VALIDATION REPORT

"INCOMEX HYDROELECTRIC PROJECT" IN BRAZIL

REPORT NO. 2005-0989

REVISION NO. 01

DET NORSKE VERITAS

VALIDATION REPORT

Date of first issue: 2005-08-17	Project No.: 28624550 (34)
Approved by: Einar Telnes Technical Director	Organisational unit: DNV Certification, International Climate Change Services
Client: Incomex Indústria, Comércio e Exportação Ltda and Grupo Cassol	Client ref.: Adriano Jackson Gomes

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Summary:

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the "Incomex Hydroelectric Project" project (hereafter called "the project") in Brazil on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures, the simplified modalities and procedures for small-scale CDM project activities and the subsequent decisions by the CDM Executive Board

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

In summary, it is DNV's opinion that the "Incomex Hydroelectric Project", as described in the revised PDD of 30 November 2005, meets all relevant UNFCCC requirements for the CDM, and all relevant host country criteria and correctly applies the simplified baseline and monitoring methodology for type I.D small-scale CDM project activities. Hence, DNV will request the registration of the "Incomex Hydroelectric Project" as CDM project activity. Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written approval of the DNA of Brazil and the UK, including confirmation by the DNA of Brazil that the project assists in achieving sustainable development.

Report No.: 2005-0989	Subject Group: Environment
Report title: "Incomex Hydroelectric Project" in Brazil.	
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Date of this revision: 2005-12-27	Rev. No.: 01	Number of pages: 11

Indexing terms

Key words Climate Change Kyoto Protocol Validation Clean Development Mechanism	Service Area Verification Market Sector Process Industry

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Abbreviations

ANEEL	Agência Nacional de Energia Elétrica (Brazilian National Electricity Agency)
BM	Build margin
BNDES	Brazilian Bank for Development
CAR	Corrective Action Request
CCC	Conta de Consumo de Combustível (Fuel Consumption Account)
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CERON	Centrais Elétricas de Rondônia S.A. (Rondônia State Electricity Company)
CH_4	Methane
CL	Clarification request
CM	Combined Margin
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DNV	Det Norske Veritas
DNA	Designated National Authority
FEMA (SEMA)	Secretaria de Estado do Meio Ambiente (Mato Grosso State Environmental Agency)
GTON	Grupo Técnico Operacional da Região Norte (North Region Technical Operational Group)
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
N_2O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
ONS	Brazilian National Electric System Operator
OP	Operation Margin
PDD	Project Design Document
SEDAM	Secretaria de Estado do Desenvolvimento Ambiental (Rondônia State Environmental Agency)
UNFCCC	United Nations Framework Convention on Climate Change

1 INTRODUCTION

Incomex Indústria, Comércio e Exportação Ltda and Grupo Cassol have commissioned Det Norske Veritas Certification Ltd. (DNV) to validate the "Incomex Hydroelectric Project" at Alta Floresta D'Oeste Municipality, Rondônia State and Comodoro Municipality,; Mato Grosso State, Brazil.

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

The validation team consists of the following personnel:

Mr. Luis Filipe Tavares	DNV Rio de Janeiro	Team leader
Ms. Cintia Dias	DNV Rio de Janeiro	CDM auditor
Mr. Vicente San Valero	DNV Rio de Janeiro	CDM auditor
Mr. Michael Lehmann	DNV Oslo	Energy sector expert, Technical reviewer

1.1 Validation Objective

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, and the project's compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board. The validation team has, based on the recommendations in the Validation and Verification Manual /7/, and employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

1.3 "Incomex Hydroelectric Project"

The project consists of a bundle of three small run-of-river hydroelectric power plants:

- Rio Branco, installed on Branco River, located at Alta Floresta D'Oeste municipality in Rondônia State with 6.9MW of installed capacity; started operation on 31 December 2004, according to the Dispatch ANEEL 1118/2004 and ANEEL report /6/.
- Monte Belo, installed on Saldanha River, located at Rolim de Moura municipality in Rondônia State with 4 MW of installed capacity, started operation on 01 January 2001 according to the ANEEL report /6/.

- Cabixi II, installed on Lambari river, located at Comodoro municipality, in the Mato Grosso State with 2.8 MW of installed capacity and started operation on 01 August 2002 according to the ANEEL report /6/.

The Rio Branco and Monte Belo units are connected to the Rondônia-Acre isolated electricity system, located in the Rondônia State. The Cabixi II unit is connected to the Cone-Sul isolated electricity system, located in Mato Grosso State, the North region of Brazil.

These units are located in very remote areas. The project thus brings electricity to develop these areas both socially and economically, which has always been an important priority for the Brazilian authorities. The solution for the electricity supply problem in these areas was setting up what is known as an isolated electricity system, which predominantly uses thermal power plants fired by fossil fuels. This project will increase the supply of electricity to the grid, offsetting thermal generation with a renewable source of energy.

Emission reductions are claimed from displacing the isolated grid electricity with electricity generated by these small hydroelectric power plants. The estimated amount of GHG emission reductions from the project is 310 180 tonnes CO_2 equivalents (tCO_2e)during the first renewable 7-year crediting period (with the potential of being renewed twice), resulting in an estimated average annual emission reductions of 44 311 tCO_2e.

2 METHODOLOGY

The validation consisted of the following three phases:

I a desk review of the project design documents;
II follow-up interviews with project stakeholders;
III the resolution of outstanding issues and the issuance of the final validation report and opinion.

In order to ensure transparency, a validation protocol was customised for the project, according to the Validation and Verification Manual /7/. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

The validation protocol consists of three tables. The different columns in these tables are described in Figure 1.

The completed validation protocol for the “Incomex Hydroelectric Project” is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfilment of validation protocol criteria or where a risk to the fulfilment of project objectives is identified. *Corrective Action Requests* (CARs) are issued, where:

i) mistakes have been made with a direct influence on project results;
ii) validation protocol requirements have not been met; or
iii) there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be certified.

The term *Clarification* (CL) may be used where additional information is needed to fully clarify an issue

Validation Protocol Table 1: Mandatory Requirements for CDM Project Activities			
Requirement	***Reference***	***Conclusion***	***Cross reference***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements or a request for **Clarification (CL)** where further clarifications are needed.*	*Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent Validation process.*

Validation Protocol Table 2: Requirement Checklist				
Checklist Question	***Reference***	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in seven different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	*Gives reference to documents where the answer to the checklist question or item is found.*	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below).A request for **Clarification (CL)** is used when the validation team has identified a need for further clarification.*

Validation Protocol Table 3: Resolution of Corrective Action Requests and Requests for Clarification			
Draft report corrective action requests and requests for clarifications	***Ref. to Table 2***	***Summary of project participants' response***	***Final conclusion***
If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.*	*The responses given by the project participants during the communications with the validation team should be summarised in this section.*	*This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".*

Figure 1 Validation protocol tables

2.1 Review of Documents

The PDD (version August 2005) /1/ submitted by Incomex Indústria, Comércio e Exportação Ltda and EcoSecurities on 10 August 2005 and a revised version of the PDD /2/ submitted in November 2005 were assessed by DNV. In addition, spreadsheets for the calculations of the operating and build margin emission factors for the Rondônia -Acre and Cone Sul Grids were assessed /3/.

