible and conservative.

5.2.5 Additionality Determination

Consideration of CDM in decision making

The starting date of the project activity is the date when the PP signed an EPC contract. This complies with the glossary of terms, as it is the date when the commitment to a major investment was done.

The validation team concluded, after successful closed CAR B2, that the benefits of the CDM were considered before the project starting date (2004/01/26). The

reviewed evidence demonstrates that the CDM was a decisive factor to proceed with the project.

According to EB49, Annex 22, the DOE has validated that continuing and real actions were taken by the PP to secure CDM status and those actions do not have a gap greater than 3 years. Evidence to demonstrate this was properly assessed and accepted as well as real actions to secure CDM status.

The decision to proceed with the project was made by the Executive Board of HDG.

Application of methodology / methodological tools

The sequence utilized by the PP to demonstrate the additionality of the project has followed the criteria described in the “Tool for the demonstration and assessment of additionality”, version 05.2. ACM0002, version 12.1 allows using this tool. The additionality is justified with investment analysis.

Alternatives

The baseline scenario was defined according to the applied methodology ACM0002 version 12.1. The PP has correctly applied the baseline scenario described by default in the applied methodology.

Investment analysis

The analysis method chosen is the benchmarking analysis, as the alternatives identified to the project activity generate financial or economics benefits other than CDM related income.

A benchmark analysis is applied to demonstrate that the project is not financially attractive. A calculation spread sheet was elaborated by the PP and assessed by the validation team. As a result, CAR B4 was raised and successfully closed by the PP.

According to the evidence provided^{/FAL/} the expected rate of return estimated on 2001/04/19 (before the investment decision) was 16%. Nevertheless no further evidence was provided to demonstrate that such rate complied with the Guidelines on the Assessment of Investment Analysis version 05 (EB 62 Annex 5). Therefore the PP has calculated a similar benchmark, based on the default values for the expected cost of equity provided in the Appendix of the above mentioned guidance. The adjustment of the benchmark from real terms into nominal terms has been performed by KPMG in order to demonstrate fulfillment with CDM requirement.

According to the PP calculations, the project scenario is not the most attractive alternative or economically feasible without the benefits from CER sales.

The IRR calculation was reproduced by the validation team. The source of IRR calculation is assessed to be adequate and all assumptions stated in the PDD are assessed to be reasonable. As a result, CAR B3 was raised and then successfully addressed by the PP and closed by the DOE. For a detailed assessment of parameters considered for IRR calculation please refer to table A-3 located in Annex 3. The equity IRR was estimated to be 14.86% without CERs. This IRR is based on the project lifetime of 17 years based on the PPA.

This IRR is compared with the benchmark (Ke) of 17.2%, resulting from the study^{/DRA/} performed by KPMG to calculate a range of discount rates to be used as appropriate benchmark.

As described in the PDD and clearly demonstrates in the financial spreadsheet, a **sensitivity analysis** with the most relevant parameters (Energy/capacity revenues, CAPEX and O&M costs) was performed. When the energy revenues is subject of a variation of +10% and the CAPEX subject to a variation of -10%, the IRR goes beyond the benchmark applied.

As a result of the investment analysis the maximum IRR of 18.57% was obtained with a variation of -10% of the CAPEX. This occurrence of this scenario is not realistic to happen because all construction contracts have been already signed and the project is already operating.

Actually value applied for the EPC contract are quite similar to the value stated in the signed Engineering, Procurement and Construction Contract^{/EPCC/} dated on 2004/01/26 (project starting date). If we apply the value stated in the signed EPC contract in the IRR calculation, the IRR would be 15.01% which is still not beyond the applied benchmark (17.2%). The EPC contract represents 70% of the total project investment costs.

The revenues due to energy generation consider two aspects: capacity payment and energy payment.

The **Capacity Payment** is paid only during the dry season period. The PP has applied a sensitivity analysis. Applying a +10% of the capacity payment the IRR goes from 14.86% to 15.53% which is still below the applied benchmark (17.2%). This is very unlikely to happen as the capacity payment is calculated through the compromised power capacity stated in the PPA (39 MW). Although the PP could generate more energy, the compromised capacity which is paid for is 39 MW. Therefore the capacity payment will remain always the same through the project activity lifetime.

The **Energy Payment** is calculated through the energy generation and the energy price. The average annual energy generation is estimated in 196.21 GWh based on the EGHP hydrology study calculation spreadsheet^{/HI/} and the plant load factor of the project of 57% which are also based on the studies performed by Bel Ingenieria^{/HI/ & /FS/}.

The energy price or electricity tariff is defined by the PPA between the ICE and the PP. The electricity tariff is 0.05 USD/KWh. Energy tariff is subject to a bi-annually adjustment according also to the PPA. The PP has already applied such adjustment in the IRR calculation obtaining an IRR of 14.86%. ICE will pay also the energy which exceeds the maximum annual energy generation (39 MW) as a percentage of 20%, 15% or 10% of the official tariff. This is taking into consideration the average capacity factor used by the plant in a year of operation.

The PPA (paragraph 7.1.2, item a) defines how the electricity tariff is calculated:

- **The electricity generated with a load factor up to 0.6 will have the price of 5 USD cents (0.05 USD/kWh);**

- The electricity generated with a load factor from 0.61 to 0.66, will have the price of 20% of the electricity tariff (i.e. $0.05 \times 20\% = 0.01$ USD/kWh);
- The electricity generated with a load factor from 0.67 to 0.72, will have the price of 15% of the electricity tariff (i.e. $0.05 \times 15\% = 0.008$ USD/kWh);
- The electricity generated with a load factor from 0.73 to 1, will have the price of 10% of the electricity tariff (i.e. $0.05 \times 10\% = 0.005$ USD/kWh).

The plant load factor of the project activity (0.57) based on 33 years hydrology database leads to energy price of 5 USD cents (0.05 USD/kWh). In case of an increase in the plant load factor of the project activity, the electricity will be also increased.

According to the PDD and the PPA there is a non-linear relation between the energy generation and energy price. An increase of the electricity generation of 10% would not increase the revenues (electricity tariff) in 10%. In order to increase the energy revenues till 10%, it would be necessary to increase the energy generation till 22% resulting in an average load factor of 70%. According to the evidence provided this scenario is very unlikely to happen.

The PP has applied a sensitivity analysis. Applying a +10% of the energy revenue the IRR goes from 14.86% to **16.41%** which is still below the applied benchmark (17.2%).

Both scenarios (increase till 10% the capacity payment and energy payment) are not very likely to happen according to the explanation given above.

Furthermore the validation team has crosschecked the IRR value (14.9%) stated in the Investment Analysis Report^{/IA/} (used for the investment decision) against the value stated in the IRR calculation spread sheet^{/IRR/} (14.86%). Both values are exactly the same as all inputs were also the same. The PP has used the investment calculation used at the time of investment decision (December 2002).

A detailed analysis was included in Table A-3 in Annex 3.

The financial analysis is complemented by common practice analysis, as justified in the PDD and assessed in the annexes below.

Barrier analysis

No barrier analysis has been provided to demonstrate additionality.

Common practice analysis

The PP has provided an analysis of similar activities developed in the host country. The criteria used to perform the common practice analysis are:

- a) Type of project and location;
- b) Type of developer;
- c) Scale and investment environment and
- d) Projects registered as a CDM.

Regarding the 1st criteria project type and location the analysis was performed for hydroelectric projects located in the host country which is considered acceptable as other type of projects have different characteristics and risks. Furthermore regulatory conditions are also quite different from one country to other.

Regarding the 2nd criteria type of developer the PP has analyzed project developers by the private sector which is not cooperatives. Costa Rica's electric power and distribution are mainly supplied by the state-owned utility, the Costa Rican Institute of Electricity (ICE), and its subsidiary, the National Power and Light Company (Compañía Nacional de Fuerza y Luz, CNFL). The ICE operates almost 80% from the total installed capacity. Operational conditions and investment decisions from state-owned utilities differ significantly from private entities. Furthermore the project participant has also excluded from the analysis projects developed by cooperatives. According to the Law 7092^{/LG7092/} (page 3, article 3, item d) cooperatives are exempted to pay the income tax. The Law was checked accordingly. This is a benefit which the cooperatives enjoy and the project activity cannot get. Therefore exclusion from the common practice analysis is considered acceptable.

Regarding the 3rd criteria scale and investment environment the PP has differentiated projects with an installed capacity below 20 MW. According to law 7200^{/LG7200/} from year 1990 projects with a capacity lower than 20 MW enjoyed certain benefits such as there is no requirement to transfer their assets after determined period to the ICE. Meanwhile law 7508^{/LG7508/} which has entered in force in year 1995 onwards states that all projects with an installed capacity larger than 20 MW will transfer its assets after a certain period (BOT scheme). Before year 1995 private investors were limited to develop projects with an installed capacity till 20 MW. Law 7508 allows private developers to install projects with a power capacity between 20 MW and 50 MW through a public tender process and as a BOT scheme, just as the project activity did. As a result in year 2007 there were only 3 BOT projects. One of them is a geothermal, another is a CDM project (La Joya) and the third one is the project activity. The PP has also excluded projects developed before year 1995 when Law 7508 was entered in force as the investment environment and the possibility to develop projects was clearly different. Therefore exclusion from the common practice analysis is considered acceptable.

Regarding the 3rd criteria projects registered as a CDM were also excluded. According to the Tool for the demonstration and assessment of additionality, version 05.2 *"Other CDM project activities (registered project activities and project activities which have been published on the UNFCCC website for global stakeholder consultation as part of the validation process) are not to be included in common practice analysis"*

There are two hydroelectric projects registered as CDM projects in Costa Rica. One is La Joya (Ref. 0541) from a private entity and the other is El Cote (Ref. 0251) from a government entity. The validation team had confirmed at the UNFCCC web site that both projects are registered.

According to the evidence provided and the explanation given above there are no similar hydroelectric projects developed by private entities in Costa Rica with an installed capacity between 20 MW and 50 MW, implemented after year 1995 and

which has not been registered as a CDM projects or published for global stakeholder consultation. Therefore the project activity is not common practice in the country.

Finally as stated also in the Tool for the demonstration and assessment of additionality, version 05.2: *“This test is a credibility check to complement the investment analysis”*. Therefore additionality shall be clearly demonstrated through investment analysis.

Summary

The starting date of the project activity (signed an EPC contract) complies with the glossary of terms.

Continuing and real actions without a gap greater than 3 years were taken by the PP to secure CDM status. The benefits of the CDM were considered and the evidence provided demonstrates that the CDM was a decisive factor to proceed with the project.

The sequence utilized by the PP to demonstrate the additionality of the project has followed the criteria described in the methodology ACM0002, version 12.1.

The additionality was demonstrated through financial analysis. A benchmark analysis is applied to demonstrate that the project is not financially attractive.

Although common practice analysis as described above is considered by the PP, the DOE understands that the financial analysis is decisive for the additionality determination of the project.

The validation team has concluded that the applied benchmark fulfill the requirements of Guidelines on the Assessment of Investment Analysis version 03.1 (EB 51, Annex 58) and it is appropriate for the type of IRR chosen. Furthermore it can be also assumed that no investment would be made at a rate of a lower return than the benchmark.

Moreover there are only two hydroelectric projects registered as CDM projects in Costa Rica. None of them has applied benchmark analysis to demonstrate additionality. Therefore it is not possible to compare the suitability of the benchmark with same projects in the region.

5.2.6 Monitoring Methodology

The project applies version 12.1 of the monitoring methodology ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources.

5.2.7 Monitoring Plan

The monitoring of all baseline parameters is sufficiently addressed. It consists of metering the net electricity delivered to the grid (EG_y), the installed capacity of the hydro power plant after the implementation of the project activity (Cap_{PJ}) and the area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (APJ).

The $EF_{grid,CM,y}$ was determinate ex-ante, according to values published by the ICE. EG_y will be measured continuously and recorded hourly. Monitoring of project and leakage emissions is not necessary as both are considered zero for this project activity.

The procedures for calibration, accuracy and maintenance of monitoring equipment and the responsibilities are clearly mentioned in section B.7 of the PDD^{/PDD/} and are also in accordance with the Power Purchase Agreement^{/PPA/}.

However, CL B8 regarding to missing information of the parameters monitored was raised and successfully closed.

The PP will form a team to maintain and operate the project activity and monitor the parameters required by the methodology. A description of responsibilities of the members of the team is included in the PDD.

Data monitored for CDM purposes will be aggregated, summarized, calculated and recorded in electronic and paper form. All the data shall be kept until two years after the end of the crediting period.

5.2.8 Project Management Planning

There is a complete description in the PDD in section B.7.2 about the actions to be implemented concerning the monitoring process, including management structure and responsibilities, data collection and recording, measurement arrangements, internal audits, storage methods and training.

5.2.9 Crediting Period

The starting date of the crediting period as mentioned in the PDD^{/PDD/} under Section C.2. is 2011-07-01 or the date of registration of the project, whichever is earlier. The intended crediting period of the project is for a renewable period of seven years. The starting date of the project activity as mentioned in the PDD^{/PDD/} under Section C.1 and verified by the validation team is 2004/01/26 which is the signature date of the Engineering, Procurement and Construction (EPC) Contract. The project life time (17 years duration) indicated in the Section C.1.2 of the PDD^{/PDD/} was verified by the validation team. Detailed assessment can be found in Annex 3.

However, CL B10 regarding to project's starting date was raised and successful closed.

5.2.10 Environmental Impacts

An Environmental Impact Assessment analysis^{/EIA/} was conducted and presented to Environmental Body (SETENA), which demonstrates the impacts and plans to mitigate them. The identified adverse impacts are not considered significant.

5.2.11 Comments by Local Stakeholders

In accordance with the Costa Rican procedures to obtain the EIA approval, Hydroenergía Del General presented the project to local stakeholders.

The stakeholder consultation was conducted in form of meetings to submit comments or questions about the project activity. They were invited by telephone, meetings and letters.

Relevant stakeholders were invited to the public consultation meeting. A complete list is included in section E.1. of the PDD.

Several comments were raised during the meetings. A complete summary of comments and respective corrective actions were also included in section E.2 of the PDD.

As a result from the stakeholder involvement process it can be concluded that no relevant concerns of the local stakeholders are existing. The stakeholder process was conducted in compliance with the requirements of the environmental body (SETENA).

6 VALIDATION OPINION

Hydroenergia Del General S.R.L. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: “El General Hydroelectric Project” with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board

In the course of the validation 7 Corrective Action Requests (CARs) and 10 Clarification Requests (CLs) were raised and successfully closed.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (Costa Rica) and all relevant UNFCCC requirements for CDM. Project activity approval has been obtained from DNA of Costa Rica vide the Letter of Approval (LoA) dated 2011/05/13.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 462,006 tCO₂e are most likely to be achieved within the (1st renewable) crediting period.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Essen, 2012-03-27



Rainer Winter

TÜV NORD JI/CDM CP
Validation Team Leader

Essen, 2012-03-27



Martin Saalman

TÜV NORD JI/CDM CP
Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
/AGR/	Agreement between Econergy and Hidroenergia del General issued on 06/11/2007
/AL/	Assigned Letter of ICE - “Comunicado del ICE sobre la licitación pública” No. 6670-E, en la sesión 5185 del consejo directivo del ICE adjudica a Oxbow Power Co” dated on 01.06.2000.
/ARH/	Assessment of the Reference Hydrology for El General Hydroelectric Project DRAFT, by RBTT Merchant Bank, Port of Spain, Trinidad y Tobago, September 2005, Ref. 15832F0 (64 pages).
/CC/	Contract with a local Costa Rican consultant dated on 26.04.2007.
/CCCM/	Certificate of compliance and calibration meters: <ul style="list-style-type: none"> - ION 7550, serial num. PI-0510A007-01 calibrated on 10.05.2005. - ION 7650, serial num. PJ-0601A017-01 calibrated on 01.11.2006.
/CIM/	Confidential Information Memorandum. Floating Rate Loan due 2019 by RBTT Merchant Bank Limited, March 2004.
/Con/	Financial evaluation of the project “Proyecto Hidroelectrico Jimenez” presented to the public binding No. 6670.E (without date).
/CoT/	Certificates of training regarding operation and maintenance by ABB & GE.
/CSC/	<u>Construction and equipment offers</u> (USD x 1000): <ol style="list-style-type: none"> 1. <u>Construction:</u> <ul style="list-style-type: none"> - 1. Offer: “Oferta Obras Civiles Marshall” (November 2000) page 1. <u>Total price USD 35,995</u> 2. <u>Equipments:</u> <ul style="list-style-type: none"> - 2. Vatech Equipment Offer Oferta Vatech Equipos (18/03/2002), page 2 <u>Total price: USD13,900</u>
/CT/	Proposal of services by CT Energy S.A. Power Consulting Engineers, 2004/04/05
/debt/	1. E-mail from Paula Zagrecki to Linda Bonnin and John Stauffer

Reference	Document
	<p>regarding <i>Rio General Project Update: Financing</i>, 09/12/2000 (evidence of the consideration of the 75% debt that OPIC would be interested to take)</p> <p>2. Letters from Rohit C. Chib Executive Vice President of Oxbow Poer Corporation to Terence Darby Senior Vice President of Dresdner Kleinwort Benson North America LLC, Roberto Vellutini Senior Vice President of Inter-American Development Bank, Tim Howe Vice President of GE Capital Services Structured Finance Group, Nabil Moukarbel Investment Officer of International Finance Corporation, Ellen Turkel Assistant Vice President & Senior Analyst of the Fuji Bank and Gary Fabris Project Finance of The Bank of Nova Scotia. All dated 23/06/2000 (evidence of the finance structure of the project activity expected to cost approximately 75 USD millions and Oxbow is seeking 56.02 USD million representing 75% of project costs.)</p> <p>3. Global investment & Finance Letter describing financial fees, 2011/10/20</p>
/DPEPA/	Draft of the proposed Emissions Purchase Agreement between Hidroenergía del General and Prototype Carbon Fund (PCF).
/DRA/	<p>3. Discount rate analysis for Hidroenergía del General, S.R.L. elaborated by KPMG, dated on 2011/02/11</p> <p>4. Engagement letter dated 2011/02/02 by KPMG regarding the Discount rate analysis.</p> <p>5. Discount rate analysis Hidroenergía del General, S.R.L. elaborated by KPMG, dated on 2009/01/05.</p>
/Dra/	Drawing num. AE-302 as part of “Conjunto de Planos Civiles del proyecto, Secciones transversales diques Curva A-E- VOL y detalle de impermeabilización” by Bel Ingeniería S.A.
/EI/	Economical Inform by Costa Rica’s Central Bank - Banco Central de Costa Rica, División Económica. “Informe Económico”. July, 2003.
/EIA/	Environmental Impact Assessment dated on November 2000.
/e-mailEco/	E-mail: Econergy enters into agreement with Hidroenergía del General dated on 06.11.2007.
/e-mailWB/	E-mail: World Bank decides to stop extending Letter of Intent to purchase emissions reductions from the EGHP dated on 01.03.2005.
/EC/	<p>Engineering contract HDG_GBEL. Contract between Oxbow and Bel Ingeniería, (page 17), year 2001 to provide the following services:</p> <p>a. Preliminary drawings of non-powerhouse facilities;</p>