Other documents, such as the Environmental Impact Assessment, the Environmental Licences and licence requirements as well as the letters sent to local stakeholders, were assessed during the follow-up interviews in order to ensure the accuracy of the provided information.

2.2 Follow-up Interviews

On 09 November 2005, DNV performed interviews with Incomex Indústria, Comércio e Exportação Ltda and EcoSecurities to confirm selected information and to resolve issues identified in the document review.

The main topics of the interviews are:

- Environment licenses and legal compliance;
- Local Stakeholders consultation process;
- Additionality argumentation;
- Cash flow analysis and IRR;
- Baseline emission calculations;
- Calibration requirements.

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation was to resolve any outstanding issues which needed to be clarified prior to DNV's positive conclusion on the project design.

The initial validation of the project identified six *Corrective Action Requests* and four requests for *Clarification.* The project participant's response to DNV's draft validation report findings, including the submission of a revised PDD in November 2005, addressed the *Corrective Action Requests* and requests for *Clarifications* to DNV's satisfaction. To guarantee the transparency of the validation process, the concerns raised are documented in Table 3 of the validation protocol in Appendix A.

3 VALIDATION FINDINGS

The findings of the validation are stated in the following sections. The validation criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

The validation findings relate to the project design as documented and described in the PDD of 30 November 2005.

3.1 Participation Requirements

The project participants are Incomex – Indústria, Comércio e Exportação Ltda., Grupo Cassol and EcoSecurities LtdaUK. The participating Parties - Brazil as host Party and UK as Annex I Party -meet all relevant participation requirements.

3.2 Project Design

The "Incomex Hydroelectric Project" comprises three small run-of-river hydroelectric power plants located: (1) in the Rio Branco river (Rio Branco small hydro in Rondônia State), (2) in the Saldanha river (Monte Belo small hydro in Rondônia State) and (3) in the Lambari river (Cabixi II small hydro in Mato Grosso State). These have three, two and one new simple Francis turbines, respectively installed for generation of electricity. The generation of the renewable electricity partly replaces electricity generation based on fossil fuels used in the isolated Rondônia-Acre and Cone Sul grids. These isolated grids are not linked to the interconnected N-NE and S-SE-CO Brazilian grid systems due to transmission constraints.

Run-of-river small hydroelectric projects use water, either from small holding ponds or directly from the river, to generate electricity. The water's gravitational power is used to move the turbine and by doing so generates electricity. According to the Brazilian Power Regulatory Agency, ANEEL, in order to be considered as a small hydro, the area of the reservoir must be less than 3 km^2. The Monte Belo and Rio Branco units use water directly from the river, without any dam or minimum flooded areas and the Cabixi II unit has 0.2 km^2 of flooded area.

The project design engineering reflects current good practice. The total installed capacity for the three hydroelectric power plants is 13.7 MW. As the nominal installed capacity of the project is less than 15 MW and the plants will supply their generated electricity to the grid, the project is eligible as a type I.D small-scale CDM project activity (*Renewable Energy Projects / Renewable electricity generation for a grid*) as outlined in Appendix B of the simplified modalities and procedures for small-scale CDM project activities /8/. The project is not a debundled component of a larger project activity.

A renewable 7-year crediting period (with the potential of being renewed twice) is selected, starting on 01/01/2005. The starting date of the project activity is 01/01/2001, corresponding to the start-up of the first unit (Monte Belo). The expected operational lifetime of the project is more than 21 years.

The validation did not reveal any information that indicates that the project can be seen as a diversion of ODA funding towards Brazil.

3.3 Project Baseline

The project applies the approved simplified baseline methodology for selected small-scale CDM project activity categories, category I.D – *Renewable electricity generation for a grid* (AMS-I.D) /8/. This category is applicable as the project consists of renewable energy generation units that supply electricity to an electricity distribution system (i.e. the Isolated Rondônia-Acre and Cone Sul grids - North region of Brazil) that is supplied by at least one fossil fuel generating unit.

The baseline emission coefficient is determined as the average of the approximate operating margin (OM) and the build margin (BM), i.e. the combined margin, in accordance with the simplified baseline methodology for category I.D small-scale CDM project activities. Electricity generation data by the units connected to these isolated grids were provided by CERON for Cone Sul grid /5/, and Eletrobras-GTON Isolated Systems Operational Plan for the Rondônia-Acre grid /4/.

The consumption of fuel considered the specific consumption of 300 lt./MW as established by Eletrobras/CCC and the IPCC carbon emission factors for specific fuels were applied to calculate plant specific emission coefficients. This is deemed appropriate for small-scale CDM project activities.

3.4 Additionality

The additionality of the project is demonstrated by applying Attachment A to the Appendix B of the simplified modalities and procedures for CDM small-scale project activities, considering an analysis of the following barriers: (a) investment barriers, (b) technological barriers, (c) barrier due to prevailing practice for two scenarios: i) Continuation of current activities (produce energy by thermal sources) and ii) construction of new renewable energy plants. The PDD concludes that - while the continuation of current activities does not face any barriers, the construction of new renewable energy plants faces an investment barrier and barriers due to prevailing practice. DNV's assessment of the presented investment barrier and barrier due to prevailing practice is as follows:

(a) *Investment barriers*: As established in the Law 10.438 (26 April 2000) and in the ANEEL resolution 784 (24 December 2002) the new hydroelectric units implemented to supply the isolated grid in the North region of Brazil are eligible to recover from 50% up to 75% of their investments as an incentive according to the national/sectoral incentive of Fuel Consumption Account (in Portuguese: Conta de Consumo de Combustível – CCC). These incentives are based on the fact that due to the characteristics of the geographic morphology of the ground in these isolated area (plateau and plain), the most common electricity generation is through thermal units using diesel or fuel oil.

This governmental refund of the investments to the renewable units is made by means of proportional quotes of the energy sold. The government monthly payments cover the excess cost of the energy production in these areas; this is calculated by comparing the difference between the costs to produce the same amount of energy in the interconnected area and in these isolated areas. This difference of costs will be paid until the plant receives 50% to 75% of the investment.

The Monte Belo hydroelectric power plant was recognized as eligible for CCC by the ANEEL Resolution 335 (30 August 2000), Cabixi II plant was recognized by the Resolution 517 (17 September 2002) and Rio Branco plant was recognized by the Resolution 085 (28/February 2005). All these units will receive up to 75% of their investments back by means of these

subsides. However, although the CCC incentive increases the IRR of thermal and hydro units operation, the effectiveness of this incentive is not sufficient to change the scenario on thermal units' prevailing construction.

(c) *Barriers due to prevailing practice*: The evidences of the difficulties faced to construct hydro units and the scenario evidenced through the low number of hydro units compared with the number of thermal units justify that the most likely scenario is the construction of new thermal units on the isolated grid of Rondônia State.

Given the above and in particular the investment barrier and barriers due to prevailing practice that the project faces, it is deemed sufficiently demonstrated that the project is not a likely baseline scenario for the first 7-year renewable credit period and that emission reductions thus are additional.

3.5 Monitoring Plan

The project applies the approved monitoring methodology established according to the simplified monitoring methodology for type I.D small-scale CDM project activities. The main parameter is to meter the electricity generated and supplied to the grid. This will be multiplied with the combined margin emission coefficient for the respective grids: 0,862 tCO_2e/MWh for the Rondônia -Acre grid and 0,402 tCO_2e/MWh for the Cone Sul grid.

Detailed monitoring procedures, including responsibilities for project management, procedures for QA/QC of monitoring reports and calibration are described.

3.6 Calculation of GHG Emissions

Project emissions are considered zero for this project. The calculations of baseline emissions are established according to the paragraph 7 of AMS-I.D which is the kWh produced by the hydroelectric power plant multiplied by an emission coefficient (kg CO_2e/kWh) calculated as the average of the "approximate operating margin" and the "build margin". The systems boundaries are the Rondônia -Acre isolated grid for the Rio Branco and Monte Belo hydroelectric units and Cone Sul isolated grid for the Cabixi II hydroelectric unit. Both grids are in the North Region of Brazil.

The combined margin emission coefficient is calculated as 0,862 tCO_2e/MWh for Rondônia - Acre grid and 0,402 tCO_2e/MWh for Cone Sul grid. To calculate this emission coefficient, the project used data for the year 2004 from Eletrobras-CERON for the 10 generation units of the Rondônia-Acre grid and the 9 generation units of Cone Sul grid. The link of each hydroelectric with the respective grid is clearly evidenced on the Rondônia grid map.

AMS-I.D defines that the "approximate operation margin" is the weighted average emissions of all generating sources serving the system, excluding hydro, geothermal, wind, low cost biomass, nuclear and solar generation. The "build margin" is the weighted average emissions of the greater (in MWh) of the most recent 20% capacity additions of existing plants or the 5 most recent plants of each grid.

3.7 Environmental Impacts

The "Incomex Hydroelectric Project" has been granted the following Environmental Licenses: Monte Belo - Operation licence 1536 issued by NUCOF/SEDAM/RO on 14/12/2005, valid until 29/12/2007.

Rio Branco - Operation licence 1548 issued by NUCOF/SEDAM/RO on 20/12/2005, valid until 20/06/2007.
Cabixi II - Operation licence 1140/2004 - issued by FEMA/MT on 17/12/2004, valid until 17/12/2005 and request to renew on 04/11/2005 trough protocol82929/2005.
The process to issue Environment Licenses finishes after all possible impacts are analyzed by the State Environmental Agencies (FEMA and SEDAM).

3.8 Comments by Local Stakeholders

Local stakeholders, such as the Municipal Government, the state and municipal agencies, the Brazilian forum of NGOs, neighbouring communities and the office of the attorney general, were invited to comment on the project, in accordance with the requirements of Resolution 1 of the Brazilian DNA. Evidences of the letters mailed to the local stakeholders were sent to DNV.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

DNV Certification published the initial PDD of August 2005 on the DNV Climate Change web site (http://www.dnv.com/certification/ClimateChange) and stakeholders were, through the UNFCCC CDM web site, invited to provide comments within a 30 days period from 13 August 2005 to 11 September 2005. No comments were received.

5 VALIDATION OPINION

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the "Incomex Hydroelectric Project" in Brazil. The validation was performed on the basis of UNFCCC criteria for the Clean Development Mechanism and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The project participants are Incomex – Indústria, Comércio e Exportação Ltda., Grupo Cassol and EcoSecurities Ltda.UK. The participating Parties - Brazil as host Party and UK as Annex I Party - meet all relevant participation requirements.

The three small hydro power plants with a total capacity of 13,7MW and with a small reservoir at the Cabixi II plant only, it is not expected to have considerable environmental impacts. Environmental Impact Studies, as required by the Brazilian law, have been carried out and the project has received environmental licenses by SEDAM/RO for Monte Belo and Rio Branco plants and by FEMA for Cabixi II plant.

By promoting renewable energy, the project is in line with the current sustainable development priorities of Brazil

The project correctly applies the simplified baseline methodology for selected small-scale CDM project activity categories, category I.D – Renewable electricity generation for a grid (AMS-I.D). The additionality of the project is demonstrated by applying Attachment A to the Appendix B of the simplified modalities and procedures for CDM small-scale project activities. The presented barriers demonstrate that the project is not a likely baseline scenario.

A combined margin emission coefficient of 0,862 tCO_2e/M for the Rondônia-Acre grid and 0,402 tCO_2e/MW for the Cone Sul grid, were calculated in accordance with the simplified baseline methodology for category I.D small-scale CDM project activities, i.e. the average of the approximate operating margin and the build margin. The determination of this combined margin emission coefficient is based on actual electricity generation data provided by CERON for the Cone Sul grid /5/, and Eletrobras Isolated Systems Operation Report for the Rondônia-Acre grid /4/. The consumption of fuel considered the specific consumption of 300 lt./MW as established by Eletrobras/CCC.

By promoting renewable energy and displacing fossil fuel-based electricity, the project results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Given that the project is operated as designed, the project is likely to achieve the estimated amount of emission reductions.

The monitoring plan sufficiently specifies the monitoring requirements.

In summary, it is DNV's opinion that the "Incomex Hydroelectric Project" as described in the revised and resubmitted project design document of November 2005, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the baseline and monitoring methodology for category I.D small-scale CDM project activities. Hence, DNV will request the registration of the "Incomex Hydroelectric Project" as CDM project activity.

Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written approval of the DNA of Brazil and the UK, including confirmation by the DNA of Brazil that the project assists in achieving sustainable development.