Reference	Document
	<ul style="list-style-type: none"> b. Establish a formal document control procedures c. Equipment supplier drawings; d. Obtain permits and approvals related to the project; e. Preliminary drawing of powerhouse; f. Submit all design drawings to ICE; g. Prepare a set of construction drawings; h. Prepare the start up procedures; i. Prepare preventive maintenance program for the civil works; j. Prepare a training manual; k. After the Commercial Operation Date (COD), prepare a start up testing report and the as-built drawing and calculation
/EPCC/	Engineering, Procurement and Construction (EPC) Contract signed by Saret de Costa Rica S.A. with Hidroenergía del General, 2004/01/26 (<u>project starting date</u>)
/FA/	Financing agreement entered among Hidroenergía del General as borrower and RBTMB as initial lender and administrative agent, 2004/05/07
/FAF/	Agreement between East West Financial Services LTD and HDG, dated on 2003/02/25.
/FAL/	Signed Letter from Juan B. Ramirez S., President of GCS to Mr. John Stauffer from Oxbow Power Corporation, 2001/04/19. (Evidence of the financial analysis performed and preliminary benchmark determined - 16.1% - by GCS regarding the project activity).
/FS/	Feasibility Study by BEL INGENIERIA S.A., San Jose, Costa Rica, February 2000 (144 pages).
/GA/	<ul style="list-style-type: none"> • Guarantee Fee No. 57924 for binding process by the National Bank to HDG, 2009/01/29. • Binding Guarantee to SETENA dated on 2009/01/29 given by INS.
/GFM/	Financial calculation spread sheet “GENERAL_FINANCIAL_MEMO_(final)_Presentacion” dated 2002/11/15 (<u>confidential information</u>).
/GE_energy/	Turbine Operation and Maintenance Manual No. 15003 – “Manual del Usuario” by GE Energy, Rev. 0, 2005/08/28.

Reference	Document
/HI/	<ul style="list-style-type: none"> Hydrology Report “<i>Informe Hidrológico - Proyecto Hidroelectrico Rio General</i>” by BEL Ingenieria S.A., dated September 2000 (20 pages). EGHP Hydrology study calculation spreadsheet “<i>Generation EGHP</i>” September 2000
/IA/	Project investment Analysis “ <i>Proyecto Hidroeléctrico El General</i> ” (Ref. SRTGDN-018-D_EL_GENERAL_Info_Dic_2002.pdf) elaborated by <u>SARET Sistemas de Energía</u> , dated on 2002/12/10 (evidence of the investment analysis used for the investment decision in December 2002).
/Import/	Invoice Num. 0107180 by SOCIACO (custom agent) to HDG, dated on 2006/02/01 and related documents of equipment imports and tax payment
/INS/	Insurance Policy No. G-7985 for Construction Risks given by INS to HDG, dated on 2004/07/20.
/IRR/	IRR calculation spread sheet
/LoA/	<ul style="list-style-type: none"> Letter of approval from the host country (Costa Rica) num. DM-393-2011, dated 2011/05/13, signed and stamped by the Ministry of Environment. English translation of the LoA Num. DM-393-2011, dated 2011/05/20. Clarification Letter Num. DCC-050-2011, 2011/05/23 signed and stamped by the Ministry of Environment (Evidence of the official letter clarifying that the PP stated in the LoA – Hidroenergía del General – is the same as stated in the PDD – Hidroenergía Del General S.R.L.). English translation of the clarification letter Num. DCC-050-2011, dated 2011/05/25.
/L&R/	<p>Land and rights of way (USD5,851*):</p> <ol style="list-style-type: none"> Pre-contract (agreement) of (optional) buy of real state signed between Maderal Atlantic S.A. and Oxbow Poer Corporation on 05/10/1999 (valid for 3 years and extendable for 2 more years) (USD 4, page 7 Price) Pre signing cost estimations (financial analysis sheet July 2000-Dec. 2002) file: Pre_signing_cost: <ul style="list-style-type: none"> USD0.2: transfer costs USD 1.351: land costs for transmission line USD0.3: contingency <p>* (USD x 1000):</p>
/JIM/	Jimenez Hydrielectric Project – Characteristics of the project
/KPMG/	Report elaborated by KPMG for Hidroenergía del General S.R.L. about the

Reference	Document
	Financial Model Evaluation, 2009/01/05.
/LEIA/	Letter: Send the EIA dated on 21.11.2000.
/LFM/	Letter and Financial Model dated on 19/08/2002 to Mr. John Stauffer at Oxbow Power Corporation from Mr. Juan Ramirez, President Grupo Saret, (Evidence of the on-going negotiations related to the agreement to acquire the ownership rights that Oxbow Power Corporation had over the El General Hydro Project)
/LG112/	La Gaceta num. 112 dated on 10.06.1999.
/LG4240/	Urban Planning Law 4240, 1968/11/15
/LG4925/	Engineering and Architecture School Law, 1971/12/17
/LG7092/	Tax Law number 7092, 1988/05/19 ID: Gaceta 96. " <i>Ley del Impuesto sobre la Renta</i> "
/LG7200/	Electricity generation Law 7200, 1990/09/28 ID: Gaceta 197. " <i>Ley que Autoriza la Generación Eléctrica Autónoma o Paralela</i> ".
/LG7508/	Electricity generation Law 7508, 1995/05/09, ID: Gaceta 104. " <i>Ley que Autoriza la Generación Eléctrica Autónoma o Paralela</i> ".
/LG7509/	Property Tax Law 7509, 1995/06/19, ID: Gaceta 116 " <i>Ley de Impuesto sobre Bienes Inmuebles</i> "
/Lic/	Licence: "Licencia de Actividad Lucrativa" dated on 08.06.2006 and expires on 30.06.2009.
/LMINAE/	Letters exchanged between MINAE and Hidroenergía del General regarding the delays in obtaining the water use concession from Ministry of Environment and Energy (MINAE): <ul style="list-style-type: none"> • Document provided by the PP regarding and referenced the milestones of the water concession process. • Letter number 9110.6894.2001 by ICE, 2001/04/19 • Letter number IMN-DA-1939-2001 by MINAE, 2001/09/19 • Letter by HDG, 2001/10/29 • Letter number IMN-DA-2320-2001 by MINAE, 2001/11/08
/LoAUT/	Letter of Authorization - " <i>Autorización de prestación de servicios de operación y mantenimiento a la empresa OIM eléctrica Matamoros, S.A. para el Proyecto Hidroeléctrico El General</i> ", num. DP2-ICE-187-2005 dated on 14.11.2005.

Reference	Document
/LoE/	Letter of Endorsement, issued on May 18, 2009 by OCIC.
/LoES/	Letter of environmental situation – “Informe de la situación actual ambiental” dated on 30.04.2009 from Regente GAPRO (with approval of SETENA AJ-779-2006).
/LoEV/	Letter of Environmental Viability – “Viabilidad ambiental SG-2665-2001” dated on 12.12.2001
/LoSCP/	Letter by SARET: Start of the commissioning period dated 28.01.2006.
/LRBTT/	Letter sent by RBT to ICE in July 2004, informing the closing of the loan and letters sent by Oxbow Power Corporation in June 2000, requesting proposals for EGHP’s loan.
/LoSDE/	Letter by ICE: Start of dispatch electricity to the grid, num. 00510-27117-2006 dated 12.06.2006.
/LPIN/	Letter by OCIC to PCF: Send the PIN num. OCIC-035 dated 19.04.2001.
/LPCN/	Letter by OCIC to PCF: Send PCN. FMC/PC Review Rio General Hydroelectric Project Oxbow Power Corporation dated 15.05.2001.
/LPPER/	Letter of intention of potential purchase of emission reductions of EGHP by International Bank for Reconstruction and Development (IBRD) dated on 22.05.2003.
/LRFCS/	Letter from MINAE about the revision of the flow calibration system – “Revisión del sistema de calibración de caudal” dated on 04.12.2006.
/OMH/	Operation and Maintenance Handbook Num. GGA090016.
/minute/	PH el General Minute dated 2003/03/17 (regarding negotiation to conform the capital of the company)
/Pay/	Evidence of payments done during construction management phase (invoices, checks, etc.)
/PDD/	1.- Project Design Document named “ El General Hydroelectric Project ” hosted for GSC, Ver. 01, dated on 2009-03-10. 2.- Project Design Document, Ver. 09.1, dated on 2011-05-01 3.- Project Design Document, Ver. 09.2, dated on 2012-03-26
/PL/	Proposal Letter of Oxbow Power Co. to ICE date on 30.01.2000.
/PO/	Annex 1: Financial Assessment, Form EF-02, and Project Cost Proposal

Reference	Document
	from the Public Offer Number 6670-E presented to ICE.
/PPA/	Power Purchase Agreement dated on 05.05.2003, “ <i>Contrato de Compra de Energía</i> ” (Ref.6670-E) signed between ICE and HDG
/Pro/	Equipment Protocol – “Protocolo de Pruebas equipo contadores de Energía de los medidores” num. PI-0510A007-01 y PJ-0601A017-01 dated on 03.09.08 and 03.10.08.
/PSC/	Public Service Concession – “Concesión de servicio público” num. 005-001-2004 07.01.2004 dated on 15.01.2004.
/RHF/	Review of the historical flow and energetic production potential “ <i>Revisión del Flujo Historico y del Potencial de Producción Energética</i> ” by Harza Engineer Company, 2000/02/25 (88 pages).
/SFI/	Stakeholders Final Report – “Informe Final Proceso de Comunicación con las Comunidades en el área de Influencia del Proyecto Hidroeléctrica del General” as part of the EIA dated on August 2000 and elaborated by Prisma Comunicaciones R.L.
/SP/	Sanitary Permission – “Permiso sanitario de funcionamiento” num. RCN-ARSS-111-2006 dated on 03.05.2006 and expired on 03.05.2011.
/SRP/	Engagement Study dated 2012/03/17 by KPMG regarding calculation of a nominal rate of return benchmark based on data provided by HDG and forecasted data provided by Economist Intelligence Unit for the period 2012-2016.
/TD/	Trust Deed dated 2004/05/07 and signed between HDG, GCS, OPC, Hidroeléctrica Platanar S.A. Maderal Atlantic, S.A., RBTTMerchant Bank Limited and Banco Interfin S.A.
/Tech/	Technical Data sheet of the Generators as part of the Operation and Maintenance Handbook Num. GGA090016.
/TUV/	Signed proposal for carrying out the Validation of the CDM project “ <i>El General Hydroelectric Project</i> ” between Hidroenergía del General S.R.L. and TÜV NORD Cert GmbH, 2009/09/24.
/WC/	Water concession – “Concesión de agua” num. R-462-2002-AGUAS-MINAE dated on 04.12.2002.
/WCR/	Water Concession Request – “Solicitud de Concesión de aprovechamiento de agua” dated 05.09.2001.
/withdrawn/	Letter of voluntary withdrawn of the PP Econergy Internation Corporation,

Reference	Document
	dated on 2010/08/18.
/XLS/	Emission reduction and GEF calculation spreadsheets

Table 7-2: Background investigation and assessment documents

Reference	Document
/ACM002/	ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” (Version 9 and 12.1).
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/D&P/	Risk Premium Report 2011 by Duff & Phelps
/e-mail1/	E-mail from William Alpizar from OCIC
/EOL/	Environmental Organic Law of Costa Rica - Ley Orgánica del Ambiente No. 7554, 04.10.1995
/EPEG/	Costa Rica National Expansion Plan of 2010-2021 (Plan de Expansión de la Generación Eléctrica 2010-2021)
/E22/	E22, Annex 3 Clarifications on the consideration of national and/or sectoral policies and circumstances in baseline scenarios (Version 02)
/GAIA/	Guidance on the assessment of investment analysis, Version 05.
/GCP/	UNFCCC: Guidelines for completing CDM-PDD and CDM-NM
/GLO/	Glossary of CDM terms, Ver. 04
/IPCC-GP/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000
/IPPC-RM/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/PDD-T/	Project Design Document Form (CDM PDD) - Version 03.

Reference	Document
/TAX/	Municipal Tax Regulation number 732. 1993/02/11, Gaceta no. 29.
/T1/	Combined tool to identify the baseline scenario and demonstrate additionality (Version 05.2)
/T3/	Tool to calculate the emission factor for an electricity system (Version 2)
/WB/	Financing of private Hydroelectric Projects by the Word Bank, July 2000
/VVM/	Validation and Verification Manual Version 01.2 (EB 55, Annex 1)

Table 7-3: Websites used

Reference	Link	Organisation
/aresep/	http://www.aresep.go.cr/cgi-bin/index.fwx?area=09&cmd=servicios&id=9707&sub=1523	Regulation authority of public services - “Autoridad reguladora de los servicios públicos”
/bea/	http://www.bea.gov/	Bureau of Economic Analysis - U.S. Department of Commerce
/bench1/	http://pages.stern.nyu.edu/~adamodar/	Geometric average treasury bonds; period of 1928-2002, excel file: HistRetSP.xls
/bench2/	http://pages.stern.nyu.edu/~adamodar/	Electric utility (Central); excel file: Betas02.xls
/bench3/	http://pages.stern.nyu.edu/~adamodar/	Geometric average equity risk premium – difference between stocks return and treasury bonds return; period of 1928-2002; excel file: HistRetSP.xls
/bench4/	http://www.scribd.com/doc/49308120/Ibbotson	Ibbotson SBBI 2010 Valuation Yearbook - Market Results for Stocks, Bonds, Bills, and Inflation 1926–2010
/bench5/	http://www.stern.nyu.edu/~adamodar/pc/archives/ctryprem02.xls	Source of Country risk Premium
/BID/	http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=35775914	Interest rate and financial fees by the Inter-American Development Bank

Reference	Link	Organisation
/cd4cdm/	www.cd4cdm.org	UNEP Risoe Centre
/crsp/	http://www.crsp.com/	Center for Research in Security Prices
/damodaran/	<ol style="list-style-type: none"> http://pages.stern.nyu.edu/~adamodar/ http://www.stern.nyu.edu/~adamodar/pc/archives/ctryprem02.xls (Cell E43) http://www.stern.nyu.edu/~adamodar/pc/archives/ctryprem10.xls (Cell F45) 	Damodaran Online
/dse/	http://www.dse.go.cr/	Dirección Sectorial de energía
/dna/	http://ocic.imn.ac.cr/index.html	The Costa Rican Joint Implementation Office
/EVW/	https://portal.eiu.com/sso/cas/login?service=http%3A%2F%2Fviewswire.eiu.com%2Fsso%2Fcas%2Fclient&brand=viewswire&msgid=subs&renew=true	The Economist® Views Wire
/ice/	https://www.grupoice.com/es/p/ele/index.html	Grupo ICE
/impf/	http://www.imf.org/external/pubs/ft/weo/2011/01/pdf/text.pdf	(International Monetary Fund World Economic Outlook
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/morning/	www.global.morningstar.com/riskpremiareports	Morningstar web site
/O&M/	1. http://energy-alaska.wikidot.com/hydro-potential-reduction-in-cost-of-energy	Alaska Energy Wiki
	2. http://www.iea.org/papers/2010/Hydropower_Essentials.pdf	Renewable Energy Essentials: Hydropower by International Energy Agency.
setena	http://www.setena.go.cr/p_ser	SETENA

Reference	Link	Organisation
	vicios_consultores.htm	
	1.	
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: List of interviewed persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Javier Matamoros	Manager / HDG
/IM02/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Maynor Bermúdez M.	Contracts / HDG
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Gabriela Sánchez Z.	Contracts / HDG
/IM04/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Oscar Coto	Consultant
/IM05/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Gerardo Salazar B.	OAM Head Department / HDG
/IM06/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Juan Ramón Arias R.	Plant Chief / HDG
/IM07/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Ransay Cruz V.	Market and Environmental Management / HDG
/IM08/	V,T	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Virginia Gante	Econergy
/IM09/	E,T	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Gustavo Dorregaray	Econergy

¹⁾ Means of Interview: (Telephone, E-Mail, Visit)

ANNEX

- A1:** Validation Protocol
- A2:** Assessment of Baseline Identification
- A3:** Assessment of Financial Parameters
- A4:** Assessment of Barrier analysis
- A5:** Outcome of the GSCP
- A6:** Appointment certificates of the team members