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REFERENCES

Documents provided by the project proponent that relate directly to the project:

/1/ Project Design Document for the "Incomex Hydroelectric Project". Version 1 (August 2005)

/2/ Project Design Document for the "Incomex Hydroelectric Project". Version 5 (November 2005)

/3/ EcoSecurities/Incomex - *Datasheet to calculate the Combined Margin for Rondônia - Acre and Cone Sul Isolated Grids*, Excel spreadsheets, 30 November 2005

/4/ Eletrobras-GTON Isolated Systems Operational Plan for 2005 http://www.eletrobras.gov.br/img/menu/01_ccc_off.gif

/5/ CERON – UNS/UNSG: Resumo de Geração das PCHs 2004

/6/ ANEEL "Small Hydroelectric Units Accompaniment" issued on 15/10/2005 http://www.aneel.gov.br/37.htm

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

/7/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): *Validation and Verification Manual*. http://www.vvmanual.info

/8/ Appendix B of the simplified modalities and procedures for small-scale CDM project activities: *Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories (category I.D).* Version 05: 25 February 2005.

Persons interviewed during the validation, or persons who contributed with other information that are not included in the documents listed above:

/9/ Adriano Jackson Gomes – Technical Manager - Incomex

/10/ Pablo Fernandes – EcoSecurities

/11/ Flavia Resende - EcoSecurities

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APPENDIX A

VALIDATION PROTOCOL FOR SMALL-SCALE CDM PROJECT ACTIVITIES

Table 1 Mandatory Requirements for Small Scale Clean Development Mechanism (CDM) Project Activities

Requirement	Reference	Conclusion	Cross Reference/Comment
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art. 12.2	OK	Table 2, Section E.4.1 The PDD identifies EcoSecurities Ltd.(UK) as ANNEX I project participant.
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, Simplified Modalities and Procedures for Small Scale CDM Project Activities §23a	-	Table 2, Section A.3 Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written confirmation by the DNA of Brazil that the project assists in achieving sustainable development.
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art. 12.2.	OK	Table 2, Section E.4.1
4. The project shall have the written approval of voluntary participation from the designated national authority of each party involved	Kyoto Protocol Art. 12.5a, Simplified Modalities and Procedures for Small Scale CDM Project Activities §23a	-	Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written approval of voluntary participation from the DNA of the participating Parties.
5. The emission reductions should be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	OK	Table 2, Section E.1 to E.4
6. Reduction in GHG emissions must be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity	Kyoto Protocol Art. 12.5.c, Simplified Modalities and Procedures for Small Scale CDM Project Activities §26	OK	Table 2, Section B.2.1

Requirement	Reference	Conclusion	Cross Reference/Comment
7. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance	Decision 17/CP.7	OK	The validation did not reveal any information that indicates that the project can be seen as a diversion of ODA funding towards Brazil.
8. Parties participating in the CDM shall designate a national authority for the CDM	CDM Modalities and Procedures § 29	OK	The Brazilian designated national authority for the CDM is the Comissão Interministerial de Mudança Global do Clima. The DNA of the United Kingdom is the Department for Environment, Food and Rural Affairs.
9. The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol	CDM Modalities and Procedures § 30, 31b	OK	Brazil ratified the Kyoto Protocol on 23 August 2002. The United Kingdomratified the Kyoto Protocol on 31 May 2002.
10. The participating Annex I Party's assigned amount shall have been calculated and recorded	CDM Modalities and Procedures §31b	OK	The United Kingdom's assigned amount is 92% of its 1990 emissions.
11. The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7	CDM Modalities and Procedures §31b	OK	The United Kingdomhas in place a national registry and reported on 15 April 2004 its national GHG inventory for the years 1990-2002.
12. The proposed project activity shall meet the eligibility criteria for small scale CDM project activities set out in § 6 (c) of the Marrakesh Accords and shall not be a debundled component of a larger project activity	Simplified Modalities and Procedures for Small Scale CDM Project Activities §12a,c	OK	Table 2, Section A.1
13. The project design document shall conform with the Small Scale CDM Project Design Document format	Simplified Modalities and Procedures for Small Scale CDM Project Activities, Appendix A	OK	The PDD is in line with the CDM-PDD for small-scale CDM project activities (version 02 of 8 July 2005).

Requirement	Reference	Conclusion	Cross Reference/Comment
14. The proposed project activity shall confirm to one of the project categories defined for small scale CDM project activities and uses the simplified baseline and monitoring methodology for that project category	Simplified Modalities and Procedures for Small Scale CDM Project Activities §22e	OK	Table 2, Section A.1.3, B and D
15. Comments by local stakeholders are invited, and a summary of these provided	Simplified Modalities and Procedures for Small Scale CDM Project Activities §22b		Table 2, Section G
16. If required by the host country, an analysis of the environmental impacts of the project activity is carried out and documented	Simplified Modalities and Procedures for Small Scale CDM Project Activities §22c		Table 2, Section F
17. Parties, stakeholders and UNFCCC accredited NGOs have been invited to comment on the validation requirements and comments have been made publicly available	Simplified Modalities and Procedures for Small Scale CDM Project Activities §23b,c,d	OK	The PDD has been published on http://www.dnv.com/certification/ClimateChange. Parties, stakeholders and NGOs have been – through the UNFCCC CDM website – invited to provide comments on the validation requirement from 13 August 2005 to 11 September 2005 No comments were received.

Table 2 Requirements Checklist

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
A. **Project Description** The project design is assessed.					
A.1. Small scale project activity It is assess whether the project qualifies as small scale CDM project activity.					
A.1.1. Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM?	/1/	DR	Being a renewable energy project activity, with an output capacity of less than 15 MW, i.e. 13.7 MW, the project qualifies as a small-scale CDM project activity according to the category (i) defined in paragraph 6, subparagraph (c) of decision 17/CP.7 on the modalities and procedures for the CDM, and as defined by category I.D of Appendix B of the simplified modalities and procedures for small-scale CDM project activities.		OK
A.1.2. The small scale project activity is not a debundled component of a larger project activity?	/1/	DR	The project is not a debundled component of a larger project activity according to the Appendix C of the simplified modalities and procedures for small-scale CDM project activities. The project consists of the use of the potential energy of three rivers: Rio Branco river, Saldanha river (Rondônia-Acre grid) and Lambari river (Cone Sul grid) and no other CDM projects are implemented by Incomex Indústria, Comércio e Exportação Ltda.		OK
A.1.3. Does proposed project activity confirm to one of the project categories defined for small scale CDM project activities?	/1/	DR	The project is a “Renewable electricity generation for a grid project activity” (Type I.D) small-scale CDM project activity as defined in the simplified modalities and procedures for small-scale CDM		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			project activities		
A.2. Project Design Validation of project design focuses on the choice of technology and the design documentation of the project.					
A.2.1. Are the project's spatial (geographical) boundaries clearly defined?	/1/	DR	The project is located in the Rio Branco river and Saldanha river at Alta Floresta D'Oeste municipality in Rondônia State and in the Lambari river at Comodoro municipality in Mato Grosso State and has as their boundaries the limits of the Rio Branco, Monte Belo and Cabixi II small hydroelectric power plants according to the AMS I.D. paragraph 4.		OK
A.2.2. Are the project's system (components and facilities used to mitigate GHG's) boundaries clearly defined?	/1/	DR	The project comprises an installation of three, two and one, respectively, new simple Francis turbines with a total capacity of 13.7 MW installed in the Rio Branco hydroelectric unit at the Rio Branco river and Monte Belo hydroelectric unit at the Saldanha river and Cabixi II at the Lambari river. These hydroelectric power plants operate as run-of-river plants. Rio Branco and Monte Belo are connected to the Rondônia-Acre isolated grid and Cabixi II to the Cone Sul isolated grid. According to the Brazilian Power Regulatory Agency, ANEEL, in order to be considered as a Small Hydro, the area of the reservoir must be less than 3 km^2. However, the flooded areas are not evidenced in the PDD.	~~CL 1~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
A.2.3. Does the project design engineering reflect current good practices?	/1/	DR	The technology using Francis turbine for run-of-river small hydroelectric plants reflects good practices in the electricity industry.		OK
A.2.4. Will the project result in technology transfer to the host country?	/1/	DR	Not necessarily. The Francis technology is provided by several turbine manufactures in Brazil.		OK
A.2.5. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period? Does the project make provisions for meeting training and maintenance needs?	/1/	DR	The project will require minimal additional training and project maintenance. Moreover, support from the manufacturer is assured.		OK
A.3. Contribution to Sustainable Development The project's contribution to sustainable development is assessed					
A.3.1. Will the project create other environmental or social benefits than GHG emission reductions?	/1/	DR	Not identified		OK
A.3.2. Will the project create any adverse environmental or social effects?	/1/	DR	Although hydroelectric plants in the North Region of Brazil are expected to result in large areas flooded, this aspect is not mentioned in the PDD. DNV requests further information about this.	~~CL 1~~	OK
A.3.3. Is the project in line with sustainable development policies of the host country?	/1/	DR	The project is in line with current sustainable development priorities in Brazil.		OK
A.3.4. Is the project in line with relevant legislation and plans in the host country?	/1/	DR	The project has authorizations to produce energy issued by ANEEL for Rio Branco Hydroelectric (Res 546/2000), Monte Belo Hydroelectric (Des 47/2000) and for Cabixi II (Res 33/2002). Environmental Operation Licenses were mentioned	~~CL 2~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			in the PDD; however, these licenses were not evidenced.		
B. **Project Baseline** The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.					
B.1. Baseline Methodology It is assessed whether the project applies an appropriate baseline methodology.					
B.1.1. Is the selected baseline methodology in line with the baseline methodologies provided for the relevant project category?	/1/	DR	The project applies the simplified baseline methodology for type I.D small-scale CDM project activities (AMS-I.D), i.e. the average of the approximate operating margin and the build margin.		OK
B.1.2. Is the baseline methodology applicable to the project being considered?	/1/	DR	The project applies the baseline methodology for "Renewable electricity generation for a grid" (AMS-I.D). This is applicable to the proposed small hydroelectric run-of-river units and electricity is supplied to the isolated Rondônia-Acre and isolated Cone Sul grids.		OK
B.2. Baseline Determination It is assessed whether the project activity itself is not a likely baseline scenario and whether the selected baseline represents a likely baseline scenario.					
B.2.1. Is it demonstrated that the project activity	/1/	DR	The additionality of the project is demonstrated by	~~**CAR 1**~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
itself is not a likely baseline scenario due to the existence of one or more of the following barriers: investment barriers, technology barriers, barriers due to prevailing practice or other barriers?			applying Attachment A to the Appendix B of the simplified modalities and procedures for CDM small-scale project activities, considering an analysis of the following barriers: (a) investment barriers, (b) technological barriers, (c) barriers due to prevailing practice for two scenarios: i) Continuation of current activities (produce energy by thermal sources) and ii) construction of new renewable energy plants. The PDD concludes that - while the continuation of current activities does not face any barriers, the construction of new renewable energy plants faces an investment barrier and barriers due to prevailing practice. DNV's assessment of the presented investment and barrier and barrier due to prevailing practice is as follows: (a) Investment barriers: As established in the Law 10.438 (26 April 2000) and in the ANEEL resolution 784 (24 December 2002) the new hydroelectric units implemented to supply the isolated grid in the North region of Brazil are eligible to receive back from 50% up to 75% of their investments as an incentive according to the national/sectoral incentive of Fuel Consumption Count (in Portuguese: Conta de Consumo de Combustível – CCC). These incentives are based on the fact that due to characteristic of the geographic morphology of the ground in these isolated area (plateau and plain), the most common electricity generation is through thermal units using diesel or fuel oil. This governmental payment of the investments to the renewable units is made by means of		