ANNEX 1: VALIDATION PROTOCOL

Table A-1: Requirements Checklist

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A. General Description of Project Activity				
A.1. Approval <i>The written approval of the parties involved is a mandatory requirement</i>				
<p>A.1.1. Has the project provided written approvals of all parties involved? (EB 55 Annex 1, § 44) <i>Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.</i> <i>Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA</i></p>	<p>In accordance with the CDM M&P at the time of making the PDD public at the stage of validation, a Party involved may or may not have provided its approval. At the time of requesting registration the approval of the Parties involved is required.</p> <p>At the time of the completion of the validation the Letter of Approval (LoA) is pending.</p> <p>For the Costa Rica's DNA a positive validation opinion is a prerequisite for the host government approval and thus the LoA could not be considered at the present validation stage.</p> <p>Corresponding changes of the project documentation due to the approval process will be addressed in a revision of the final validation report.</p> <p>Nevertheless, according to the OCIC web site, it is necessary that the PP issues the No objection Letter (NoL) of the</p>	/e-mail1/ /dna/	CAR A3	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	project, therefore a CAR was raised: (CAR A3) Provide the No Objection Letter of the project EI General issued by DNA of Costa Rica and the Letter of approval issued by the DNA of UK.			
A.1.2. Are the approvals issued from organisations listed as DNAs on the UNFCCC CDM website? (EB 55 Annex 1, §§ 44, 47, 48, 49 (b), 49 (c), 53) <i>Indicate the means of validation employed to assess the authenticity, i.e. in case of doubt whether LoA has been verified with the DNA. Further describe which entity submitted the LoA for validation.</i>	Please refer to CAR A3.		CAR A3	OK
A.1.3. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol? (EB 55 Annex 1, § 45(a))	Please refer to CAR A3.		CAR A3	OK
A.1.4. Do the written approvals confirm that the participation is voluntary? (EB 55 Annex 1, § 45(b))	Please refer to CAR A3.		CAR A3	OK
A.1.5. Does the written approval from the host country confirm that the project contributes to the sustainable development in the country? (EB 55 Annex 1, § 45(c))	Please refer to CAR A3.		CAR A3	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A.1.6. Do the written approvals refer to the precise project title in the PDD submitted for registration or an additional specification of the project activity, e.g. PDD version number? (EB 55 Annex 1, §§ 45(d), 50)	Please refer to CAR A3.		CAR A3	OK
A.1.7. Are the written approvals unconditional with regard to A.1.3 to A.1.6? (EB 55 Annex 1, § 46)	Please refer to CAR A3.		CAR A3	OK
A.1.8. Is the information regarding the project participants listed in section A3 and in Annex 1 of the PDD internally consistent to each other? (EB 55 Annex 1, § 51)	No, the information is not consistent; therefore a CL was raised according to this item. (CL A2) In section A3 and Annex 1, the names of the project participants have to be exactly the same.	/PDD/	CL A2	OK
A.1.9. Are all project participants listed in the PDD approved at least by one Party involved? (EB 55 Annex 1, § 51) <i>Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol.</i> <i>Describe the means of validation employed to draw this conclusion.</i>	No, there is a Project participant from United Kingdom and at the time of validation, the Letter of Approval was not issued. Therefore a CAR was raised: (CAR A3) Provide the No Objection Letter of the project EI General issued by DNA of Costa Rica and the Letter of approval issued by the DNA of UK.	/PDD/	CAR A3	OK
A.1.10. Are any other project participants approved but not listed in the PDD? (EB 55 Annex 1, § 52)	It was confirmed by the project participants listed in the PDD, that no other project participants are involved in this project activity.	/IM01/ /IM08/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
		/PDD/		
<p>A.1.11. Does the DoE have a direct contractual relationship with the PP?</p> <p>(EB 55 Annex 1, § 51; EB 50 Annex 48, §§ 7–9) <i>Check whether the PPs listed in the published PDD are still listed in the PDD going to be submitted to request for registration.</i></p>	<p>Yes, TÜV NORD CERT has a direct contractual relationship with the PP Hidroenergía Del General S.R.L.</p>	<p>/PDD/ /TUV/</p>	OK	OK
<p>A.2. Contribution to Sustainable Development</p> <p><i>The project's contribution to sustainable development is assessed.</i></p>				
<p>A.2.1. Has the host country confirmed that the project assists it in achieving sustainable development?</p> <p>(EB 55 Annex 1, §§ 125–127) <i>Contains a statement confirming whether the letter of approval by the DNA of the host party confirmed the contribution of the project to the sustainable development of the Host Party.</i></p>	<p>The Non Objection Letter that confirms that the project contributes to the achievement of sustainable development in the country has not yet been issued by the DNA.</p> <p>Nevertheless the validation team had validated the fulfilment criteria described in the DNA web site about the sustainable development of Costa Rica:</p> <ul style="list-style-type: none"> • Environmental • Social • Economics • Legal 	/dna/	CAR A3	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Please refer also to A.1.1.			
<p>A.2.2. Will the project create other environmental or social benefits than GHG emission reductions?</p> <p>(EB 55 Annex 1, §§ 125–127)</p> <p><i>Describe the other positive aspects not related to GHG emission reduction on the environment.</i></p>	<p>The project will create other environmental and social benefits than GHG emission reductions such as:</p> <ul style="list-style-type: none"> • The project creates job opportunities during construction and operation of the new facilities. • Conservation of natural resources since the use of fossil fuels will be reduced. • Establish the basis for future environmental projects. • Creation of a fund “Fondo Ecológico Social Educativo” to develop social, environmental and education projects to the local communities. 	<p>/PDD/ /IM02/ to /IM08/</p>	OK	OK
<p>A.3. PDD editorial aspects</p> <p><i>The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.</i></p>				
<p>A.3.1. Has the latest version of the PDD form been applied?</p> <p>(EB 55 Annex 1, § 55)</p>	<p>The latest version of the CDM- PDD (version 03) has been applied. No deviations thereof have been observed.</p>	<p>/PDD/ /unfccc/</p>	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A.3.2. Has the PDD been duly filled in accordance with the latest guidance(s)? (EB 55 Annex 1, §§ 56–57)	The PDD has been filled in accordance with the PDD guidelines.	/PDD/	OK	OK
A.4. Technology to be employed <i>Validation of project technology focuses on the project engineering, choice of technology and competence/maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.</i>				
A.4.1. Does the PDD contain a clear, accurate and complete project description? (EB 55 Annex 1, §§ 58–59) <i>The PDD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.</i> <i>Pl. consider esp. chapters A.2, A.4.2 and A.4.3 (in case of LSC PDD) for assessment.</i> <i>Describe the process undertaken to validate the accuracy and completeness of the project description.</i> <i>Contain the DOE's opinion on the accuracy and completeness of the project description.</i>	A comprehensive project description is given in sections A.2 of the PDD. In PDD, section A.4.3, description of the technology is provided. The technology is environmentally safe and sound. Editorial issues were identified about project description and technology to be employed, therefore CL A1 and CL A4 were raised. For assessment the validation team has (1) Reviewed the PDD in detail. (2) Carried out a site visit including inspection of the technical data. (3) Carried out interviews with technical personnel and	/PDD/ /IM01/ to /IM08/ /AI/ /EPCC/ /Tech/	CL A4 CL A4	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>project consultant.</p> <p>(CL A1) In section A2:</p> <ul style="list-style-type: none"> • Provide reference to the average annual net generation of electricity (198,380 MWh) • Provide reference to the statement “The project coincides with Costa Rica’s long term development and energy strategy to provide electric energy from small-scale, renewable sources (wind, biomass, hydro, geothermal)”. • Complete the “description of the project activity” following the guidance in A.2 of the Guidelines for completing the PDD, including the baseline scenario and the statement that the baseline scenario is the same as the scenario existing prior to the start of implementation of the project activity <p>(CL A4) In section A4:</p> <ul style="list-style-type: none"> • Complete the description of the “technology to be employed by the project activity” following the guidance in A.4.3 of the Guidelines for completing the PDD, including the baseline scenario and the statement that the baseline scenario is the same as the scenario existing prior to the start of implementation of the project activity. • Correct the capacity of the reservoir of 220,000 m³ as 			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	it is 194,903 m ³ .			
A.4.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc to the project description?	<p>The information in the PDD was checked during on-site visit to proof that the project description is plausible and reflects the reality of the project. At time of validation the project was already implemented. Details about this issue will be explained in section B.4.2.</p> <p>This description is according to the real situation and validated by the validation team.</p>	/PDD/ /IM01/ to /IM08/	OK	OK
<p>A.4.3. In case the project involves alteration of the existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation?</p> <p>(EB 55 Annex 1, §§ 63–64) <i>Describe the steps taken to validate this issue.</i></p>	<p>The project does not involve any alteration of existing facilities because it was a Greenfield project.</p> <p>This could be evidenced through review of the PDD and during the on-site assessment of the project.</p>	/PDD/ IM01/ to /IM08/	OK	OK
<p>A.4.4. Does the project design engineering reflect current good practices?</p> <p><i>Consider the equipment specifications, literature (e.g. EU BREF papers) and professional experiences. Describe the process undertaken to assess the engineering.</i></p>	<p>The technology in the project design is safe and sound.</p> <p>The validation team has checked the key technical data by reviewing the technical documentation and key technical operational personnel were interviewed</p>	/PDD/ /IM05/ /AI/ /EPCC/ /Tech/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>A.4.5. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?</p> <p><i>Describe the process undertaken to assess the state of the art technology.</i></p>	<p>EGHP has invested in the construction, installation and operation of the infrastructure necessary for the project's implementation to guarantee an appropriate and effective electricity generation.</p> <p>The technology is safe and sound and it represents a clean technology demonstration project.</p> <p>The validation team has reviewed the technical documentation.</p>	<p>/PDD/ /IM01/ /IM05/ /AI/ /EPCC/ /Tech/</p>	<p>OK</p>	<p>OK</p>
<p>A.4.6. Does the project make provisions for meeting training and maintenance needs?</p> <p><i>Describe the process undertaken to assess the maintenance and training needs.</i></p>	<p>Yes, the employees that operate the equipment of the EGHP have been qualified and certificates of training have been shown to the validation team.</p> <p>There is an Operation and Maintenance Handbook provided by the suppliers companies of the equipment.</p>	<p>/PDD/ /IM05/ /CoT/ /OMH/</p>	<p>OK</p>	<p>OK</p>
<p>A.5. Small scale project activity</p> <p><i>It is assessed whether the project qualifies as small-scale CDM project activity</i></p>				
<p>A.5.1. Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II?</p> <p>(EB 55 Annex 1, §§ 135–136 (a))</p>	<p>The project does not qualify as small-scale CDM project activity.</p>		<p>N/A</p>	<p>N/A</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>A.5.2. Does the project apply one of the approved small scale categories and any methodology and tool referred therein?</p> <p>(EB 55 Annex 1, § 136 (b)) <i>Check, if applicable the expiry dates of the applied methodology. Further, take into consideration the general guidance to the methodologies⁶, which provide guidance on equipment capacity, equipment performance, sampling and other monitoring related issues.</i></p>	The project does not qualify as small-scale CDM project activity.		N/A	N/A
<p>A.5.3. Is the small scale project activity not a debundled component of a larger project activity?</p> <p>(EB 55 Annex 1, § 136 (c)) <i>Describe the steps taken to validate this issue. PI refer to the Compendium of guidance on debundling (EB 36, Annex 27 54, Annex 13).</i></p>	The project does not qualify as small-scale CDM project activity.		N/A	N/A
<p>A.5.4. Is an assessment of the environmental impacts of the proposed SSC CDM project activity required by the host Party?</p> <p>(EB 55 Annex 1, § 136 (d))</p>	The project does not qualify as small-scale CDM project activity.		N/A	N/A
B. Project Baseline, Additionality and				

⁶ <http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
Monitoring Plan				
B.1. Application of the Methodology				
<p>B.1.1. Does the project apply an approved and applicable CDM methodology and a valid version thereof?</p> <p>(EB 55 Annex 1, § 65) <i>Describe the steps taken to validate this issue.</i></p>	<p>Yes, the project activity applies the approved methodology ACM0002. At the time of publishing the PDD for public comments version 10 of the applied methodology was valid and applicable.</p> <p>To ensure that the applied methodology is approved by the executive board and the PP has chosen the latest version, the methodologies section of UNFCCC CDM website was visited.</p>	/unfccc-method/ /ACM0002/	OK	OK
<p>B.1.2. Is the applied CDM methodology identical with the version available on the UNFCCC website?</p> <p>(EB 55 Annex 1, §§ 65, 70) <i>Describe the steps taken to validate this issue.</i></p>	<p>The methodology applied by the PPs is identical with the version available on UNFCCC website. This has been checked during validation.</p>	/unfccc-method/ /ACM0002/	OK	OK
<p>B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled?</p> <p>(EB 55 Annex 1, §§ 66(a)–(b), 68, 71, 76) <i>Describe for each applicability criterion listed in the selected approved methodology the steps taken to assess the</i></p>	<p>The PDD was reviewed and the applicability determination was counterchecked against the criteria given in the applicability section of the methodology:</p> <ul style="list-style-type: none"> <i>“This methodology is applicable to grid connected power generation project activities that</i> 	/PDD/ /ACM0002/ /IM01/ to	CAR B1	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>information contained in the PDD.</i>	<p><i>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)</i>” – The EGHP is a grid-connected renewable power generation plant that involves a new power plant. The project activity is a greenfield project plant.</p> <p>This key applicability criteria could be validated after review of the PDD and technical data of the project activity and interviews with the project developer, process engineers and consultant.</p> <ul style="list-style-type: none"> • <i>“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;”</i>– The project activity consists in the installation of a hydroelectric power plant with a run-of-river reservoir and also with a accumulation reservoir for one day storing water. This has been checked during validation. <p>In case of hydro power plants, one of the following conditions must apply:</p> <ul style="list-style-type: none"> • <i>“The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section,</i> 	<p>/IM08/ /AI/ /EPCC/ /Tech/ /Dra/ /aresep/ /dse/ /ice/</p>		