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			proportional quotes of the energy sold. The government monthly payment covers the excess cost of the production of energy in these areas; this is calculated by comparing the difference between the costs to produce the same amount of energy in the interconnected area and in these isolated areas. This difference of these costs will be paid until the plant recovers 50% to 75% of the investment. The Monte Belo was recognized as eligible for CCC by ANEEL Resolution 335 (30 August 2000), Cabixi II by Resolution 517 (17 September 2002) and Rio Branco by Resolution 085 (28/February 2005). And all these units will receive 75% of their investments back by means of these subsides. Given the above, DNV questions that the project faces an investment barrier. (c) Barriers due to prevailing practice: The PDD claims that there are barriers due to the energy produced being dependent of the hydrological system, which can change from time to time resulting in less energy produced and less subsidy for the energy producer. This is not an acceptable barrier since the hydrological system in the North region is abundant and continuous. Given the abovementioned reasons it is not sufficiently demonstrated that the project is additional and is not a likely baseline scenario. Moreover, although no explicitly required by Attachment A to the Appendix B of the simplified modalities and procedures for CDM small-scale	~~CAR 2~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			project activities, DNV requests evidence that demonstrates that the CDM was seriously considered in the decision to implement the three hydroelectric units.		
B.2.2. Is the application of the baseline methodology and the discussion and determination of the chosen baseline transparent and conservative?	/1/	DR	The project applies AMS-I.D. This methodology is applicable as the project consists of a renewable energy generation units that supply electricity to an electricity distribution system (i.e. the isolated Rondônia-Acre and the Cone Sul grids - North region of Brazil) that is supplied by at least one fossil fuel generating unit. The baseline emission coefficient is determined as the average of the approximate operating margin (OM) and the build margin (BM), i.e. the combined margin, in accordance with AMS-I.D. Fuel consumption and electricity generation data of the generation units connected to both isolated grids were provided by the Eletrobras-GTON and CERON – UNS/UNSG. IPCC carbon emission factors for specific fuels were applied to calculate plant specific emission coefficients. This is deemed appropriate for small-scale CDM project activities.		OK
B.2.3. Are relevant national and/or sectoral policies and circumstances taken into account?	/1/	DR	The project mentions the National/Sectoral incentive policy of Fuel Consumption Account (Conta de Consumo de Combustíveis – CCC in Portuguese). However, CCC is not adequately discussed in the demonstration of the project's additionality.	~~**CAR 1**~~	OK
B.2.4. Is the baseline selection compatible with the available data?	/1/	DR	Yes		OK
B.2.5. Does the selected baseline represent the most likely scenario describing what would	/1/	DR	Yes		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
have occurred in absence of the project activity?					
C. **Duration of the Project / Crediting Period** It is assessed whether the temporary boundaries of the project are clearly defined.					
C.1.1. Are the project's starting date and operational lifetime clearly defined?	/1/	DR	Constructions in Cabixi II began on 01/10/2001; and Monte Belo started on 01/01/2001 (the project's starting date); however, the Rio Branco unit's starting date (construction) was on 01/05/1999 and this unit is not eligible as CDM project as only projects starting after 1 January 2000 are eligible. A renewable 7-year crediting period was selected, starting in 01/01/2005. The expected operation lifetime of the project is 21 years.	~~**CAR 4**~~	OK
C.1.2. Is the assumed crediting time clearly defined (renewable crediting period of seven years with two possible renewals or fixed crediting period of 10 years with no renewal)?	/1/	DR	Monte Belo has as its starting date of the project activity (construction) 01/01/2001 and of the crediting period 01/01/2005. The initial date of construction as it is presented and the initial date of operations don't seem to be reasonable. At its 20th meeting the CDM Executive Board decided that "*all project activities in the bundle shall have the same crediting period*". Hence, the individual projects in the bundle can not have different starting dates for the crediting period.	~~**CAR 3**~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
D. **Monitoring Plan** The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed.					
D.1. Monitoring Methodology It is assessed whether the project applies an appropriate monitoring methodology.					
D.1.1. Is the selected monitoring methodology in line with the monitoring methodologies provided for the relevant project category?	/1/	DR	The monitoring methodology is according to the AMS-I.D.		OK
D.1.2. Is the monitoring methodology applicable to the project being considered?	/1/	DR	The monitoring methodology, i.e. metering the electricity, is in accordance with the AMS-I.D. The Operating and Build Margin are calculated ex-ante prior to validation.		OK
D.1.3. Is the application of the monitoring methodology transparent?	/1/	DR	Yes.		OK
D.1.4. Will the monitoring methodology give opportunity for real measurements of achieved emission reductions?	/1/	DR	Yes.		OK
D.2. Monitoring of Project Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data	/1/	I	The project consists of 3 small run-of-river hydroelectric power plants and no project		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?			emissions are foreseen.		
D.3. Monitoring of Leakage If applicable, it is assessed whether the monitoring plan provides for reliable and complete leakage data over time.					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	/1/	I	The AMS-I.D. defines leakage as the transfer of equipment from another activity. The project was implemented with new equipment. Hence, no leakage is expected.		OK
D.4. Monitoring of Baseline Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	/1/	I	Yes, see B.2.2.		OK
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	/1/	DR	Yes, See B.2.2.		OK
D.4.3. Will it be possible to monitor / measure the specified baseline indicators?	/1/	DR	The baseline emission coefficient is calculated *ex ante* and will be not monitored.		OK
D.4.4. Will the indicators give opportunity for real measurements of baseline emissions?	/1/	DR	See D.4.3		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
D.5. Project Management Planning It is checked that project implementation is properly prepared for and that critical arrangements are addressed.					
D.5.1. Is the authority and responsibility of project management clearly described?	/1/	DR	Capabilities for project management and monitoring will be further verified during follow-up interviews.	~~CL 3~~	OK
D.5.2. Is the authority and responsibility for registration monitoring measurement and reporting clearly described?	/1/	DR	See D.5.1	~~CL 3~~	OK
D.5.3. Are procedures identified for training of monitoring personnel?	/1/	DR	See D.5.1	~~CL 3~~	OK
D.5.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR	See D.5.1	~~CL 3~~	OK
D.5.5. Are procedures identified for calibration of monitoring equipment?	/1/	DR	See D.5.1	~~CL 3~~	OK
D.5.6. Are procedures identified for maintenance of monitoring equipment and installations?	/1/	DR	See D.5.1	~~CL 3~~	OK
D.5.7. Are procedures identified for monitoring, measurements and reporting?	/1/	DR	See D.5.1	~~CL 3~~	OK
D.5.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/1/	DR	See D.5.1	~~CL 3~~	OK
D.5.9. Are procedures identified for dealing with possible monitoring data adjustments and	/1/	DR	See D.5.1	~~CL 3~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
uncertainties?					
D.5.10. Are procedures identified for internal audits of GHG project compliance with operational requirements as applicable?	/1/	DR	See D.5.1	~~CL 3~~	OK
D.5.11. Are procedures identified for project performance reviews?	/1/	DR	See D.5.1	~~CL 3~~	OK
D.5.12. Are procedures identified for corrective actions?	/1/	DR	See D.5.1	~~CL 3~~	OK
E. **Calculation of GHG emission** It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.					
E.1. Project GHG Emissions The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.					
E.1.1. Are all aspects related to direct and indirect project emissions captured in the project design?	/1/	DR	The project consists of 3 small run-of-river hydroelectric power plants, and no emissions are expected.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
E.2. Leakage It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.					
E.2.1. Are leakage calculation required for the selected project category and if yes, are the relevant leakage effects assessed?	/1/	DR	No leakage is foreseen. See D.3.1		OK
E.3. Baseline GHG Emissions The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.					
E.3.1. Are the baseline emissions boundaries clearly defined and do they sufficiently cover sources for baseline emissions?	/1/	DR	The project boundary is defined as the limits of Rio Branco and Monte Belo hydroelectric plants and Cabixi II hydroelectric plant and the system boundary is defined as the isolated Rondônia-Acre grid and Cone Sul grid, respectively.		OK
E.3.2. Are all aspects related to direct and indirect baseline emissions captured in the project design?	/1/	DR	Yes		OK
E.3.3. Have all relevant greenhouse gases and sources been evaluated?	/1/	DR	The project considers only emission reductions related to CO_2 emitted by fossil fuel electricity generation in the two isolated grids and displaced by the project.		OK
E.3.4. Do the methodologies for calculating baseline emissions comply with existing good practice?	/1/	DR	Yes, according to the AMS I.D.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
E.3.5. Are the calculations documented in a complete and transparent manner?	/1/	DR	The calculations are based on combined factors for both grids. Emission reductions are to be recalculated according to the factors established for each of the two isolated grids, using the most recent available data.	~~CAR 5~~	OK
E.3.6. Have conservative assumptions been used?	/1/	DR	Fuel consumption and electricity generated by the plants of isolated grids were based on data provided by Eletrobras-CERON, however the link of each hydroelectric plant to their respective grid is not clear. DNV request more information about this.	~~CAR 6~~	OK
E.3.7. Are uncertainties in the baseline emissions estimates properly addressed?	/1/	DR	See E.3.6		OK
E.4. Emission Reductions Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
E.4.1. Will the project result in fewer GHG emissions than the baseline case?	/1/	DR	The project is expected to reduce CO_2 emissions to the extent of 310 180 tCO_2e (44 311 tCO_2e / year average) over the defined first renewable 7-year crediting period. .		OK
F. **Environmental Impacts** It is assessed whether environmental impacts of the project are sufficiently addressed.					
F.1.1. Does host country legislation require an analysis of the environmental impacts of the project activity?	/1/	DR	The "Incomex Hydroelectric Project" has been granted the Environmental Licenses. However, these licences were not evidenced. DNV requests a copy of these.	~~CL 2~~	OK
F.1.2. Does the project comply with	/1/	DR	See F.1.1	~~CL 2~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
environmental legislation in the host country?					
F.1.3. Will the project create any adverse environmental effects?	/1/	DR	Hydroelectric plants in the North Region of Brazil typically result in large areas being flooded. This aspect is not mentioned in the PDD and DNV hence requests more information about this.	~~CL 1~~	OK
F.1.4. Have environmental impacts been identified and addressed in the PDD?	/1/	DR	See F.1.1	~~CL 2~~	OK
G. **Comments by Local Stakeholder** Validation of the local stakeholder consultation process.					
G.1.1. Have relevant stakeholders been consulted?	/1/	DR	Local stakeholders were invited to comment on the project in accordance with the requirements of Resolution 1 of the Brazilian DNA. The letters sent to the local stakeholders were not evidenced. DNV requests copy of them	~~CL 4~~	OK
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	/1/	DR	See G.1.1	~~CL 4~~	OK
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/1/	DR	See G.1.1	~~CL 4~~	OK
G.1.4. Is a summary of the comments received provided?	/1/	DR	See G.1.1	~~CL 4~~	OK
G.1.5. Has due account been taken of any comments received?	/1/	DR	See G.1.1	~~CL 4~~	OK