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p><i>is greater than 4 W/m².</i>”– The power activity consists of a new reservoir and the power density of the power plant is greater than 4 W/m². This could be validated through site inspection and by review of documents that demonstrate the installed capacity of the plant (/Tech/) and the area of the reservoir measured in the surface of the water (/Dra/).</p> <p>The methodology is not applicable to the following:</p> <ul style="list-style-type: none"> • Project activities that involve switching from fossil fuels to renewable energy sources 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 project consist in the construction, installation and operation of new hydroelectric power plant, therefore the methodology is applicable. • Biomass fired power plants – Please refer to comments given above • 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 power activity consists of a new reservoir and the power density of the power plant is greater than 4 W/m², therefore the methodology is applicable <p>Nevertheless a CAR was raised according to this item.</p> <p>(CAR B1): In section B2 indicate the evidence presented for demonstration of each applicability condition and reference</p>			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	the corresponding source.			
B.1.4. In case one or more applicability criteria have not been met, has the validation team requested clarification to, revision of or deviation from the methodology in accordance with the latest guidelines? (EB 55 Annex 1, §§ 72–75)	All applicability criteria have been met. CAR B1 was successfully closed.	/PDD/ /ACM 0002/	OK	OK
B.1.5. Is the project in accordance with every other stipulation or requirement mentioned in all sections of the methodology and in guidances for approved methodologies provided by the CDM EB? (EB 55 Annex 1, § 69, 71) <i>Describe the steps taken to check whether the proposed project activity meets all the other possible stipulations and /or limitations mentioned in all sections of the approved methodology selected.</i>	The project is in accordance with the requirement of the applied methodology. For assessment the validation team has: <ul style="list-style-type: none"> Reviewed the PDD in detail Carried out a site visit Review of the technical data Carried out interviews with technical personnel of EGHP, project consultant and a representative of the company. 	/PDD/ /IM01/ to /IM08/ /Tech/	OK	OK
B.2. Project Boundaries <i>Project Boundaries are the limits and borders defining the GHG emission reduction project</i>				
B.2.1. Are the project's spatial boundaries	The project boundary encompasses several sites:	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(geographical) clearly defined? (EB 55 Annex 1, §§ 67(a), 78–80) <i>Provide information on how the validation of the geographical boundary has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i>	<ul style="list-style-type: none"> • Power plant • Water intake • Transmission line This could be evidenced through review of the PDD and during the on-site assessment of the project.			
B.2.2. Are all sources and GHGs included in the project boundary as required in the applied methodology? (EB 55 Annex 1, §§ 67(a), 78–80) <i>Provide information on how the validation of the GHGs and sources has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i>	In section B3 of the PDD the sources in the project boundary are given. These sources are in compliance with the applied methodology as well as with the real situation. This could be validated by reviewing the PDD and ACM0002 and during the visit of the site.	/PDD/ /ACM 0002/	OK	OK
B.2.3. In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and justified? (EB 55 Annex 1, §§ 67(a), 78–80) <i>Confirm if the justification provided by the PPs is reasonable, based on assessment of supporting documented evidence provided by the PPs or by onsite observations.</i>	All choices described in the methodology were correctly applied and justified by the Project Participant. The validation team had reviewed in detail the PDD	/ACM 0002/ /PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.3. Baseline Identification <i>The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.</i>				
B.3.1. What possible baseline scenarios have been considered? (EB 55 Annex 1, §§ 67(b), 83) <i>Fill in all alternatives in table A-2.</i>	The applied methodology establishes a one unique option for baseline scenario, in case the project activity is the installation of a new grid-connected renewable power plant/unit. This applied to the project activity.	/PDD/ /ACM 0002/	OK	OK
B.3.2. Is the list of alternatives complete? (EB 55 Annex 1, §§ 67(b), 83) <i>Describe how it was validated that all alternatives are plausible and no plausible alternative is excluded from the consideration</i>	<input checked="" type="checkbox"/> All plausible alternative scenarios listed in the approved methodology have been considered. In the course of document review and site visit, it has been validated that no other alternatives which supply comparable outputs and / or services are to be taken into consideration. Thus no plausible scenario has been omitted. <input type="checkbox"/> The following alternative scenarios/options have been omitted. Corresponding CAR(s)/CL(s) has /have been issued	/PDD/ /ACM 0002/	OK	OK
B.3.3. What has been identified as the baseline scenario? (EB 55 Annex 1, §§ 81–82, 86) <i>Describe the chosen BL scenario, taking into consideration</i>	The baseline scenario that had been identified is the following: <i>“Electricity delivered to the grid by the project would have otherwise been generated by the operation of grid-connected</i>	/PDD/ /ACM 0002/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>the technology that would be employed and / or the activities that would take place in the absence of the proposed CDM project activity.</i>	<i>power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”</i>			
<p>B.3.4. Has the baseline scenario been determined according to the methodology?</p> <p>(EB 55 Annex 1, §§ 82, 87(e))</p> <p><i>Describe how it is validated that the identification of the most plausible baseline scenario is carried out in accordance with the applied methodology and applied methodological tools. Please refer to table A-2.</i></p>	<p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p> <p><input checked="" type="checkbox"/> The determination has been carried out as per the applied methodology.</p> <p><input type="checkbox"/> The following CARs / CLs have been identified with respect to the selection of the baseline scenario:</p> <p>This could be evidenced through review of the PDD and the applied methodology and tools.</p>	/PDD/ /ACM 0002/	OK	OK
<p>B.3.5. Has any plausible alternative scenario been excluded?</p> <p>(EB 55 Annex 1, § 83)</p> <p><i>Describe how it is validated that no plausible alternative scenario has been excluded.</i></p>	<p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p> <p><input checked="" type="checkbox"/> No plausible baseline scenario has been excluded.</p> <p><input type="checkbox"/> The following plausible baseline scenarios have been excluded though no adequate justification has been provided for elimination. The following CARs / CLs have been issued:</p> <p>The validation team has checked the PDD and the applied methodology.</p>	/PDD/ /ACM 0002/	OK	OK
B.3.6. Is the identified baseline scenario reasonable	<input checked="" type="checkbox"/> The baseline scenario has been determined using	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>and has the baseline scenario been determined using conservative assumptions where possible, including relevant references and sources?</p> <p>(EB 55 Annex 1, §§ 84–86(a)–(c)) <i>Describe whether the choice of the identified baseline scenario is reasonable by validating the <u>key assumptions, calculations and rationales</u> used in the PDD. Describe whether these are listed, relevant and <u>conservatively interpreted</u> in the PDD.</i></p>	<p>conservative assumptions where possible. Please refer to comments in table A-2 and sections B.3.2 to B.3.5 above.</p> <p><input type="checkbox"/> The following CARs / CLs have been issued because assumptions used in the baseline determination have been assessed to be not conservative</p>	<p>/ACM 0002/</p>		
<p>B.3.7. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?</p> <p>(EB 55 Annex 1, §§ 85, 87(d)) <i>Describe whether the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD in accordance with the guidance by the Board. Pl. consider the guidance EB 22 annex 3 (regarding E+ and E- policies).</i></p>	<p>The applied methodology establishes a one unique option for baseline scenario, in case the project activity is the installation of a new grid-connected renewable power plant/unit. This applied to the project activity.</p>	<p>/PDD/ /ACM 0002/</p>	<p>OK</p>	<p>OK</p>
<p>B.3.8. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?</p> <p>(EB 55 Annex 1, § 87(a)–(c)) <i>Describe whether the documents and sources referred to in the PDD are correctly quoted and clearly referenced.</i></p>	<p>The applied methodology establishes a one unique option for baseline scenario, in case the project activity is the installation of a new grid-connected renewable power plant/unit. This applied to the project activity.</p>	<p>/PDD/ /ACM 0002/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.3.9. Does the PDD contain a <i>verifiable</i> 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 CDM project activity. (EB 55 Annex 1, § 86)</p>	<p>The applied methodology establishes a one unique option for baseline scenario, in case the project activity is the installation of a new grid-connected renewable power plant/unit. This applied to the project activity.</p>	<p>/PDD/ /ACM 0002/</p>	<p>OK</p>	<p>OK</p>
<p>B.4. Additionality Determination <i>The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.</i></p>				
<p>B.4.1. Methodology</p>				
<p>B.4.1.1. Does the PDD describe how the project is additional and does the additionality justification follow the requirements of the applied methodology and/or methodological tools? (EB 55 Annex 1, §§ 67(d), 94–95) <i>Describe how it is validated that additionality justification is carried out in accordance with the applied methodology and/or applied methodological tools. Further focus your assessment on the reliability and credibility of data, rationales and assumptions, justifications and documentations provided by the PP.</i></p>	<p>The sequence utilized by the PP to demonstrate the additionality of the project has followed the criteria described in the “Tool for the demonstration and assessment of additionality”, version 05.2 In section B.5 of the PDD the additionality is justified with the investment analysis. An assessment of Financial Parameters was made in ANNEX 3 (Table A-3), please refer to it.</p>	<p>/PDD/ /ACM 0002/ /T1/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.4.2. Consideration of CDM before project start				
<p>B.4.2.1. Is the project starting date reported in accordance with the CDM glossary of terms?</p> <p>(EB 55 Annex 1, § 104(a))</p> <p><i>Assess why the chosen starting date can be considered as the earliest date at which either the implementation or construction or real action of a project has begun or will begin.</i></p> <p><i>Check that no other activities related to the project that happened before the identified start date can be considered as start date. In this context please also take into consideration infrastructural expenses if they are relevant (in terms of costs and importance for the project implementation) in the specific context of the project activity.</i></p>	<p>The project start date reported was on 05.05.2003, which is the date when Hidroenergía del General signed a Power Purchase Agreement with ICE.</p> <p>According to the Glossary of terms it should be considered the date when the commitment to the major investment is done (i.e. signing of loan or contract for construction or purchase of equipments).</p> <p>There is a CL raised according to the project starting date:</p> <p>(CL B10) Please provide detailed information to clarify why the starting date of the project activity established in the PDD, comply with the definition given in the CDM glossary of terms (the date when the commitment to the major investment is done).</p> <p>This has been carried out with interview with personal from Contract's Department, review of the PDD and the Power Purchase Agreement.</p>	<p>/PDD/ /IM02/ /IM03/ /IM08/ /PPA/</p>	<p>CL B10</p>	<p>OK</p>
<p>B.4.2.2. In case the project start date is on or after 2nd August 2008 has the PP informed the DNA and UNFCCC about the intension to seek CDM status?</p> <p>(EB 55 Annex 1, §§ 99–101)</p> <p><i>Describe whether such a notification has been provided by the project participants within six months of the project activity start date; if NOT it shall be determined that the</i></p>	<p>Not applicable. Please refer to comment given above.</p>		<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>CDM was not seriously considered.</i>				
<p>B.4.2.3. In case the project start date is before commencing of validation and 2nd August 2008, was the incentive from the CDM seriously considered and are details given in the PDD?</p> <p>(EB 55 Annex 1, §§ 100, 102)</p> <p><i>Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i></p>	<p>Several documents were provided to the validation team to demonstrate that the CDM incentive has been seriously considered (during the period from the 16th of June 2000 until the 22th of May 2003):</p> <ul style="list-style-type: none"> • 16.06.2000 - Draft of the proposed Emissions Purchase Agreement between Hidroenergía del General and Prototype Carbon Fund (PCF). • 31.03.2001 - Letter by OCIC (Costa Rican Joint Implementation Office - Costa Rica's DNA) to the Prototype Carbon Fund (PCF) sending the Project Idea Note (PIN). • 15.05.2001 - Letter by OCIC to PCF sending the Project Concept Note (PCN). • 10.12.2002 - Investment Analysis of the EGHP, including the income from clean energy generation. • 22.05.2003 - Letter of intention of potential purchase of emission reductions of EGHP by International Bank for Reconstruction and Development (IBRD). <p>On 1st March 2005, the World Bank decides to stop extending Letter of Intent to purchase emissions reductions from the EGHP.</p> <p>They justify their decision due to constraint on obtaining hourly dispatch data of the Costa Rican electric grid</p>	<p>/PDD/ /IM01/ to /IM08/ /DPEPA/ /LPIN/ /LPCN/ /LPPER/ /e- mailWB/</p>	<p>CAR B2</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>The validation team has reviewed contracts and agreements to crosscheck the evidence described in the PDD.</p> <p>Nevertheless a CAR was raised:</p> <p>(CAR B2) Please provide further information to demonstrate additionality by providing credible information that suffices to comply with the “Guidance on the Demonstration and Assessment of prior consideration of the CDM” for existing project activities, as the case of the current project activity.</p> <p><i>“The project participant must indicate, by means of reliable evidence, that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation.”</i></p>			
<p>B.4.2.4. How and when was the decision to proceed with the project taken? <i>Describe the steps taken to validate the starting date.</i></p>	<p>On 2000/06/01 ICE (Instituto Costarricense de Electricidad) Board of Directors informed the results of the public tender^{/AL/}. Oxbow Power Co was assigned for a block of energy generation.</p> <p>On 2002/08/19 Mr. Juan Ramirez, President Grupo Saret (GCS), sent a letter and Financial Model^{/LFM/} to Mr. John Stauffer at Oxbow Power Corporation referencing the on-going negotiations related to the agreement to acquire the ownership rights that Oxbow Power Corporation had over the El General Hydro Project.</p> <p>On 10/12/2002, GCS sent a letter^{/IA/} to Hidroeléctrica Platanar S.A. including an analysis of the project activity for consideration by the Board of Directors at Hidroeléctrica</p>	<p>/IM01/ /AL/ /LFM/ /IA/ /minute/ /PPA/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>Platanar to invest in the acquisition of the project. In December 2002 the Hidroeléctrica Platanar S.A. decided to enter in agreement with Oxbow Power Co. an American company which has been assigned the EGHP. The PP will cooperate to build and operate the EGHP. This agreement does not represent any financial commitment with Oxbow Power Co but a commitment to buy actions of the project in the future in case the PPA is signed and the water license is given by the authority.</p> <p>During a meeting^{/minute/} done on 2003/03/17 between Hidroeléctrica Platanar S.A. and GCS the conformation of the capital of the project was decided. At this time the decision to proceed with the project was already taken.</p> <p>At the time of signature of the Power Purchase Agreement^{/PPA/} (2003/05/05) the decision to proceed with the project was already taken because the PPA considers a fulfillment guarantee which will be valid till the construction of the project is done and commercial operation of the project has begun.</p> <p>At the end of the construction of the project, Oxbow Power Co. decided to leave the project. This was caused by several problems and barriers the project had faced. Then the PP assumed the control of the project.</p> <p>The validation team has interviewed the General Manager of HDG.</p> <p>The sequence described above shows the early steps to develop the project activity. However none of the above are</p>			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	deemed as project starting date as those were not considered as mayor expenditures, but actions to structuring the company behind. This company could have decided to leave the project. Matter of fact, problems appeared and pushed the Oxbow Power Co. to leave the project.			
B.4.2.5. Is the project start date consistent with the available evidences? (EB 55 Annex 1, § 102) <i>Describe the evidence assessed regarding the prior consideration of the CDM (if necessary). Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i>	Please refer to item B.4.2.1 described above. It is necessary to close CL B10.	/PPA/	CL B10	OK
B.4.2.6. Was the decision to proceed with the project taken by a person which has the authority to do so? (EB 55 Annex 1, § 102(a)) <i>Describe the steps taken to validate this issue.</i>	Yes, the Executive Board of HDG took the decision to proceed with the project. The validation team has interviewed the General Manager of HDG.	/IM01/	OK	OK
B.4.2.7. How was the CDM involved in the decision making process? (EB 55 Annex 1, § 102) <i>Describe why CDM was a decisive factor in the decision making process.</i>	Please refer to item B.4.2.3 described above. It is necessary to close CAR B2.		CAR B2	OK
B.4.2.8. Do the evidences provided doubtlessly	Please refer to item B.4.2.3 described above. It is necessary		CAR	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>prove that continuous and real actions were taken in order to secure the CDM status?</p> <p>(EB 55 Annex 1, § 102; EB 49 Annex 22 § 7)</p>	to close CAR B2.		B2	
<p>B.4.2.9. Is the gap of documented evidences to secure the CDM status less than 3 years and are the evidences relevant for substantiating the action taken, credible, reliable and complete?</p> <p>(EB 49 Annex 22 § 8)</p>	Please refer to item B.4.2.3 described above. It is necessary to close CAR B2.		CAR B2	OK
<p>B.4.2.10. Did implementation of the project ceased after its commencement and did implementation recommence after consideration of the CDM?</p> <p>(EB 51 Annex 58, § 7) <i>Describe the reasons for ceasing the project and explain why the incentive from CDM was necessary to recommence the implementation.</i></p>	Please refer to item B.4.2.3 described above. It is necessary to close CAR B2.		CAR B2	OK
<p>B.4.2.11. Can the CDM involvement in the decision assessed as serious?</p> <p>(EB 55 Annex 1, § 104(b)–(c)) <i>Describe whether or not the project would have been undertaken without the incentive of the CDM.</i></p>	Please refer to item B.4.2.3 described above. It is necessary to close CAR B2.		CAR B2	OK
B.4.3. Identification of alternatives Step 1				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(in case of SSC projects pl. skip steps 1 and 2)				
B.4.3.1. Does the list of alternatives contain the status-quo situation, the project not undertaken as a CDM project as well as all other viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity? (EB 55 Annex 1, §§ 105–107) <i>Describe the steps taken to validate this issue on the basis of your local and sectoral knowledge.</i>	The applied methodology establishes a one unique option for baseline scenario, in case the project activity is the installation of a new grid-connected renewable power plant/unit. This applied to the project activity	/PDD/ /ACM 0002/	OK	OK
B.4.3.2. Have all realistic alternatives been identified to the project? (EB 55 Annex 1, §§ 105–107) <i>Describe whether the list of alternatives is credible and complete. Describe how it is validated that the alternatives are realistic.</i>	The applied methodology establishes a one unique option for baseline scenario, in case the project activity is the installation of a new grid-connected renewable power plant/unit. This applied to the project activity	/PDD/ /ACM 0002/	OK	OK
B.4.3.3. Do all identified alternatives comply with enforced legislations? (EB 55 Annex 1, §§ 106(c)) <i>Describe the steps taken to validate this issue. Refer to the legislations.</i>	The applied methodology establishes a one unique option for baseline scenario, in case the project activity is the installation of a new grid-connected renewable power plant/unit. This applied to the project activity	/PDD/	OK	OK
B.4.4. Investment analysis Step 2 <i>In case the investment analysis as per step 2 is</i>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>chosen to justify the additionality Annex 2 "Assessment of Financial Parameters" has to be used to provide additional details of the the calculation parameters..</i>				
B.4.4.1. Does the PDD provide evidence that the project would not be the most economically or financially attractive alternative or economically / financially feasible without the revenues from the sale of CERs? (EB 55 Annex 1, § 108)	The chosen approach for demonstrating the project's additionality is the benchmark analysis (Option II). This is an appropriate analysis method because the project activity generates economic benefits with the sales of electricity, therefore the simple cost analysis (Option I) cannot be used.	/PDD/ /T1/	OK	OK
B.4.4.2. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)? (EB 55 Annex 1, § 108; EB 39 Annex 10) <i>Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.</i>	The analysis method chosen is the benchmarking analysis, as the alternatives identified to the project activity generate financial or economics benefits other than CDM related income.	/PDD/ /T1/	OK	OK
B.4.4.3. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation? (EB 55 Annex 1, § 110; EB 51, Annex 58, §8) <i>Describe the steps taken to validate this issue.</i>	Yes, the PP had a clear, viewable and unprotected Excel spreadsheet available for the validation team. Nevertheless a CAR was raised. Please see CAR B3.	/IRR/	CAR B3	OK
B.4.4.4. Does the period chosen for the investment	The period chosen for the investment analysis is 17 years,	/PDD/	CL-C4	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included?</p> <p>(EB 55 Annex 1, § 109; EB 51 Annex 58 § 3 – 4) <i>Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents were utilised in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.</i></p>	<p>which is the time for the concession given by ICE. After that, the ownership of the EGHP will be transferred back to the ICE. The power purchase agreement was reviewed and the audit team confirms that.</p> <p>Nevertheless, the validation team had raised a CL to clarify this item.</p>	<p>/IRR/</p>		
<p>B.4.4.5. Is the (remaining) technical lifetime of existing or project equipment defined in accordance with the guidance of the <i>Tool to determine the remaining lifetime of equipment</i>?</p> <p>(EB 50 Annex 15)</p>	<p>No remaining technical lifetime of the project is considered, as the project is a greenfield project. This was checked during site visit.</p>	<p>/PDD/ /IRR/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.4.6. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice?</p> <p>(EB 55 Annex 1, § 109; EB 51 Annex 58, § 4) <i>State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential mismatches between regulations and the approach applied</i></p>	<p>No remaining technical lifetime of the project is considered, as the period chosen for the investment analysis reflect the technical lifetime (17 years) of the project activity defined in the PPA. As this is a BOT Build-Operate-Transfer project, no fair value is considered in the IRR calculation. According to the PPA, after 17 years (not including operation), the PP shall give back the project to the electricity authority of the host country without any compensation.</p>	<p>/PDD/ /IRR/ /PPA/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>for calculating the fair value.</i>				
B.4.4.7. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation? (EB 55 Annex 1, § 109; EB 51 Annex 58, § 4)	No remaining technical lifetime of the project is considered, as the period chosen for the investment analysis reflect the technical lifetime (17 years) of the project activity. No discrepancies were identified.	/PDD/ /IRR/	OK	OK
B.4.4.8. Are depreciation and other non-cash related items added back to net profits for the purpose to calculate the financial indicator? (EB 55 Annex 1, § 109; EB 51 Annex 58, § 5)	Yes, depreciation is added back to net profits after the calculation of the taxes. The spreadsheet was reviewed. For more details please refer to Annex 3, table A-3 Please refer also to CAR B3.	/PDD/ /IRR/	CAR B3	OK
B.4.4.9. Is taxation excluded in the investment analysis or is the benchmark intended for post tax comparisons? (EB 55 Annex 1, § 109; EB 51 Annex 58, § 5)	Taxes were duly calculated and included in the financial spreadsheets. For more details please refer to Annex 3, table A-3. Please refer also to CAR B3.	/PDD/ /IRR/	CAR B3	OK
B.4.4.10. Were the input values used in the investment analysis valid and applicable at the time of the investment decision? (EB 55 Annex 1, § 109,112; EB 51 Annex 58, § 6) <i>In case the basis for input values is a Feasibility Study Report (FSR) describe how it has been ensured that the period in time between the finalisation of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Further confirm the consistency of values in FSR and PDD.</i>	Please refer to B.4.4.3.	/PDD/ /IRR/	CAR B3	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.4.4.11. Is the plant load factor (PLF) chosen in a conservative manner, taking into account that the PLF may be different in the framework of demonstrating additionality and calculating the ex-ante ER? (EB 48, Annex 11)	Please refer to B.4.4.3.	/PDD/ /IRR/	CAR B3	OK
B.4.4.12. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR? (EB 55 Annex 1, § 109; EB 51 Annex 58, § 9)	This condition is not applicable to the project.	/PDD/ /IRR/	N/A	N/A
B.4.4.13. In cases where a post-tax benchmark is applied please ensure that actual interest payable is taken into account in the calculation of income tax. (EB 51 Annex 58, § 11) <i>As per the guidance it is recommended to select a pre tax benchmark in order to Describe the steps taken in assessing this requirement.</i>	As a post-tax benchmark is applied, an actual interest payable is taken into account in the calculation of income tax. The actual interest was estimated based on BID loan, according to the loan program and calculated based in a LIBOR tax and 611 basis points.	/PDD/ /IRR/	OK	OK
B.4.4.14. In case of equity IRR: Is the part of the investment costs, which is financed by equity considered as net cash outflow and is the part financed by debt excluded in net cash outflow?	Yes, the part of the investment costs which is financed by equity is considered as net cash outflow and the part financed by debt excluded in net cash out flow. IRR calculation sheet was checked accordingly.	/PDD/ /IRR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 109; EB 51 Annex 58, § 10)				
<p>B.4.4.15. Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)?</p> <p>(EB 55 Annex 1, § 111; EB 51 Annex 58, §§12 – 15) <i>In case risk premiums are applied precisely describe its suitability to reflect the risks associated with the project activity, considering the project type and market situation.</i></p>	<p>The benchmark used for this project is the cost of equity (Ke) which is derived from the expanded CAPM (Capital Asset Pricing Model) and it is appropriate for the type of IRR calculated.</p> <p>This could be validated by review of the “Discount rate analysis” elaborated by KPMG.</p> <p>Nevertheless a CL was raised:</p> <p>(CAR B4) Investment Analysis (benchmark):</p> <ul style="list-style-type: none"> • Provide reference to the benchmark CAPM (Capital Asset Pricing Model). • Explain “CSRP” from the equation to calculate Ke, as well as the others components of the equation. • Reference the values 60.51%, 44.49% and 52.5% in page 13. • Reference the statement “which is a medium value for a 33 years period, according to hydrology studies”. • Please clarify the use of SRP, CRP and CSRP in the calculation of CAPM, as it is unusual to include these components in the formula. 	<p>/PDD/ /IRR/ /DRA/</p>	<p>CAR B4</p>	<p>OK</p>
<p>B.4.4.16. Is the benchmark value suitable for the project activity and is it reasonable to</p>	<p>The benchmark used for this project is the cost of equity (Ke) which is derived from the expanded CAPM (Capital Asset</p>	<p>/PDD/ /IRR/</p>	<p>CAR B3</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>assume that no investment would be made at a rate of a lower return than the benchmark?</p> <p>(EB 55 Annex 1, § 109; EB 51 Annex 58, §§13 – 15) <i>Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.</i></p>	<p>Pricing Model) and it is appropriate for the type of IRR calculated because the basic CAPM formula has been expanded to incorporate the size risk premium, the country risk premium, and the specific company risk premium, which gives certainty to the used benchmark.</p> <p>The values used in the calculation of the cost of equity are:</p> <ul style="list-style-type: none"> • $R_f = 5.02\%$ (Geometric average treasury bonds; period of 1928-2003) • $\beta = 0.73$ (Electric utility (Central)) • $ERP = 4.53\%$ (Geometric average equity risk premium – difference between stocks return and treasury bonds return; period of 1928-2003) • $SRP = 3.50\%$ (Table A-6; period of 1926-2003; Ibbotson Associates) • $CRP = 4.88\%$ (Costa Rica, 2003; calculated by KPMG) <p>As a result, the project scenario is not the most attractive alternative or economically feasible without the benefits from CER sales</p> <p>Nevertheless, please refer also to CAR B3 and CAR B4.</p>	<p>/DRA/ /bench1/ /bench2/ /bench3/ /bench4/ /bench5/</p>	<p>CAR B4</p>	
<p>B.4.4.17. Is it ensured that the project cannot be developed by other developers than the PP?</p>	<p>As the water use concession was given exclusively to HDG, the project cannot be developed by other developers.</p> <p>Nevertheless, please refer also to CAR B3 and CAR B4.</p>	<p>/PDD/ /IRR/ /DRA/</p>	<p>CAR B3 CAR</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1 § 109; EB 51 Annex 58, §§ 13 – 14) <i>Describe why the benchmark does not include the subjective profitability expectations or risk profile of the project developer. If applicable assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects.</i>			B4	
B.4.4.18. Was the benchmark consistently used in the past for similar projects with similar risks? (EB 55 Annex 1, § 112(c))	Please refer also to CAR B3 and CAR B4.	/PDD/ /IRR/ /DRA/	CAR B3 CAR B4	OK
B.4.4.19. Does the PDD and related spreadsheets contain a sensitivity analysis and does the same contain variation of parameters which may vary throughout the project lifetime, (EB 55 Annex 1, §§ 109–110(e); EB 51 Annex 58, § 17–18) <i>Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.</i>	The PDD contains a sensitivity analysis however, some issues were found and CAR B3 was raised.	/PDD/ /IRR/ /FS/ /HI/	OK	OK
B.4.4.20. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation?	According to the Guidelines on the assessment of investment analysis (EB 51, Annex 58) only variables that constitute more than 20% of either total project costs or total revenues should be subject to reasonable variation (all parameters	/PDD/ /IRR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 109; EB 51 Annex 58, § 17)	<p>varied need to necessarily be subjected to both negative and positive variations of the same magnitude).</p> <p>As described in the PDD and clearly demonstrates in the financial spreadsheet, a sensitivity analysis with the most relevant parameters was performed:</p> <ul style="list-style-type: none"> - Capacity payment (+/-10%); - Energy payment (+/-10%); - CAPEX (+/-10%); - Total Operating Expenses (O&M); 			
<p>B.4.4.21. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material impact on the financial parameter?</p> <p>(EB 55 Annex 1, § 109; EB 51 Annex 58, § 17) <i>Describe whether those parameters are considered in the sensitivity analysis?</i></p>	Please refer to item, B.4.4.20 above.			
<p>B.4.4.22. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector?</p> <p>(EB 55 Annex 1, § 109; EB 51 Annex 58, § 18) <i>Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question.</i></p>	Please refer to item, B.4.4.19 and B.4.4.20 above.			
B.4.5. Barrier analysis Step 3 or SSC additionality				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
assessment				
<p>B.4.5.1. Are there any barriers given which have a clear and direct impact on the financial returns of the project?</p> <p>(EB 55 Annex 1, §§ 115, 134, 137)</p> <p><i>In case of LSC projects those issues cannot be considered as barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to EB 51 Annex 58.</i></p>	<p>Version 1 of the PDD has included barriers that would prevent the proposed project activity from being implemented. Nevertheless after all findings were correctly closed, no further barrier has applied for additionality. The PP has eliminated all barriers.</p> <p>CAR B4 was raised during on site visit:</p> <p>(CAR B4) Provide reference to the following statements:</p> <ul style="list-style-type: none"> • “Costa Rican economy is operated with a deficit and it faces a heavy internal debt burden”. • “Faced a financing arrangement barrier due to the nature of private project development”. • “The prices for steel, fuel and materials during the construction phase increased considerably”. • “The revenue of the electricity commercialization was fixed in 5 cent USD/KWh”. • “ICE is a state owned entity with a monopoly over the Costa Rican electricity distribution to”. • “EGHP had experience serious delays in obtaining the water use concession from MINAE”. 	/PDD/ /IM01/ to /IM08/	CAR B4	OK
<p>B.4.5.2. Are the barriers described risk related (e.g technology failure, other performance related risks)?</p>	<p>Please refer to item B.4.5.1.</p>	/PDD/ /IM01/ to	CAR B4	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, §§ 116, 134, 137) <i>Are there other barriers or barriers due to prevailing practice existent which would have led to higher emissions?</i>		/IM08/		
B.4.5.3. Has the unavailability of means of finance for the project been described and adequately substantiated? Do evidences doubtlessly prove that the financing of the project was assured only due to the benefit of the CDM? (EB 55 Annex 1, §§ 116, 137, EB 50 Annex 13, § 9)	The validation team had checked the following documents to assess that the financing of the project was assured only due to the benefit of the CDM: <ul style="list-style-type: none"> • The Project Concept Note (PCN) • Investment Analysis “Proyecto Hidroeléctrico El General” • Draft of the proposed Emissions Purchase Agreement between Hidroenergía del General and Prototype Carbon Fund (PCF). • Confidential Information Memorandum. Floating Rate Loan due 2019 by RBTT Merchant Bank Limited, March 2004. • Letter and Financial Model dated on 19/08/2002 to Mr. John Stauffer at Oxbow Power Corporation from Mr. Juan Ramirez, President Grupo Saret Please refer also to CAR B4.	/PDD/ /DPEPA/ /IA/ /CIM/ /LFM/ /IM01/ to /IM08/	CAR B4	OK
B.4.5.4. How is it justified and evidenced that the barriers given in the PDD are real? (EB 55 Annex 1, § 116(a))	Please refer to item B.4.5.1.	/PDD/	CAR B4	OK
B.4.5.5. How is it justified that one or a set of real	Please refer to item B.4.5.1.	/PDD/	CAR	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
barriers prevent(s) the implementation of the project activity and do not prevent the implementation of at least one of the alternatives? (EB 55 Annex 1, § 116(b))			B4	
B.4.5.6. Does the review of relevant background information on the nature of the company(ies) and entity(ies) involved in the financing and implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real? (EB 50 Annex 13, § 4)	Please refer to item B.4.5.1.	/PDD/	CAR B4	OK
B.4.5.7. Has it been demonstrated in an objective way how the CDM alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers? (EB 50 Annex 13, § 5)	Please refer to item B.4.5.1.	/PDD/	CAR B4	OK
B.4.5.8. Would provision of additional financial means lead to the mitigation of the barrier(s) demonstrated? (EB 50 Annex 13, § 7) <i>Describe why provision of additional financial means would not lead to mitigation of the barrier(s) demonstrated and hence</i>	Please refer to item B.4.5.1.	/PDD/	CAR B4	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>analysing the project's additionality within the framework of an investment analysis is inappropriate. .</i>				
B.4.6. Common practice analysis Step 4 (in case of SSC projects skip this step)				
<p>B.4.6.1. Is the defined region for the common practice analysis appropriate for the technology/industry type?</p> <p>(EB 55 Annex 1, § 120(a))</p> <p><i>Describe why the project activity is not common practice in a transparent and unambiguous manner. If a region other than the entire host country is chosen, describe why this region is more appropriate.</i></p>	<p>The define region established in the PDD for comparison with another industries is around the host country and it is appropriate to the common practice analysis.</p> <p>Costa Rica's electric power and distribution are mainly supplied by the state-owned utility, the Costa Rican Institute of Electricity (ICE), and its subsidiary, the National Power and Light Company (Compañía Nacional de Fuerza y Luz, CNFL).</p> <p>From the total installed capacity, the ICE controls operates 82% and the private power generators operate 12% and the distribution companies operate 6%.</p>	/PDD/	OK	OK
<p>B.4.6.2. To what extent similar projects have been undertaken in the relevant region?</p> <p>(EB 55 Annex 1, § 120(b))</p>	<p>Regarding common practice analysis,</p> <p>a) Please define which region is established for comparison;</p> <p>b) No specific time range has been considered to determine the criteria for choosing a cohort of power plants for conducting the common practice analysis, considering that a proper time range should be consistent with a similar economic environment, i. e. please take into account events like energy market reforms.</p>	<p>PDD</p> <p>/unfccc/</p> <p>/JIM/</p> <p>/LG7092/</p> <p>/LG7200/</p> <p>/LG7508/</p>	CAR B4	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	c) As it has been stated, 12% of the generation has been commissioned privately. Please justify why none of the power plants belonging to the private sector are included in the common practice analysis. d) Finally after correction would be done, please provide a <u>complete and transparent analysis</u> of any other activities that are similar to the proposed project activity, according to the last version of the combined tool to identify the baseline scenario and demonstrate additionality.			
B.4.6.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed? (EB 55 Annex 1, § 120(c))	Please refer to comment above.		OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.5. Ex-Ante Calculation of GHG Emission Reductions <i>It is assessed whether the ex-ante calculations of project emissions, baseline emissions, leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified. Furthermore calculation of emission reductions shall be assessed.</i>				
<p>B.5.1. Are the equations applied correctly according to the applied approved methodology?</p> <p>(EB 55 Annex 1, §§ 67(c), 89–90, 92)</p> <p><i>Describe clearly the steps taken to assess whether the methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. Further take into consideration that all estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.</i></p>	<p><input type="checkbox"/> The equations applied for calculation are correctly applied according to the approved methodology.</p> <p><input checked="" type="checkbox"/> The following mistakes have been identified in this context:</p> <p>(CAR B7) Correction is necessary for the calculation spread sheet:</p> <ul style="list-style-type: none"> Wrong formulation in the GEF calculation, when weighting the fuel consumption at COLIMA, MOIN PISTON and MOIN GAS. The factors 92% and 8% have been applied to calculate a weighted EF, NCV and density; then the total CO2 emissions for these power plants have been obtained by multiplying Total Fuel Consumed x EF_{weighted} x NCV_{weighted}. Actually according to this formulation the factors 92% and 8% are being used three times. For the calculation of lambda 05, lambda 06 and 	<p>/PDD/ /ACM 0002/</p>	<p>CAR B7</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>lambda 07, it cannot be traced back that for the LCMR total electricity produced value, as given in cell T12 of the Lambda calculation table sheets, the corresponding 006Eet electricity imports have been considered, as stipulated by the "Tool to calculate the emission factor for an electricity system", v 1.1</p> <ul style="list-style-type: none"> • In folder "Operational start (BM)" provide reference for each value in column E. • In folder "OM & BM" provide reference to the values in cell H11 and I11. • PDD was uploaded for public consultation on April 21, 2009. Why data of 2008 have not been used for the most recent vintage data instead of 2007? • Is the distribution of fuel types as per 92% - 8% and 95% - 5% given in the Excel table similar for the three years vintage taken? • Has the bunker been also used in Pujol Martí power station as indicated in the Excel sheet OM&BM? If not, please request the PP to eliminate this confusing info from the table. • Why is hydro Pujol Caldera and Guápiles not listed for the EF_{BM} here if operation started in 2006? • It is possible to include the project activity in the cohort of power stations for the calculation of the 			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>EF_{BM}?</p> <ul style="list-style-type: none"> For the excel spread sheet “CERs EI General_2009 01 02 VG”, correct the value of the reservoir area (46,000) as it is 46,993. <p>This could be evidenced through review of the Excel spread sheet and the applied methodology and during the on-site assessment of the project.</p>			
<p>B.5.2. In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)?</p> <p>(EB 55 Annex 1, §§ 90–91)</p> <p><i>Assess the correct selection and application of methodological choices. Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of the project activity and other evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.</i></p>	<p>The methodological choices described in the methodology were applied and justified properly according to the nature of the project activity.</p> <p>The power density of the power plant is greater than 10 W/m². Therefore project emissions are zero and leakage is not considered by the applied methodology, the emission reductions are calculated through calculation of the baseline emission</p> <p>This could be validated by reviewing the PDD and ACM0002 and during the visit of the site.</p>	/PDD/ /ACM 0002/	OK	OK
<p>B.5.3. Have conservative assumptions been used when calculating the project emissions?</p> <p>(EB 55 Annex 1, §§ 90–91)</p> <p><i>Describe clearly the steps taken to assess whether all the assumptions and data used by the PP are listed in the PDD including references and sources and are conservatively</i></p>	<p>No project emissions were identified in the project activity.</p> <p>Validation team has reviewed the methodology in detail, and confirms that the assumption is valid.</p> <p>Nevertheless the validation team had raised a CL according to the project emissions:</p>	/PDD/ /ACM 0002/	CL-B6	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>interpreted in the PDD.</i>	(CL B6) In section B.6.1 provide reference about the area of the reservoir (46,993 m ²) measured in the surface of the water.			
B.5.4. Does the implementation of the project activity lead to GHG emissions within the project boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology? (EB 55 Annex 1, § 77)	No, all possible emission were considered by the PP. ACM0002 version 12.1 was checked accordingly. No discrepancies were identified.	/PDD/ /ACM 0002/	OK	OK
B.5.4.1. Has a plant load factor (PLF) been defined ex-ante and considered for determination of baseline emissions? (EB 48 Annex 11, §§ 1, 3–4) <i>Describe why the PLF is conservative in the framework of calculating emissions reductions and whether the PLF is the same in the framework of demonstrating additionality by applying the investment analysis. Note, in order to be conservative in both cases the PLF may be different.</i>	Please refer to CAR B4.	/PDD/	CAR B4	OK
B.5.5. Are all data sources and assumptions appropriate and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions?	There is a CAR raised according to this item described in B.5.1. This condition was verified through review of the PDD and the emission reduction calculation spreadsheet.	/PDD/ /XLS/	CAR B7	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 91) <i>Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the project activity. Check esp. chapter 6.2 of the PDD.</i>				
B.5.6. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1) reasonable? (EB 55 Annex 1, § 91) <i>Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered reasonable, applicable and conservative in the context of the project activity</i>	<input checked="" type="checkbox"/> All "Values of data to be applied for the purpose of calculating expected emissions reductions" are considered to be reasonable, applicable and conservative. <input type="checkbox"/> The following mistakes have been identified in this context: All data and parameters described in B.7.1 and Annex 3 were corrected applicable through exhaustive PDD review.	/PDD/	OK	OK
B.5.7. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change. <i>Describe the steps taken to validate this issue.</i>	Please refer to CAR B7 described in B.5.1	/PDD/ /XLS/	CAR B7	OK
B.6. Monitoring of Emission Reductions <i>It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.</i>				
B.6.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan?	Yes, all data and parameters described in the apply methodology are included in the monitoring plan.	/PDD/ /ACM	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>(EB 55 Annex 1, §§ 67(e), 121, 123(a), 124) <i>Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.</i></p> <p><i>Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with the applied methodology.</i></p> <p><i>In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.</i></p>	<p>Parameters available at validation (parameters not monitored) listed in section B.6.2 of the PDD are correspond to the parameters described in the apply methodology.</p>	<p>0002/</p>		
<p>B.6.2. Are the means of monitoring of all parameters contained in the monitoring plan feasible and in accordance with the requirements of the applied methodology?</p> <p>(EB 55 Annex 1, § 123(a)–(b), 124) <i>Assess whether the provided information for all parameters w.r.t.</i></p> <ul style="list-style-type: none"> a) <i>Label (name of the data / parameter)</i> b) <i>data unit</i> c) <i>description</i> d) <i>source of data</i> e) <i>measurement equipment / method / procedure</i> f) <i>monitoring frequency</i> g) <i>QA/QC procedures</i> 	<p>The validation team had raised a CL according to this item.</p> <p>In section B.7.1 Parameter EGy:</p> <ul style="list-style-type: none"> • Give details for the measurement and recording methods and procedures on how to deal with erroneous measurements. • Explain the accuracy of the measurement method and who the responsible person/entity is that should undertake the measurements. • Introduce which measurement equipment is used and which calibration procedures are applied. • Describe the quantity, location, bi or uni directional nature, accuracy class and calibration frequency of meter(s). • Include which accepted industry standards or national/international standards will be applied for 	<p>/PDD/ /ACM 0002/</p>	<p>CL-B8</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>are appropriately described and in compliance with the requirements of the methodology..</i>	calibration. <ul style="list-style-type: none"> Introduce more consistent cross check procedures (.e.g. buyer's measurement) This could be validated by reviewing the PDD and the applied methodology and during the visit of the site.			
B.6.3. Have all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation, been described clearly and in line with the methodology? (EB 55 Annex 1, §§ 123(b), 124) <i>Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.</i> <i>Please consider that additional equations might be necessary to calculate auxiliary parameters.</i>	Yes, all equations have been described in accordance with the methodology.	/PDD/	OK	OK
B.6.4. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity? (EB 55 Annex 1, § 124(c)) <i>Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl. consider also special monitoring conditions, e.g. downtimes</i>	Yes, there is a complete description in the PDD about the actions to be implemented concerning the monitoring process, including management structure and responsibilities, data collection and recording, measurement arrangements, internal audits, storage methods and training.	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>of monitoring equipment etc.</i>				
<p>B.6.5. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activity can be reported ex-post and verified?</p> <p>(EB 55 Annex 1, § 124(b)) <i>Please consider the description given in section B.7.2. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.</i></p>	<p>EGHP will form a team to maintain and operate the project activity and monitor the parameters required by the methodology.</p> <p>There is a description of responsibilities of the members of the team.</p> <p>The validation team has raised a FAR about calibration and a CL about maintenance.</p> <p>(CL B5) In agreement with the PPA Annex B, section 3.2, the ICE verifies every 6 months the meters and issues a document: “<i>Constancia de la aceptación de la calibración de los medidores</i>” to prove that the meters are calibrated. Prior to validation, the ICE had not yet issued the document.</p>	<p>/PDD/ /IM02/ to /IM04/ /LRFCS/ /PPA/</p>	CL-B5	OK
<p>B.6.6. Are procedures identified for data management?</p> <p>(EB 55 Annex 1, § 124(b)) <i>Check whether appropriate provisions are considered for data management including responsibilities, what records to keep, storage area of records and how to process performance documentation</i></p> <p><i>Check further the data archiving provisions for the project activity and ensure that provisions are made to archive data for the whole crediting period + 2 years.</i></p>	<p>Data monitored for CDM purposes will be aggregated, summarized, calculated and recorded in electronic and paper form.</p> <p>All the data shall be kept until two years after the end of the crediting period.</p>	<p>/PDD/ /IM08/</p>	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
C. Duration of the Project/ Crediting Period <i>It is assessed whether the temporary boundaries of the project are clearly defined.</i>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>C.1. Is the project's starting date clearly defined and evidenced?</p> <p>(EB 55 Annex 1, § 99)</p> <p><i>Check whether the starting date is correct. Apply the definition of the project starting date as per the "Glossary of CDM terms".</i></p>	<p>The project starting date reported was on 05.05.2003, which is the date when Hidroenergía del General had signed a power purchase agreement with ICE. According to the Glossary of terms it should be considered the date when the commitment to the major investment is done (i.e. signing of loan or contract for construction or purchase of equipments).</p> <p>Nevertheless, CL B10 was raised according to this item.</p> <p>This has been carried out with interviews with the top management of Hidroenergía del General, review of the PDD and the contract.</p> <p>The earliest date when the commitment to the <u>major</u> investment (USD51,800,000) was done was at the time of signature of the Engineering, Procurement and Construction Contract^{/EPCC/} dated on <u>2004/01/26</u>. This value would represent 70% of the total investment costs.</p> <p>There are other actions happened before the signature of the EPC^{/EPCC/} contract but they do not qualify as major investment actions.</p> <p>For example the Vatech Equipment Offer^{/CSC-3/} is only an offer provided by VATECH Hydro updating the prices upon request, as the decision to invest was not taken at that moment. As this offer does not represent a purchase of equipment, it cannot be used to demonstrate the project starting date.</p> <p>In December 2002 the Hidroeléctrica Platanar S.A. decided</p>	<p>/PDD/ /IM01/ /PPA/ /GLO/ /EPCC/ /CSC-3/ /LFM/ /AL/</p>	<p>CL B10</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>to enter in agreement with Oxbow Power Co. an American company which has been assigned the EGHP. The PP will cooperate to build and operate the EGHP. This agreement does not represent any financial commitment with Oxbow Power Co but agrees on the Stock Purchase for the project in the future in case the PPA is signed and the water license is given by the authority.</p> <p>Chapter 7 of this agreement, which explicitly mentions in paragraph 7 (a) (ii) and 7 (a) (iii) that in case the project fails to have a PPA signed or to legally have a Water concession, then this agreement is terminated. The PPA and the Water concession were granted respectively on 05/05/2003 and the 30/01/2003. So this agreement entered into force on 05/05/2003 and it is to capitalize the company that has the rights to develop the project, and not the project itself</p> <p>Furthermore the Engineering contract^{/EC/} between Oxbow Power Co. and Bel Ingenieria represents an agreement to provide the following services:</p> <ul style="list-style-type: none"> I. Preliminary drawings of non-powerhouse facilities; m. Establish a formal document control procedures n. Equipment supplier drawings; o. Obtain permits and approvals related to the project; p. Preliminary drawing of powerhouse; 			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>q. Submit all design drawings to ICE;</p> <p>r. Prepare a set of construction drawings;</p> <p>s. Prepare the start up procedures;</p> <p>t. Prepare preventive maintenance program for the civil works;</p> <p>u. Prepare a training manual;</p> <p>v. After the Commercial Operation Date (COD), prepare a start up testing report and the as-built drawing and calculation</p> <p>From the abovementioned services it is clear that this agreement can be considered as pre-operational expenses. In fact, this agreement was only used to reference the development costs. Furthermore according to the PP this agreement was never executed.</p> <p>Moreover the Pre-contract^{/L&R/} or agreement of <u>optional</u> buy of real state with Maderal Atlantic S.A. was signed on 05/10/1999 and is valid for 3 years and extendable for 2 more years. This document represents only an agreement of the intention (Item 3.1, page 6) to buy a real state where the project activity would be installed and it can be cancelled at any time. As a guarantee Oxbow Power Corporation paid USD76,500 which represents only 0.10% of the total investment costs (USD75,773,000) and therefore is not considered as project starting date.</p>			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>Concluding none of the actions mentioned above can be considered as the date on which the PP has committed to mayor expenditures related to the implementation or related to the construction of the project activity, but are considered as minor pre-project expenses and, therefore, should not be considered in the determination of the start date. In the context of the above mentioned facts and evidences, pre-project planning is not considered “real action”.</p> <p>Therefore the project activity starting date is considered correct as no evidence were identified to demonstrate an earlier date when the commitment to the <u>major</u> investment was done.</p>			
<p>C.2. Is the project’s operational lifetime clearly defined and evidenced?</p> <p><i>Check whether the project lifetime is correctly defined. Consider the guidance on the assessment of investment analysis (annex to the additionality tool).</i></p> <p><i>Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.</i></p>	<p>The operational lifetime of the project activity reported in the PDD is 17 years, which is the time for the concession given by ICE. After that, the ownership of the EGHP will be transferred back to the ICE. The power purchase agreement was reviewed.</p> <p>There is a CL raised according to this item: (CL C1) Please provide reference of the technical life time of the equipment.</p>	<p>/PDD/ /IM02/ /PPA/</p>	<p>CL C4</p>	<p>OK</p>