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
CAR 1 As established in the Law 10.438 (26 April 2000) and in the ANEEL resolution 784 (24 December 2002) the new hydroelectric units implemented to supply the isolated grid in the North region of Brazil are eligible to receive back 50% up to 75% of their investments as an incentive according to the national/sectoral incentive of Fuel Consumption Count (in Portuguese: Conta de Consumo de Combustível – CCC). The Monte Belo was recognized as eligible in the CCC by the ANEEL Resolution 335 (30 August 2000), Cabixi II by the Resolution 517 (17 September 2002) and Rio Branco by the Resolution 085 (28/February 2005). And all these units will receive 75% of their investments back by means of these subsides. Given the above, DNV questions that the project faces an investment barrier. The PDD claims that there are barriers due to the energy produced being dependent of the hydrological system, which can change from time to time resulting in less energy produced and less subsidy for the energy producer. This is not an acceptable barrier since the hydrological system in the North region is abundant and continuous. Given the abovementioned reasons it is not sufficiently demonstrated that the project is	B.2.1 B.2.3	a) Investment barriers: Although the plants considered for Incomex Project are subscribed on CCC Subrogation, this cannot be used as incentive in the baseline scenario. This is due to the fact that the CCC Subrogation is a National and/or sectoral policy that gives positive comparative advantages to less emissions-intensive technologies over more emissions-intensive technologies, thus it is classified as type E-, according to the annex 3 of EB meeting nº16. Policies type E- shall not be taken into account in developing a baseline scenario. Besides, even receiving the subsidies from CCC Subrogation, according to the Ministry of Mines and Energy (2004), there are two main financial barriers involved in this project: 1. **Lack of long-term financing available for medium investors** and; 2. **Lack on interest from energy concessionaires.** b)Prevailing practice: According to the same report cited above (Ministry of Mines and Energy, 2004), until the end of 2004, only 12	The CCC Subrogation was established trough the Law nº 8.631, of 4 March de 1993 and Resolution ANEEL nº 245, of 11 August 1999. As mentioned on Annex 3 of EB16 item 3 "Type E-" national and/or sectoral policies or regulations that have been implemented since the adoption by the COP of the CDM M&P (decision 17/CP.7, 11 November 2001) may not be taken into account in developing a baseline scenario (i.e. the baseline scenario should refer to a hypothetical situation without the national and/or sectoral policies or regulations being in place). Considering this, the argumentation is not applicable. DNV requests more information about this.

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
additional and is not a likely baseline scenario.		plants were approved for CCC Subrogation and only 6 are operating. Camargo in Tolmasquim (2004) affirmed that the costs for plants construction are greater in the isolated systems because there are difficulties related to transportation, construction material and equipment displacement. Besides, that region presents difficulties related to natural and logistic barriers, associated to great geographical extensions, which increase the dependence on fossil fuels use. Please see more details about those barriers in track changes in Item B.3.	
CAR 1 (continuation) Considering the CCC Subrogation was implemented before the decision 17/CP.7 the argumentation is not applicable. DNV request more information about this	B.2.1 B.2.3	Project proponents developed a financial analysis showing the difference between the constructions of a thermal plant against the hydro plant. Please see financial barriers in Item B.3 of the PDD.	The justification of difficulties found for hydro units' construction and the scenario evidenced through the low number of hydro units compared with number of thermal units could justify the most likely scenario as a construction of new thermal units on the isolated grid of Rondônia State. Although the CCC incentive increases the IRR of thermal and hydro units operation, the effectiveness of this incentive is not enough to change the scenario on thermal units' favourite construction. DNV is able to conclude that the hydro unit construction is not a likely scenario