<p>C.3. Is the start of the crediting period clearly defined and reasonable?</p> <p><i>Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed for validation and registration.</i></p>	<p>No, the starting date is not reasonable.. There is a CAR raised: Please correct the starting date of the crediting period, as it is not plausible.</p>	/PDD/	CAR G2	OK
<p>D. Environmental Impacts</p> <p><i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.</i></p>				
<p>D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)? (EB 55 Annex 1, §§ 131–133) <i>Check the host party regulations, regarding EIA.</i></p>	<p>Hidroenergía del General had developed an EIA with the contribution of a consultant company. They sent the EIA to SETENA, on 21.10.2000. SETENA attested that the EGHP complied with the environmental viability and was in conformity with the Environmental Organic Law of Costa Rica on 12.12.2001. The validation team has reviewed the documentation presented by the PP and confirms the fulfillment with the environmental legislation.</p>	/PDD/ /EIA/ /LoES/ /LoEV/ /IM07/	OK	OK
<p>D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applicable duly approved? (EB 55 Annex 1, §§ 131–133) <i>Check the EIA and its approval, if applicable.</i></p>	<p>Please refer to item D.1.1 above.</p>		OK	OK

<p>D.1.3. Has an analysis of the environmental impacts of the project activity been sufficiently described and in line with the host party environmental legislation?</p> <p>(EB 55 Annex 1, §§ 130–132) <i>Check the PDD (section D). Check whether the project will create any adverse environmental effects.</i> <i>Check the relevant national environmental legislation.</i></p>	<p>Please refer to item D.1.1 above.</p>		OK	OK
<p>D.1.4. Are transboundary environmental impacts considered in the analysis?</p> <p>(EB 55 Annex 1, §§ 131–133) <i>Check the documents and local official sources / expertise regarding transboundary environmental impacts.</i></p>	<p>No, there are not any transboundary environmental impacts described in the PDD. Letter of environmental situation was checked accordingly.</p>	<p>/PDD/ /EIA/ /LoES/</p>	OK	OK
<p>E. Stakeholder Comments</p> <p><i>The DOE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.</i></p>				
<p>E.1. Have relevant local stakeholders been invited to consultation prior to the publication of the PDD?</p> <p>(EB 55 Annex 1, § 128) <i>Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation process has been carried out.</i></p>	<p>According to the PDD, the following entities were invited to the presentation of the propose project activity:</p> <ul style="list-style-type: none"> • Finca 6 (Río Frío de Sarapiquí) • Puerto Viejo de Sarapiquí • Horquetas • Guápiles • San José 	<p>/PDD/ /SFI/ /IM04/ /IM08/</p>	OK	OK

	<ul style="list-style-type: none"> • Las Vegas • Heredia 			
<p>E.2. Can the local stakeholder consultation process be assessed as adequate? (EB 55 Annex 1, § 129(a)–(c))</p> <p><i>Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.</i></p> <p><i>Please consider the following requirements in this context:</i></p> <p><i>(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;</i></p> <p><i>(b) The summary of the comments received as provided in the PDD is complete;</i></p> <p><i>(c) The project participants have taken due account of any comments received and have described this process in the PDD.</i></p>	<p>The validation team had reviewed the questionnaire and results of the stakeholders' consultation process</p> <p>The summary provided in the PDD reflects the results of the public consultation.</p> <p>There is one CL raised to complete the information described in the PDD.</p> <p>(CL E1) In section E.1 describe the process by which comments by local stakeholders have been invited and how the meetings were announced.</p> <p>In section E.3, provide reference to the major changes resulting of the local consultation process.</p> <p>Finally the validation team can affirm that the stakeholders' consultation process carried out was clear, transparent and with interest of the opinion of the involve parts.</p>	<p>/PDD/ /IM04/ /IM08/</p>	<p>CL-E4</p>	<p>OK</p>

ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-2: Assessment of Baseline Identification (EB 51 Annex 3, §§ 82 – 85)

<input type="checkbox"/>	Baseline is not identified
<input checked="" type="checkbox"/>	Baseline is identified by the methodology
<input type="checkbox"/>	Assessment of baseline see below

Baseline Alternatives identified	In line with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)

ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-3: Assessment of Financial Parameters (EB 51 Annex 3, §§110, 111, 113/ in case financial parameters stem from FSR §112,)

<input type="checkbox"/>	No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
1. Energy Payment	9637	M USD	Project investment Analysis (page 10) Power Purchase Agreement (article 7, section 7.1.2, item c, page CCE-28.)	/IA/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>In order to estimate the energy payment component of the income stream, due account needs to be taken in considering the 33 yearly hydrological data associated to the project activity, as well as the specific considerations established in the PPA for this estimation.</p> <p>The calculation should not be based on the product of the annual average energy output (196,210 MWh) by the electricity tariff (0.05 USD/kWh).</p> <p>The following important facts from the PPA are important to take into account when analyzing the revenues due to the energy component of the tariff:</p>

				/PPA/			<p>A. The PPA, as per paragraph 7.1.2., specifies that:</p> <ul style="list-style-type: none"> • The electricity generated with a load factor up to 0.6 will have the price of 5 USD cents (0.05 USD/kWh); • The electricity generated with a load factor from 0.61 to 0.66, will have the price of 20% of the electricity tariff (i.e. $0.05 \times 20\% = 0.01$ USD/kWh); • The electricity generated with a load factor from 0.67 to 0.72, will have the price of 15% of the electricity tariff (i.e. $0.05 \times 15\% = 0.0075$ USD/kWh); • The electricity generated with a load factor from 0.73 to 1, will have the price of 10% of the electricity tariff (i.e. $0.05 \times 10\% = 0.005$ USD/kWh). <p>This aspect of the PPA, have been duly noted on Page 39 of the Verification Report of the project activity.</p> <p>B. The PPA of the project activity states in Section 7.5 that a tariff indexation is allowed for up to 20% of the tariff in relation to the US Consumer Price Index, which was defined at 2.62% (10 year average); issue addressed on page 157 of the VR of the project. Therefore, an annual adjustment factor of 1.00524 is established, factor that was assessed by the validation team during the validation process</p>
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							<p>C. The indexation starts taking place since the moment the PPA was signed, therefore the financial proforma of the project considers the following:</p> <ul style="list-style-type: none"> • At the end of the first year of operation, the project developer considers the indexation during the construction period of the project, that is 3 years, and • For any subsequent year, the period will be one year. <p>In order to demonstrate that the calculations in the financial proforma are correct and consistent, Table 2 and Table 3 are presented below, showing how the energy revenues were calculated in accordance with the terms and conditions of the PPA.</p> <p>Table 2 shows, how due account is taken for the issue of differentiated payment of the energy component due to the load factor. And then, Table 3 shows how due account is taken for the other issue related to the allowed indexation, for inflation, of the tariff.</p> <p>Table 2 – Value of the annual average energy revenues, taken into consideration the tariff allocation correlated to the load factor of the project based on 33 year hydrology.</p>
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						Capacity factor of the project (x)	<60%	60% <x <66 %	66%< x <72%	> 72%	
						Estimated Electricity Generation for each range of power factors of the project (GWh)	188.38	4.61	2.57	0.67	196.23
						Tariff (USD/kWh)	0.05	0.01	0.0075	0.005	
						Annual Energy Revenue with load factor allowance included (thousands USD)	9,418.8	46.0	19.24	3.33	9,487.4
						<p>As mentioned before, the value of the average energy payment received presented (in Table 2) for the case of the first operating year, needs to be adjusted by the inclusion of the PPA allowance for the consideration of the inflation (described before).</p> <p>Taking into account the provisions of the PPA expressed in C. above, the adjustment factor takes the form of:</p> <p><i>Annual energy revenues of the project = (Annual energy revenues of the project with load factor allowance included) x (1+00524)^t, where t=3 for the estimation of the first year (as explained in C. above) and for any subsequent year t=1.</i></p>					

						<p>Table 3 presents the results of the estimations for the first five years as an example to demonstrate that the data included in the financial spreadsheet are correct and consistent with the PPA terms.</p> <p>There is consistency in the calculation appearing in the financial proforma of the project activity, and that such calculations are in accordance to the terms of the PPA. The data and procedures were submitted to the validation team and were dully assessed and those evaluations noted in the validation report of the project activity</p> <p>Table 3 – Annual Energy Revenues for the Project (taking into consideration allowance for consideration of annual inflation of 20% of the energy payments and based on the annual average income)</p> <table><tr><th>Year</th><th>Values (thousands USD)</th></tr><tr><td>1</td><td>9,637</td></tr><tr><td>2</td><td>9,688</td></tr><tr><td>3</td><td>9,738</td></tr><tr><td>4</td><td>9,789</td></tr><tr><td>5</td><td>9,841</td></tr></table>	Year	Values (thousands USD)	1	9,637	2	9,688	3	9,738	4	9,789	5	9,841
Year	Values (thousands USD)																	
1	9,637																	
2	9,688																	
3	9,738																	
4	9,789																	
5	9,841																	

2. Electricity tariff	0.05	USD/kWh	<p>Project investment Analysis (page 11)</p> <p>Power Purchase Agreement (article 7, section 7.1.2, item a, page CCE-28.)</p>	<p>/IA/</p> <p>/PPA/</p>	<p>☒</p>	<p>☒</p>	<p>According to the Investment Analysis Report^{/IA/} (used for the investment decision) the PP has issued a letter of intention regarding the conditions of energy payment.</p> <p>Incomes from energy generated are defined according to the electricity tariff stated in the Investment Analysis Report^{/IA/} as follow:</p> <p>The electricity tariff paid by the ICE will be 0.05 USD/KWh. Fractions of KWh will be paid proportionally.</p> <p>Energy tariff is subject to a bi-annually adjustment (PPA Contract). The adjustment is defined as 20% of the variation (only if positive) in the US Consumer Price Index. Estimations were done considering a yearly increase in US CPI of 2.62% (10 year average) so that the tariff for energy is adjusted by an annual factor of 1.00524.</p> <p>ICE will pay also the energy which exceeds the maximum annual energy generation (39 MW) as a percentage of 20%, 15% or 10% of the official tariff. This is taking into consideration the average capacity factor used by the plant in a year of operation. Detailed information is stated in page 11 of the Investment Analysis Report^{/IA/} (used for the investment decision) and in article 7, section 7.1.2, item b, (page CCE-28.) of the PPA.</p> <p>The validation team has crosschecked the values stated in the Investment Analysis Report^{/IA/} (used for the investment decision) against the values stated in the IRR calculation spread sheet^{/IRR/}. No discrepancies were</p>
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							<p>identified. All values comply also with the PPA which was already available (but not signed) at the time of investment decision (December 2002).</p> <p>The Investment Analysis Report^{/IA/} elaborated by SARET Sistemas de Energia, used as a source of the <u>electricity tariff</u> and dated on 10/12/2002 was available at the time of investment decision (Dec. 2002). Moreover the value applied was validated crosschecking the value considered in the PPA^{/PPA/} available at the time of investment decision but finally signed on 05/05/2003. No discrepancies were identified.</p> <p>Please refer also to CAR B3 and CAR B4.</p>
3. Capacity Payment	36.25	USD/k Wh	<p>Project investment Analysis (page 10)</p> <p>Power Purchase Agreement (article 7, section 7.1.2, item c, page CCE-28.)</p>	<p>/IA/</p> <p>/PPA/</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>According to the Investment Analysis Report^{/IA/} (used for the investment decision) the PP has issued a letter of intention regarding the conditions of energy payment.</p> <p>The estimations done by the PP are based on a 33 year historical of the hydrology of the project, and therefore both energy and power components of the income streams are estimated taken in due account such hydrology data.</p> <p>The Excel "GENERATION EGHP.xls" contains the relevant information used for the determination of both the capacity and energy payments. The capacity payment tariff in the above mentioned excel spreadsheet has been adjusted since there was an error since in the</p>

							<p>previous version the capacity payment was established in \$36.35/kW and the correct value according to the project's PPA is \$36.25/kW.</p> <p>According to the Power Purchase Agreement (PPA), the project signed the PPA specifying a capacity payment of USD 36.25 per kilowatt and an energy payment of USD 0.05 per kilowatt. The PPA also defines that the capacity payment will be paid only during the months of February, March and April. The energy payment runs through all the months of the year.</p> <p>As stated above, the PPA establishes the capacity payment at USD 36.25 per kilowatt. Table 1 presents the proper estimation of the capacity payments for the project, on the average (33 years capacity factors for the relevant months of February, March and April) and the average power derived are taken into account, together with the capacity payment specified in the PPA.</p> <p>Based on the approach as evidenced by the PPA terms, as well as the appropriate use of the 33 year averages of the hydrological data, the correct value of the capacity payment is as stated in the financial proforma having a rounded value of 4.088 million USD, which is the value used in the financial proforma</p> <p>Value of the annual average capacity revenues received (based on consideration of the historical average hydrology of the</p>
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							<div>project)</div> <table><thead><tr><th></th><th>A</th><th>B</th><th>C</th><th>D = A x C</th><th>E = B x D</th></tr></thead><tbody><tr><td>Feb</td><td>39,000</td><td>36.25</td><td>0.98</td><td>38,152</td><td>1,383,010.0</td></tr><tr><td>Mar</td><td>39,000</td><td>36.25</td><td>0.96</td><td>37,455</td><td>1,357,743.8</td></tr><tr><td>Apr</td><td>39,000</td><td>36.25</td><td>0.95</td><td>37,156</td><td>1,346,905.0</td></tr><tr><td>Tot</td><td></td><td></td><td></td><td></td><td>4,087,658.8</td></tr></tbody></table> <div>A = Installed capacity (kW) B = Capacity Payment (USD/kW) C = Monthly Average Capacity Factor based on 33 year hydrology D = Adjusted Installed capacity E = Yearly income due to the capacity payment component of tariff (USD)</div> <div>The Investment Analysis Report^{/IA/} elaborated by SARET Sistemas de Energia, used as a source of the <u>capacity payment</u> and dated on 10/12/2002 was available at the time of investment decision (Dec. 2002). Moreover the value applied was validated crosschecking the value considered in the PPA^{/PPA/} available at the time of investment decision but finally signed on 05/05/2003. No discrepancies were identified.</div> <div>Please refer also to CAR B3 and CAR B4.</div>		A	B	C	D = A x C	E = B x D	Feb	39,000	36.25	0.98	38,152	1,383,010.0	Mar	39,000	36.25	0.96	37,455	1,357,743.8	Apr	39,000	36.25	0.95	37,156	1,346,905.0	Tot					4,087,658.8
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Tot					4,087,658.8																																
4. Plant Load Factor	57	%	Feasibility Study by BEL INGENIERIA S.A. (Section 2, page 87)	/FS/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<div>The Investment Analysis Report^{/IA/} elaborated by SARET Sistemas de Energia, used as a source of the plant load factor of 57% and</div>																														

			Project investment Analysis (page 1)	/IA/			dated on 10/12/2002 was available at the time of investment decision (Dec. 2002). Moreover the value applied was validated crosschecking the value of 57% considered in the Feasibility Study ^{/FS/} dated on February 2000 and valid and available at the time of investment decision. No discrepancies were identified. The spread sheet " <i>Generation EGHP</i> " ^{/HI/} uses also the plant load factor of 57%.
5. TOTAL INVESTMENT COSTS	75,774	USD x 1000	IRR calculation spread sheet Financing of private Hydro Projects publication	/IRR/ /WB/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Note: all investment costs are given with the formate x 1000 USD in order to facilitate analysis.</p> <p>5.1 Constr. and Supply contracts: 52,813*</p> <p>5.2 Land and Rights of Way: 5,851*</p> <p>5.3 Development costs: 11,721*</p> <p>5.4 Working capital: 125*</p> <p>5.5 Financing costs: 1692*</p> <p>5.6 Interest during construction: 3573*</p> <p>*USD x 1000</p> <p>The Financing of Private Hydropower Projects publication, made by the World bank in July 2000 states a Capital Cost of 800-3,000 USD/kW of installed capacity. A registered project activity in Costa Rican (Ref. 0251) states the Capital Cost of 2,319 USD/kW. The</p>

							project activity has a Capital Cost of 1,894 USD/kW. This means that the total investment is within the range of other HPP total investment.
5.1 Construction and Supply contracts	52,813	USD x 1000	<p>1. Offer "Oferta Obras Civiles Marshall"^{/CSC/} (page 1)</p> <p>2. Vatech Equipment Offer : Oferta Vatech Equipos (page 2)</p> <p>Project investment Analysis (page 16-17)</p> <p>Engineering, Procurement and Construction (EPC) Contract</p> <p>Financial evaluation of the Jimenez Hydro Project (page 3)</p>	<p>/CSC/</p> <p>/IA/</p> <p>/EPCC/</p> <p>/Con/</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Investment Analysis Report^{/IA/} elaborated by SARET Sistemas de Energia, used as a source of the <u>total investment costs</u> and dated on 10/12/2002 was available at the time of investment decision (Dec. 2002). Moreover the value applied was validated crosschecking the value considered in the construction and equipment offers^{/CSC/} available at the time of investment decision. No discrepancies were identified.</p> <p>Furthermore values are also quite similar to the values (USD51,800 x 1000) stated in the Engineering, Procurement and Construction Contract^{/EPCC/} dated on 2004/01/26 (project starting date). If we apply the values stated in the EPC contract, the IRR is 15.01% which is still not beyond the applied benchmark (17.2%).</p> <p>The detailed assessment of the construction and supply offers^{/CSC/} is as follow:</p> <p>Construction (USD x 1000): USD 36,398</p> <p>1. Offer "Oferta Obras Civiles Marshall" (November 2000) with a total price of USD 35,995 was checked accordingly.</p> <p>The price stated in the Investment Analysis Report^{/IA/} is USD 36,398 (+1.10%). The value</p>

							<p>of “Oferta Obras civiles Marshall”^{/CSC-1/} was estimated in year 2000 by Marshall Asociados and then updated by the PP in December 2002..</p> <p>All values are valid and correspond at the time when the decision was taken.</p> <p>Equipment (USD x 1000): <u>USD13,900</u></p> <p>2. Vatech Equipment Offer Oferta Vatech Equipos (18/03/2002) with a total price of USD13,900 was checked accordingly. The value corresponds with the evidence provided.</p> <p>All values are valid and correspond at the time when the decision was taken (Dec. 2002).</p> <p>Contingency of 5%: USD2515 this item was estimated by the PP. The Jimenez Hydro Project (50 MW) which is another hydro project in Costa Rica considers a contingency of 10%. The project activity considered a contingency of 3.5%. The Financial evaluation^{/Con/} of the Jimenez project presented to the public binding No. 6670.E was checked accordingly.</p> <p>Concluding all documents presented by the PP to demonstrate the Construction and Supply data are available and valid at the time of investment decision.</p>
5.2 Land and Rights of Way	5,851	USD x 1000	Precontrato_maderal atlantic (page 7) & file Pre_signing_cost (page	/L&R/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Investment Analysis Report^{/IA/} elaborated by SARET Sistemas de Energia, used as a source of the <u>Land and rights of way</u> and dated</p>

			1) Project investment Analysis (page 16-17)	/IA/			<p>on 10/12/2002 was available and valid at the time of investment decision (Dec. 2002). Moreover the value applied was validated crosschecking the value considered in the Pre-contract with Maderal Atlantic^{/L&R-1/} (05/10/1999) and Pre signing cost estimations^{/L&R-2/} available at the time of investment decision. No discrepancies were identified.</p> <p>The cost of land stated in the Pre-contract^{/L&R-1/} is USD 4. Transfer costs (USD0.2), land costs for transmission line (USD1,351) and contingency (USD 0.3) were extracted from the pre signing costs estimation^{/L&R-2/} (financial analysis sheet July 2000). Both documents are dated prior to the investment decision (December 2002).</p> <p>The Pre-contract^{/L&R/} or agreement of <u>optional</u> buy of real state with Maderal Atlantic S.A. was signed on 05/10/1999 and was valid for 3 years and extendable for 2 more years (Totally 5 years). This document represents only an agreement of the intention (Item 3.1, page 6) to buy a real state where the project activity would be installed and it can be cancelled at any time. As a guarantee Oxbow Power Corporation paid USD76,500 which represents only 0.10% of the total investment costs (USD75,773,000) and therefore is not considered as project starting date.</p>
5.3 Development costs	11,721	USD x 1000	Project investment Analysis (page 15-17)	/IA/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The Investment Analysis Report ^{/IA/} elaborated by SARET Sistemas de Energia, used as a

			Engineering contract HDG_GBEL ^{/EC/} (Article 5, item 5.1, page 17)	/EC/			source of the <u>development costs</u> and dated on 10/12/2002 was available at the time of investment decision (Dec. 2002). Almost all values stated in the Investment Analysis Report ^{/IA/} were estimated by the PP. The validation team checked the estimated values and those seem to be plausible. Almost all values of the development costs could be crosschecked against evidence to demonstrate plausibility. Furthermore development costs represent 14% of the total investment costs.
			Financial evaluation of the Jimenez Hydro Project (page 3)	/Con/			Development costs are the following:
			Evidence of payments done during construction management phase	/Pay/			5.3.1 Construction Management: USD1,080. This value was estimated: project manager 5, controller 1, manager assistant 0.7, civil engineer 3.0, mechanic engineer 3.0, driver 1, quality assurance 1, assessor 2; legal assessor 1; other assessor 3; other services 3; home 1, food 2.2, international travelling 1, others (10%) 2.7. Total: 30*36months=1,080. The PP provided figures of the real costs occurred due to construction management. According to evidence provided ^{/Pay/} real costs are higher than estimated costs due to construction management.
			Proposal of services by CT Energy S.A. Power Consulting Engineers	/CT/			5.3.2 Engineer and Administration: USD3,400: The contract between Oxbow and Bel Ingenieria ^{/EC/} is for USD3,600, Nevertheless the PP has assigned USD3,400 as a conservative assumption. The validation team can accept the amount of USD3,400 because
			Invoice Num. 0107180 by SOCIACO (custom agent)	/Import/			
			Urban Planning Law 4240, (article 70)	/LG4240/			

			Engineering and Architecture School Law 4925, (article 57, h-2)	/LG4925/		is conservative. The contract between Oxbow and Bel Ingenieria ^{/EC/} dated on year 2001 is valid and available at the time of investment decision.
			Pre signing cost estimations (financial analysis sheet July 2000-Dec. 2002)	/L&R-2/		5.3.3 Consultancy fee: USD132. This value was estimated: 3 Experts (3* USD2 per event * 18 events = USD108) and other costs (1.5 USD per event*18 events = USD24), Total: USD132. The PP provided a service proposal ^{/CT/} of a consultancy firm dated on 2004/04/05 which provides evidence of estimated costs related to consultancy during the construction phase. Values were crosschecked and are similar to the values estimated by the PP in the financial analysis. The service proposal ^{/CT/} is not valid at the time of investment decision. Nevertheless as the consultancy fee value was estimated by the PP, the evidence provided was used as a crosscheck source.
			Insurance Policy No. for Construction Risks (2004/07/20)	/INS/		
			Agreement between East West Financial Services LTD	/FAF/		5.3.4 Other input duties and expenses: USD655. This value was estimated: Costs of equipments imports: 3%*13.9=USD417 and Financial costs for taxes: USD237. Total USD 654 The PP provided the real invoices and evidence ^{/Import/} of import duties and expenses related with the project activity. Values were crosschecked and are similar to the values estimated by the PP in the financial analysis. The documents ^{/Import/} provided are not valid at

							<p>the time of investment decision. Nevertheless as other inputs duties and expenses related with equipment importation were estimated by the PP, the evidence provided was used as a crosscheck source.</p> <p>5.3.5 Start up expenses: USD300. This value was estimated: USD 100 (investments) and USD 200 (labor) -- Total USD300, The Jimenez Hydro Project (50 MW) which is another hydro project in Costa Rica considers a start up expenses of USD500. The Financial evaluation^{/Con/} of the Jimenez project presented to the public binding No. 6670.E was checked accordingly. The evidence is not dated but it can be used as crosscheck source.</p> <p>5.3.6 Development costs: USD6,154. This value was estimated by the PP and corresponds to the following items:</p> <p>5.3.6.1 Permitting: 625 Permit costs: 1.65% of the construction costs (1% municipal permits, 0.25% Engineers school and 0.4% for other permits). Permits costs was referenced by the PP through the Urban Planning Law^{/LG4240/} and the Engineering and Architecture School Law^{/LG4925/}. Both laws were checked and the values applied by the PP are correct. Both laws were valid and available at the time of investment decision.</p> <p>5.3.6.2 Owner capital costs: 100</p>
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							<p>Estimated based on PP experience: Auto 35,000 USD, computer and software 5,000USD, furniture: 10,000USD and Per diem: 50,000 USD.</p> <p>5.3.6.3 Pre-closing development costs: 3899 Taken from the Pre signing cost estimations^{/L&R-2/} (financial analysis sheet July 2000-Dec. 2002) considering project acquisition costs and fees, basic engineering, design and feasibility, environmental impact study and its approvals, legal issues and other pre-construction and rights. The verification team checked the evidence^{/L&R-2/} provided and no discrepancies were identified. The evidence is valid and available at the time of investment decision.</p> <p>5.3.6.4 Construction insurance: 400</p> <p>Estimated by the PP. Delay in Start Up USD150,000, Advance of Loss of Profit USD150,000, Liabilities USD30,000, Errors and omissions USD20,000 and Others USD50,000. The PP provided the real Insurance Policy for Construction Risks^{/INS/} was provided. The value stated in the Policy is quite similar to the value given in the financial analysis.</p> <p>The documents^{/INS/} provided are not valid at the time of investment decision. Nevertheless as construction insurance amount were estimated by the PP, the evidence provided was used as a crosscheck source. The value applies is considered plausible.</p>
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							<p>5.3.6.5 Financial advisory fee: 675 Value estimated by the PP. The PP provided the real agreement^{/FAF/} for financial advisory signed between East West Financial Services LTD and HDG. The value stated in the agreement is similar to the value given in the financial analysis. The documents^{/FAF/} provided are not valid at the time of investment decision. Nevertheless as financial advisory Fee amount were estimated by the PP, the evidence provided was used as a crosscheck source. The value applies is considered plausible.</p> <p>5.3.6.6 Bonding: 454 Estimated by the PP considering construction bonding (ICE), Environmental bonding (SETENA) and Operation Bonding (first year). Documents^{/GA/} provided are not valid at the time of investment decision. Nevertheless as bonding amount was estimated by the PP, the evidence provided was used as a crosscheck source. The value applies is considered plausible.</p>
5.4 Working capital	125	USD x 1000	Project investment Analysis (page)	/IA/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Note: Working capital costs are given with the format x 1000 USD in order to facilitate analysis.</p> <p>Value estimated by the PP as follow: Reserve for operation and maintenance (USD75) administration during operation (USD50)</p>