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
			for the first renewable credit period. This CAR is therefore closed.
CAR 2 Although no explicitly required by Attachment A to the Appendix B of the simplified modalities and procedures for CDM small-scale project activities, DNV requests evidence that demonstrates that the CDM was seriously considered in the decision to implement the three hydroelectric units.	B.2.1	The proponents had changed information about considering CDM as a possibility for Cabixi II, Rio Branco and Monte Belo. Evidences were sent to the validator.	Evidences of communication between Incomex, and Centrais Elétricas Cassol Ltda - Eletrossol, issued on 23 January 2001 commented the potential of the CDM for Monte Belo unit demonstrated that CDM was seriously considered in the implementation of the three hydroelectric power plants. This CAR is therefore closed.
CAR 3 At its 20th meeting the CDM Executive Board decided that "*all project activities in the bundle shall have the same crediting period*". Hence, the individual projects in the bundle can not have different starting dates for the crediting period.	C.1.2	The Starting date of CDM project activity for 01/01/2001 with respect Monte Belo unit start-up. Please see track changes on Section C.	Section C of the revised PDD provides the requested clarification regarding the start of the first crediting period. This CAR is therefore closed.
CAR 4 Rio Branco has as its starting date of the project activity (construction) and of the crediting period 01/03/1999 and 22/12/2004, respectively. If the construction began on 01/05/1999, this unit is not eligible to CDM	C.1.1	Although the construction began in 1999, the real action of the project activity began in 2001, which means that it started its commercial operations just after 2000. Therefore, it is eligible for CDM. Please see track changes on Section C.	"The starting date of a CDM project activity is the date at which the implementation or construction or real action of a project activity begins." As verified on ANEEL Resolution, the PCH Rio Branco was authorized by Resolution 546 to establish as Independent Electricity Producer on 14 December 2000, so there is some inconsistency on information provided on PDD. Otherwise the Resolution ANEEL 306 issued on 30 September 1998 authorized the implementation the

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
			PCH Monte Belo. DNV requests clarifications about this.
CAR 4 Continued "The starting date of a CDM project activity is the date at which the implementation or construction or real action of a project activity begins." As verified on ANEEL Resolution, the PCH Rio Branco was authorized by Resolution 546 to establish as Independent Electricity Producer on 14 December 2000, so there is some inconsistency on information provided on PDD. Otherwise the Resolution ANEEL 306 issued on 30 September 1998 authorized the implementation the PCH Monte Belo. DNV request clarification about that.		Concerning the **PCH Rio Branco**: this unit has received an official authorization no. 546/2000 to operate. However, this resolution was prorogued by the resolution 232/2003 that postponed the implementation and operation activities of this unit. At last, this was prorogued one more time by the resolution 188/2004 that decided that the unit had to start its operations in the maximum until 01st December 2004. In fact, the official operations of this unit started on December 2004 (according to the ANEEL data on "Resumo Geral do Acompanhamento das Usinas Elétricas; Versão Setembro de 2005- http://www.aneel.gov.br/37.htm ./ PCH com Licença. Concerning the **PCH Monte Belo**: this unit has received an official authorization no. 306/1998 to operate. However, this resolution was prorogued by the resolution 335/2000 that postponed the implementation and operation activities of this unit until maximum November 2000. In fact, the official operations of this unit started on January 2001 (according to the ANEEL data on "Resumo Geral do	According to the document ANEEL "Small Hydroelectric Units Accompaniment" issued on 15/10/2005 the official date of start-up were: Monte Belo – 01 January 2001 Rio Branco – 31 December 2004 Cabixi II – 01 August 2002 This CAR is therefore closed.

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
		Acompanhamento das Usinas Elétricas; Versão Setembro de 2005- http://www.aneel.gov.br/37.htm .	
CAR 5 The calculations made to achieve the emission factors are based on figures from bith grids; emission reductions have to be recalculated according to the factors established for each one of the two isolated regions using the most recent data available.	E.3.5	This was already fixed in the new version 3 of the PDD and also on the correspondent excel spreadsheets. Please see track changes on Section E.	Section E of the revised PDD and the spreadsheet for Cone Sul and Rondônia-Acre grids provides the requested revised CER calculations. This CAR is therefore closed.
CAR 6 The link of each hydroelectric plant with respective grid is not clear. DNV request more information about this.	E.3.6	According to the Operational Plan of 2005 – Isolated Grid (developed Operational Technical Group of the Northern Region – pages 66 until 69), CERON is the company responsible for energy distribution inside Rondônia State. It presents energy purchase contracts with Cabixi II, Monte Belo and Rio Branco, classified as Independent Energy Producers. According to the Table 5.5-8 from this document, both hydro units are considered as energy sources linked to the operational 37 Isolated Systems in Rondônia. Those information will be attached to the validator.	The Operation Plan 2005 mentions the units of Alta Floresta, Altoé I and Santa Luzia that were included on baseline calculation datasheet Final Version. This CAR is therefore closed.
CL 1 According to the Brazilian Power Regulatory Agency, ANEEL, in order to be considered a Small Hydro, the area of the reservoir must	A.2.2 A.3.2 F.1.3	In case of Monte Belo and Rio Branco plants, both units use water directly from the river without any dam or flooded area. In case of Cabixi II, this	Section A.4.2 of the revised PDD provides the requested clarification about the flooded areas. This CL is therefore closed.

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
be less than 3 Km^2. However, the flooded areas are not evidenced in the PDD.		unit presents a 0,2 km^2 of flooded area. None of those units generates more than 30 MW. Please see track changes on Item A.4.2.	
CL 2 The "Incomex Hydroelectric Project" has been granted Environmental Licenses. However, these licences were not evidenced. DNV requests a copy of these.	A.3.4 F.1.1 F.1.2	Operation Licenses for Cabixi II, Monte Belo and Rio Branco were sent directly to the validator.	The following documents were provided: Operation licence 1140/2004 - Cabixi II issued by FEMA/MT on 17/12/2004 valid until 17/12/2005. Temporary Operation licence 1101 issued by NUCOF/SEDAM/RO on 29/06/2005 valid until 29/12/2005 Temporary Operation licence 1102 issued by NUCOF/SEDAM/RO on 29/06/2005 valid until 29/12/2005 This CL is therefore closed.
CL 3 Capabilities for project management and monitoring will be further verified during follow-up interviews.	D.5.1 To D.5.12	The team responsible for plant operation and maintenance consists in: Mr. Reditário Cassol, Mr. Iran Alves de Brito and Mr. José Aldino Lopes. They can be contacted through phone number +55 69 3442 1517. Concerning the measuring, calibration, and data record, CENTRAIS ELÉTRICAS DE RONDÔNIA S/A - CERON / ELETROBRÁS is the responsible for this. The manager, Mr. Tercílio from the Regional Operation Center (inside CERON) can be contacted through +55	Section D.5 of the revised PDD provides the requested clarification on project management. This CL is therefore closed.

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
		69 3442 2230. Please see track changes on Section D, item D.5.	
CL 4 Local stakeholders were invited to comment on the project in accordance with the requirements of Resolution 1 of the Brazilian DNA. The letters sent to the local stakeholders were not evidenced. DNV requests a copy of these.	G.1.1 To G.1.5	All copies of correspondence receipt were sent directly for the validator.	The receipts of letters sent to local stakeholders according to the Resolution 1 of Brazilian DNA were provided. . This CL is therefore closed.

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