							The Investment Analysis Report ^{/IA/} elaborated by SARET Sistemas de Energia, used as a source of the <u>working capital</u> and dated on 10/12/2002 was available at the time of investment decision (Dec. 2002).
5.5 Financing costs	1,692	USD x 1000	<p>Letter from Senior Vice President of Inter-American Development Bank regarding financing fees (2000/02/04)</p> <p>Global investment & Finance Letter</p> <p>Agreement between East West Financial Services LTD and HDG, dated on 2003/02/25.</p>	<p>/debt-2/</p> <p>/debt-3/</p> <p>/FAF/</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Note: financing costs are given with the formate x 1000 USD in order to facilitate analysis.</p> <p>Estimated by the PP and considering LC Fees (212), financial closing expenses (975) and commitment Fees (505).</p> <p>Source of the values applied are the Letter from Senior Vice President of Inter-American Development Bank regarding financing fees valid at the time of investment decision. Furthermore to crosscheck the values applied the PP provided a Global investment & Finance Letter^{/debt-3/} and the Agreement between East West Financial Services LTD and HDG^{/FAF/}. Both documents are not at the time of investment decision and are only use to crosscheck the financing costs values. No significant discrepancies were identified.</p>
5.6 Interest during construction	3,573	USD x 1000	<p>Letter from Senior Vice President of Inter-American Development Bank regarding financing fees (2000/02/04)</p>	/debt-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Note: interest during construction are given with the formate x 1000 USD in order to facilitate analysis.</p> <p>Estimated based on a letter from Roberto Vellutini Senior Vice President of Inter-American Development Bank regarding senior loan and <u>financing fees</u>. According to the loan program and calculated based in a LIBOR tax</p>

							and 611 basis points. The letter dated on 200/02/04 is valid and available at the time of investment decision. The value applied corresponds with the source.
6. O&M costs	21,264 (1,251/ year)	USD	Investment Analysis Report (Page 16-17)	/IA/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Investment Analysis Report^{/IA/} elaborated by SARET Sistemas de Energia, used as a source of the <u>O&M costs</u> and dated on 10/12/2002 was available at the time of investment decision (Dec. 2002).</p> <p>No large scale hydroelectric project are registered as CDM project in Costa Rica to crosscheck the O&M values.</p> <p>According to the Alaska Energy Wiki^{/O&M-1/} annual operation and maintenance (O&M) costs for hydro projects is also estimated for the project's screening process in the earlier study, generally equal to 3% of capital cost. In case of the project activity 3% of the capital cost is 2273 USD.</p> <p>Moreover according to the International Energy Agency^{/O&M-2/} operation and maintenance costs are estimated at between 5 USD/MWh to 20 USD/MWh for new medium to large hydro plants. The project activity generation in the context of the financial assessment considers 196.21 GWh. The range would be between USD 981 and USD 3,924. The project activity considers 1,251 USD which represent a conservative assumption and is considered as plausible by the validation team.</p>

							<p>According to the Investment Analysis Report^{/IA/} the O&M costs were based on offers received from Hydro Quebec from Canada and Consolidated Hydro from USA. No further evidence was provided.</p> <p>The value of O&M costs stated in the IRR calculation^{/IRR/} corresponds to USD 21,264 (covering the whole project lifetime) as follow:</p> <p>a) O&M costs (USD14,480) refer to minor maintenance, major maintenance, variable O&M cost and O&M Fee.</p> <p>b) Other costs (USD 6,784) are considered as communities, Environmental Agency Fee, Insurance & Bonding, Municipality taxes and Licences and property tax. The Municipality Taxes & Licenses were correctly applied. The rate is 1.2% according to the Municipal Tax Regulation number 732 (article 4, page 1)^{/TAX/}. The Property tax was also correctly applied. The rate is 0.25% according to Law 7509, article 23 (page 15)^{/LG7509/}</p>
7. Senior Loan	53,042	USD x 1000	<p>Sheet "DEBT" of the financial calculation spread sheet</p> <p>Investment Analysis Report (Page 17)</p>	<p>/GFM/</p> <p>/IA/</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Note: senior loan are given with the formate x 1000 USD in order to facilitate analysis.</p> <p>The Investment Analysis Report^{/IA/} elaborated by SARET Sistemas de Energia, used as a source of the <u>senior loan</u> and dated on 10/12/2002 was available at the time of investment decision (Dec. 2002). Moreover the value applied was validated crosschecking the value considered in an e-mail^{/debt-1/} dated</p>

			Trust Deed (page 6)	/TD/			09/12/2000 from Paula Zagrecki to Linda Bonnin and John Stauffer regarding Rio General Project Update: Financing which provides evidence of the consideration of the 75% debt that OPIC would be interested to take.
			Interest rate and financial fees by the Inter-American Development Bank	/BID/			<p>Moreover several Letters^{/debt-2/} from Rohit C. Chib Executive Vice President of Oxbow Poer Corporation to 6 banks dated 23/06/2000 provide also evidence of the finance structure of the project activity and that was expected to cost approximately 75 USD millions and Oxbow is seeking finance of 56.02 USD million representing 75% of the total project costs.</p> <p>The project considers a Debt of the 70% (USD53,042) and an equity contribution of 30% (USD22,732) of the total investment costs (USD75,773).</p> <p>The senior loan value (USD53,042) stated in the IRR calculation spread sheet^{/IRR/} was crosscheck against: the financial calculation spread sheet^{/GFM/} and the Investment Analysis Report^{/IA/} (used for the investment decision).</p> <p>The financial payment is based on the Libor rate for year 2000 (6.89%). The rate was checked directly from the source^{/BID/}.</p> <p>Furthermore a Trust Deed^{/TD/} signed between HDG, GCS, OPC, Hidroelectrica Platanar S.A. Maderal Atlantic, S.A., RBTTMerchant Bank Limited and Banco Interfin S.A. was provided</p>

							<p>by the PP to demonstrate the real loan given to the PP to finance the project activity.</p> <p>According to the Trust Deed^{/TD/}: “The debtor is obtaining two loans from the banks each in an aggregate principal amount of USD57,000,000 and USD3,000,000 for the purpose of acquiring the land, designing, constructing, operating and maintaining a 40 MW General Hydroelectric Plant in Sarapiquí, Costa Rica”.</p> <p>This document^{/TD/} is dated on 2004/05/07, after the decision of the project was taken on 2002 and after the project starting date on 2004/01/26.</p>
8. Income tax	30	%	<p>Law 7092, (article 8, item g and article 15, item a)</p> <p>Project investment Analysis (page 16-17)</p>	<p>/LG7092/</p> <p>/IA/</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Law 7092 was checked accordingly. The value of 30% was correctly applied. No discrepancies were identified.</p> <p>The validation team has crosschecked the value stated in the Investment Analysis Report^{/IA/} (used for the investment decision) against the value stated in the IRR calculation spread sheet^{/IRR/}. No discrepancies were identified. The resulting values are the same.</p> <p>Please refer also to CAR B3.</p>
9. Depreciation	5.88 (17 years)	%	<p>Law 7092 (article 8, item f)</p> <p>Project investment Analysis (page 16-17)</p>	<p>/LG7092/</p> <p>/IA/</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>According to article 8 item f of the Law 7092, equipment can be depreciated during the lifetime of the special project. For this case it is 17 years.</p> <p>The validation team has crosschecked the value stated in the Investment Analysis Report^{/IA/} (used for the investment decision) against the value stated in the IRR calculation</p>

							spread sheet ^{/IRR/} . No discrepancies were identified. The resulting values are the same. Please refer also to CAR B3.
10. Project Lifetime	17	years	Power Purchase Agreement, article 21 (page 59) Project investment Analysis (page 16-17)	/PPA/ /IA/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The concession time stated in the PPA to operate the project (BOT contract) is based on 17 years.. After 17 years the EGHP has to be transferred back to the ICE. The time line used in the investment analysis was based also on 17 years and not based on the technical life time of the project considered in 40 years. The verification team has checked the PPA ^{/PPA/} provided by the PP. At the end of the Power Purchase Agreement (17 years, not including 3 years of construction), the PP has to transfer back the project to the ICE and no other benefits will be given back to the PP This assumption was also applied in the Investment Analysis Report ^{/IA/} (used for the investment decision). No final value is considered at the end of the concession period. Please refer also to CL C1.
11. Equity IRR	14.86	%	IRR calculation spread sheet (base case sheet) Project investment Analysis (page 16-17)	/PDD/ /IA/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The IRR calculation was reproduced by the validation team. The source of IRR calculation is assessed to be adequate and the assumptions stated in the reports are assessed to be reasonable. The equity IRR was estimated to be 14.86% without CERs. This IRR considers a project lifetime of 17 years based on the PPA. As described in the PDD and clearly demonstrates in the financial spreadsheet, a

							<p>sensitivity analysis with the most relevant parameters was performed:</p> <ul style="list-style-type: none"> - Capacity payment (+/-10%); - Energy payment (+/-10%); - CAPEX (+/-10%); - Total Operating Expenses (O&M); <p>As a result of the investment analysis the maximum IRR of 18.57% was obtained with a variation of -10% of the CAPEX. This occurrence of this scenario is not very likely to happen because all construction contracts have been already</p> <p>Actually value applied for the EPC contract are quite similar to the value (USD51,800 x 1000) stated in the signed Engineering, Procurement and Construction Contract^{/EPC/} dated on 2004/01/26 (project starting date). If we apply the value stated in the signed EPC contract in the IRR calculation, the IRR would be 15.01% which is still not beyond the applied benchmark. The EPC contract represents 70% of the total project investment.</p> <p>The revenues due to energy generation consider two aspects: capacity payment and energy payment.</p> <p>The Capacity Payment is paid only during the dry season period. The PP has applied a sensitivity analysis. Applying a +10% of the capacity payment the IRR goes from 14.86% to 15.53% which is still below the applied benchmark. This is very unlikely to happen as the capacity payment is calculated through the</p>
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							<p>compromised power capacity stated in the PPA (39 MW). Although the PP could generate more energy, the compromised capacity which is paid for is 39 MW. Therefore the capacity payment will remain always the same through the project activity lifetime.</p> <p>The energy price or electricity tariff is defined by the PPA between the ICE and the PP. The electricity tariff is 0.05 USD/KWh. Energy tariff is subject to a bi-annually adjustment according also to the PPA. The PP has already applied such adjustment in the IRR calculation obtaining an IRR of 14.86%. ICE will pay also the energy which exceeds the maximum annual energy generation (39 MW) as a percentage of 20%, 15% or 10% of the official tariff. This is taking into consideration the average capacity factor used by the plant in a year of operation.</p> <p>The PPA (paragraph 7.1.2, item a) defines how the electricity tariff is calculated:</p> <ul style="list-style-type: none"> • The electricity generated with a load factor up to 0.6 will have the price of 5 USD cents (0.05 USD/kWh); • The electricity generated with a load factor from 0.61 to 0.66, will have the price of 20% of the electricity tariff (i.e. $0.05 \times 20\% = 0.01$ USD/kWh); • The electricity generated with a load factor from 0.67 to 0.72, will have the price of 15% of the electricity tariff (i.e. $0.05 \times 15\% = 0.008$ USD/kWh); • The electricity generated with a load factor
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							<p>from 0.73 to 1, will have the price of 10% of the electricity tariff (i.e. $0.05 \times 10\% = 0.005$ USD/kWh).</p> <p>The plant load factor of the project activity (0.57) based on 33 years hydrology database leads to energy price of 5 USD cents (0.05 USD/kWh). In case of an increase in the plant load factor of the project activity, the electricity will be also increased.</p> <p>According to the PDD and the PPA there is a <u>non-linear relation</u> between the energy generation and energy price. An increase of the electricity generation of 10% would not increase the revenues (electricity tariff) in 10%. In order to increase the energy revenues till 10%, it would be necessary to increase the energy generation till 22% resulting in an average load factor of 70%. According to the evidence provided this scenario is very unlikely to happen. Furthermore comparing the actual energy generation (198.38 GWh) of the project activity (40 MW) and the energy generation used for the investment analysis (196.21 GWh) there is a difference 1.1%</p> <p>The PP has applied a sensitivity analysis. Applying a +10% of the energy revenue the IRR goes from 14.86% to 16.41% which is still below the applied benchmark.</p> <p>Both scenarios (increase till 10% the capacity payment and energy payment) are not very likely to happen according to the explanation given above.</p>
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							<p>The validation team has crosschecked the IRR value (14.9%) stated in the Investment Analysis Report^{/IA/} (used for the investment decision) against the value stated in the IRR calculation spread sheet^{/IRR/}. Both values are exactly the same as all inputs were also the same. The PP has used the investment calculation used at the time of investment decision (December 2002).</p> <p>Please refer also to CAR B3.</p>
11. Benchmark	17.2	%	<p>Guidance on the assessment of investment analysis, Version 05.</p> <p>Engagement letter dated 2012/03/17 by KPMG regarding the Size Risk Premium</p>	<p>/GAIA/</p> <p>/SRP/</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>After several rounds of clarification regarding the selected benchmark (Please refer also to CAR B4) the PP decided to apply the Guidance on the assessment of investment analysis, Version 05 which specifies for the type of project a benchmark of 12%. Furthermore according to paragraph 7 of the Guidance on the assessment of investment analysis, Version 05:</p> <p><i>"In situations where an investment analysis is carried out in nominal terms, Project Participants can convert the real term values provided in table below to nominal values by adding the inflation rate. The inflation rate must be obtained from the inflation forecast of the central bank of the host country for the duration of the crediting period. If this information is not available, the target inflation rate of the central bank shall be used. If this information is also not available, then the average forecasted inflation rate for the host country published by the IMF (International</i></p>

							<p><i>Monetary Fund World Economic Outlook) or the World Bank for the next five years after the start of the project activity shall be used"</i></p> <p>According to the PP the two first options above were not available and the information from the IMF^{/impt/} was only available for two years (e.g. 2012 and 2016). The International Monetary Fund World Economic Outlook^{/impt/} was checked.</p> <p>Therefore an additional option was proposed by the PP for the average five years forecasted inflation (2012 to 2016) which is the use of the Economist Views Wire^{/EVW/} as data source in addition to the IMF data.</p> <p>Furthermore in order to get a consistency between the currency of the cash flow and the currency of the forecasted inflation as a conservative approach the forecasted inflation rate in the currency of the host country was dollarized (i.e. USD) using the forecasted exchange rate between the two currencies stated in The Economist Views Wire since this information was not available from the IMF.</p> <p>As a result the return on equity in nominal terms for the project activity type according to the Guidance on the Assessment of Investment analysis, version 5 is:</p> <ul style="list-style-type: none"> • 17.3% based on The Economist data source • 17.2% based on IMF data source <p>As a conservative assumption the PP selected the most conservative value which is 17.2%.</p>
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							<p>The PP provided the following evidence to demonstrate calculation of the return on equity in nominal terms:</p> <p>Engagement Study^{/SRP/} dated 2012/03/17 by KPMG regarding calculation of a nominal rate of return benchmark based on data provided by HDG and forecasted data provided by Economist Intelligence Unit for the period 2012-2016</p> <p>Every factor from the <i>calculation of the return on equity in nominal terms</i> was checked and assessed. The validation team has concluded that the applied benchmark fulfill the requirements of Guidelines on the Assessment of Investment Analysis version 5 (EB 62, Annex 5). Furthermore it can be also assumed that no investment would be made at a rate of a lower return than the benchmark.</p> <p>Moreover there are only two hydroelectric projects registered as CDM projects in Costa Rica. None of them has applied benchmark analysis to demonstrate additionality. Therefore it is not possible to compare the suitability of the benchmark with same projects in the region.</p>
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ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

Table A-4: Assessment of Barrier Analysis (EB 51 Annex 3, § 117)

<input checked="" type="checkbox"/>	No barrier parameters are used for additionality justification			
<input checked="" type="checkbox"/>	Assessment of barriers see below			
Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of validation team	
			Appropriateness of information source	Explanation of final result
			<input type="checkbox"/>	

ANNEX 5: OUTCOME OF THE GSCP

Table A-5: Outcome of the Global Stakeholder Consultation Process
(§§ 40-42, VVM Version 1.2)

<input checked="" type="checkbox"/>	No comments were received during the global stakeholder consultation period					
<input type="checkbox"/>	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:					
Comment No.:	Comment by:	Inserted on:	Subject	Comment ^{*)}	Action taken by the validation team to take due account on the comment ^{*)}	Conclusion (incl. CARs CLs or FARs)

^{*)} In case clarifications have been requested by the validation team corresponding rows shall be added

ANNEX 6: APPOINTMENT CERTIFICATES OF ALL INVOLVED PERSONNEL



CERTIFICATE OF APPOINTMENT

Mr. Dipl.-Ing. Rainer Winter

born on 1963-02-21

satisfies the requirements as specified in the TÜV NORD
JI/CDM CP directives and is hereby re-appointed as

TÜV NORD JI/CDM Senior Assessor

The present appointment will terminate on 2013-07-03

Certification registration No. 04 02 154-03

Initial appointment Assessor: 2004-03-01

Senior Assessor: 2007-07-07

Essen, 2010-07-04



Deputy of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH



CERTIFICATE OF APPOINTMENT

Mr. Raul Gonzalez Mitre

born on 1979-02-04

satisfies the requirements as specified in the TÜV NORD
JI/CDM CP directives and is hereby appointed as

TÜV NORD CDM Assessor

The present appointment will terminate on 2013-02-08

Certification registration No. 10 02 02 – 82 rev1

Essen, 2010-02-09



Head of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH



CERTIFICATE OF APPOINTMENT

Mr. Ricardo Ribeiro Lopes

born on 1972-11-03

satisfies the requirements as specified in the TÜV NORD
JI/CDM CP directives and is hereby appointed as

TÜV NORD CDM Lead Assessor

The present appointment will terminate on 2013-11-04

Certification registration No. 10 11 01 – 77 rev1

Essen, 2010-11-05



Head of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH



CERTIFICATE OF APPOINTMENT

Mr. Martin Saalmann

born on 1976-02-23

satisfies the requirements as specified in the TÜV NORD
JI/CDM CP directives and is hereby appointed as

TÜV NORD JI/CDM Senior Assessor

The present appointment will terminate on 2013-03-31
Certification registration No. 10 04 01 – 22

Essen, 2010-04-01


Head of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH



CERTIFICATE OF APPOINTMENT

Mr. Emilio Martin

born on 1978-10-24

satisfies the requirements as specified in the TÜV NORD
JI/CDM CP directives and is hereby appointed as

TÜV NORD CDM Lead Assessor

The present appointment will terminate on 2013-11-30
Certification registration No. 10 12 01 – 157 rev1

Essen, 2010-12-01


Head of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH