VALIDATION REPORT

MONJOLINHO ENERGÉTICA S/A - MONEL

VALIDATION OF THE MONJOLINHO ENERGÉTICA S.A.'S CDM PROJECT

REPORT NO. BRAZIL-VAL/03803/2009

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BUREAU VERITAS CERTIFICATION

VALIDATION REPORT

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Monjolinho Energética S/A MONEL	Marcelo Loureiro

Summary:

Bureau Veritas Certification has made the validation of the Monjolinho Energética S.A.'s CDM project of Monjolinho Energética S/A – MONEL, located in the municipalities of Faxinalzinho, Nonoai, Benjamin Constant do Sul and Entre Rios do Sul, in Rio Grande do Sul, 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 rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

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

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the Clean Development Mechanism Project Design Document Form (CDM-PDD) – Version 03; the Guidelines for completing the project design document (CDM-PDD), and the proposed new baseline and monitoring methodologies (CDM-NM) – Version 07; the Approved consolidated baseline and monitoring methodology ACM0002, "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" - Version 10; the Tool for the demonstration and assessment of additionality – Version 05.2; Annex 12 Methodological Tool "Tool to calculate the emission factor for an electricity system" – Version 2; and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.:	Subject Group:
BRAZIL-val/03803/2009	CDM
Project title:	
Monjolinho Energética S/A's CDM Project	
Work carried out by:	
Antonio Daraya – Lead GHG Verifier Roberval Kaminski – Electrical Specialist Bernardo Aleksandravicius – Financial Specialist	
Work verified by:	
Marco F. Prauchner – Internal Technical Reviewer	

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Indexing terms

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Abbreviations	
ACM	Approved Consolidated Methodology
ANEEL	Agência Nacional de Energia Elétrica (National Agency of Electrical Energy)
BMS	BVQI Management System
BVC	Bureau Veritas Certification
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CH_4	Methane
CIMGC	Comissão Interministerial de Mudança Global do Clima (Interministerial Commission on Global Climate Change)
CL	Clarification Request
CO_2	Carbon Dioxide
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
MONEL	Monjolinho Energética S/A
GHG	Green House Gas(es)
I	Interview
FEPAM	Environmental Protection State Foundation – Rio Grande do Sul
IETA	International Emissions Trading Association
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organisation for Standardization
LI	Installation License
LO	Operation License
LP	Preliminary License
MoV	Means of Verification
MP	Monitoring Plan
NGO	Non Government Organisation
OM	Operating Margin
ONS	Operador Nacional do Sistema Elétrico (National Electric System Operator)
PCF	Prototype Carbon Fund
S-SE-CO	South, Southeast,Midwest(Sul, Sudeste,Centrooeste)
SIN	Sistema Interconectado Nacional (National Interconnected System)
UNFCCC	United Nations Framework Convention for Climate Change
VVM	Validation and Verification Manual

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1 INTRODUCTION

Monjolinho Energética S.A. - MONEL has commissioned Bureau Veritas Certification to validate its CDM project Monjolinho Energética S.A.'s CDM Project (hereafter called "Monjolinho project") at Municipalities of Faxinalzinho, Nonoai, Benjamin Constant do Sul and Entre Rios do Sul, State of Rio Grande do Sul, Brasil.

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

It is important to inform that the Monjolinho Energética S.A.'s CDM Project is being re-submitted for validation. The project was submitted for validation for the first time through the DOE Bureau Veritas Certification Holding S.A. The PDD was up-loaded to the UNFCCC site in the period of 11th April to 10th May 2008 for Stakeholders Comments). After the validation by Bureau Veritas Certification Holding S.A, the project was approved by the Brazilian DNA and received the Letter of Approval in 9th December 2008. Project Proponents requested the project registration in 08th January 2009. The Board opinion expressed in the EB 48th Meeting (17th July 2009) was that: "Monjolinho Energética S.A.'s CDM Project (2362) submitted for registration by the DOE (BVC) could not be registered because the PDD submitted for validation and the project design have undergone major changes without the DOE issuing Corrective Action Requests, and therefore a recommencement of the validation is required.". This opinion was related mainly to the changes occurred in the installed capacity between the first version of the PDD put for validation and the PDD submitted for registration.

Project Participants decided to follow the Board's recommendation and they updated the PDD and recommenced the validation process. When up-dating the PDD with the project information, it was also necessary to review the methodologies and guidelines of the CDM.

1.1 Objective

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

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

1.2 Scope

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

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

1.3 Validation team

The validation team consists of the following personnel:

Antonio Daraya
Bureau Veritas Certification
Team Leader, Climate Change Verifier

Roberval Kaminski
Bureau Veritas Certification, Electrical Specialist

Bernardo Aleksandravicius
Bureau Veritas Certification, Financial Specialist

Marco F. Prauchner
Bureau Veritas Certification, Internal Technical Reviewer

2 METHODOLOGY

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

In order to ensure transparency, a validation protocol was customized for the project, according to the version 01 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 44 meeting on 28/11/2008. The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

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

2.1 Review of Documents

The Project Design Document (PDD) submitted by Monjolinho Energética S.A. - MONEL and additional background documents related to the project design and

baseline, i.e. country Law, Guidelines for Completing the Project Design Document (CDM-PDD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests Monjolinho Energética S.A. - MONEL revised the PDD and resubmitted it on 27/10/2009.

The validation findings presented in this report relate to the project as described in the PDD version 03.

2.2 Follow-up Interviews

On 27/08/2009, Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Monjolinho Energética S.A. – MONEL and of Enerbio Consultoria Ltda. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
MONJOLINHO ENERGÉTICA S.A. - MONEL	►Project description ►Technology used ►Operational aspects ►Contribution towards sustainable development. ►QA/QC procedures ►Internal review / verification mechanism ►Project category ►Baseline & Additionality ►Monitoring Plan
ENERBIO CONSULTORIA LTDA.	►Project description ►Technology used ►Operational aspects ►QA/QC procedures ►Internal review / verification mechanism ►Project category ►Baseline & Additionality ►Monitoring Plan

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Requests (CAR) is issued, where:

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

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

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

3 VALIDATION CONCLUSIONS

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

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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 09 Corrective Action Requests and 05 Clarification Requests.

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

3.1 Approval (49-50)

A letter of approval has not yet been received from the DNA-Designated National Authority.
The final decision from the DNA will be available only after its first ordinary meeting, after the receiving of all the required documents necessary for evaluation, including this validation report, according to Article 6 of the Resolution nº 1 of CIMGC – Comissão Interministerial de Mudança Global do Clima (Interministerial Comission of Global Climate Change).

3.2 Participation (54)

The participation for each project participant has not been approved yet by a Party of the Kyoto Protocol.
Please, refer to section 3.1 of this Validation Report.

3.3 Project design document (57)

The validation team hereby confirms that the PDD complies with:

- Clean Development Mechanism - Project Design Document Form (CDM-PDD), version 03.
- Guidelines for completing the Project Design Document (CDM-PDD) and the Proposed New Baseline and Monitoring Methodologies (CDM-NM), Version 07.

CAR 01, **CAR 02**, **CAR 03**, **CAR 04**, **CAR 05**, **CL01** and **CL 02** were issued with respect to Project Design Document.
They have been satisfactorily resolved and were closed.
Refer to Appendix A.

3.4 Project description (64)

The project activity consists on the supply of clean hydroelectric energy to the Brazilian National Interconnected System (SIN) through the implantation and operation of Hydro Power Plant (HPP) Monjolinho (Alzir dos Santos Antunes), located in the state of Rio Grande do Sul, Southern Region of Brazil, using a small reservoir, with low environmental impact.
The HPP Monjolinho (Alzir dos Santos Antunes) will use the Passo Fundo River's hydraulic potential to generate electricity with an installed capacity of 74 MW. The HPP Monjolinho (Alzir dos Santos Antunes) is a run-of-river hydroelectric power plant with a small reservoir with 5.46 km2. The installed capacity is of 74 MW, composed by:

2 Hydro Generators of 37 MW

The Monjolinho Energética S.A.'s CDM Project is being re-submitted for validation. The project was submitted for validation for the first time through the DOE Bureau Veritas Certification Holding SAS. From 11th April to 10th May 2008 it was up-loaded for Stakeholders Comments. After the validation by Bureau Veritas Certification Holding SAS, the project was approved by the Brazilian DNA and it received the Letter of Approval on 9th December 2008. Project Proponents requested the project registration on 08th January 2009. The Board's opinion, expressed in the EB 48th Meeting (17th July 2009), was that: "Monjolinho Energética S.A.'s CDM Project" (2362) submitted for registration by the DOE (BVC) could not be registered because the PDD submitted for validation and the project design have undergone major changes without the DOE issuing Corrective Action Requests, and therefore a recommencement of the validation is required. This opinion was related mainly to the changes occurred in the installed capacity between the first version of the PDD put for validation and the PDD submitted for registration.
Project Participants decided to follow the Board's recommendation and they updated the PDD and recommenced the validation process. When updating the PDD with the project information, it was also necessary to review the methodologies and guidelines of the CDM.
The main objective of the Hydro Power Plant Monjolinho (Alzir dos Santos Antunes) is to help attend the growing demand for energy in Brazil, due to the country's economical and population growth, supplying clean and renewable energy, contributing, thus, to the environmental, social and economical sustainability, by increasing the participation of clean and renewable energy in relation to the country's total consumption of electricity.

The baseline scenario is the same as the scenario existing prior to the start of implementation of the project activity because the electricity that will be delivered to the grid by the project would have been generated otherwise by the operation of grid-connected power plants and by the addition of new generating sources, as reflected in the combined margin described in the Tool to calculate the emission factor for an electricity system.
The project activity reduces the emissions of green house gases (GHG), avoiding the generation of electricity through sources of fossil fuels with consequent CO2 emissions, which would be produced if the project did not exist. In the absence of the Project, the presence of thermoelectric plants in the National Interconnected System would cause emission of GHGs. The supply of clean and renewable electricity will bring an important contribution to environmental sustainability, reducing the emissions of carbon dioxide taking place in the absence of this project.
Monjolinho Energética S.A. – MONEL – is a special purpose company, constituted to build and operate the Monjolinho hydroelectric plant as its exclusive owner. According to the first additive term in the contract celebrated along with ANEEL (National Agency of Electrical Energy), the implantation schedule of the HPP Monjolinho (Alzir dos Santos Antunes) is described in table 1 of the PDD version 03.
Although the first hydro generator unit commercial operation start is expected to happen on November 1st, 2009, Monjolinho Energética S.A. worked with the goal of anticipating the commercial generation to July/2009 and, for that, it has been developing an acceleration program for the construction plan. This acceleration program worked well and the plant started its operation test phase in July/2009.
Monjolinho Energética S.A – MONEL has as unique shareholder the company Desenvix S.A. Desenvix S.A. is a subsidiary of Engevix Engenharia S.A., created in 1995 to develop new businesses, especially in the area of electric energy generation in three states of Brazil - Rio Grande do Sul, Santa Catarina and Rio de Janeiro – through its controlled companies. Desenvix S.A has participation, besides Monjolinho Energética S.A, in other energy generation entrepreneurships, which totalize 154.85 MW of installed capacity: Dona Francisca Energética (2.65 MW); CERAN (18 MW); Esmeralda S.A (22.20 MW); Santa Laura S.A. (15 MW) and Santa Rosa (installed capacity of 30 MW).
Desenvix S.A. is controlled by Engevix Engenharia S.A, which holds 100% of the social capital and its directors are the same shareholders of the controller company. The history of Desenvix S.A., despite recent, reflects more than four decades of development and growth of its controller company.
Engevix is a Brazilian company, specialized in the services of advisory engineering, responsible for the elaboration of project, integration and management of entrepreneurships in the area of energy, industry and infrastructure. It has more than 42 years of history and has a strong action in and outside Brazil in the sector of hydraulic, thermal and nuclear and through alternative sources of energy generation; transmission and distribution of energy, construction on urban transportation and sanitation, among other sectors. Engevix operates with 1.4 thousand collaborators and has offices in Brazil in the cities of Florianopolis, São Paulo, Rio de Janeiro, Brasília and Curitiba, as well as abroad, in countries such as Angola and Mexico.
Proof of its capacity of realization is the participation in huge projects as the hydroelectric plants of Itaipu, Tucuruí, Capivara, Volta Grande, Salto Caxias, Canoas

I and II; Nuclear Plant Angra II; Metropolitan trains in São Paulo, Rio de Janeiro, Belo Horizonte and Porto Alegre, Subways in São Paulo, Baghdad and Rio de Janeiro; Expansion projects of the steel companies COSIPA, Usiminas, Açominas and CST; Railway in Carajás; Alunorte factory in Barcarena; Airports in São Paulo and Rio de Janeiro (second phase); Bandeirantes, Ayrton Senna and Carvalho Pinto Highways.
A great part of the company's growth history is related to its performance in the energy sector and, this way, Desenvix S.A was created to make the participation of Engevix in energetic generation projects possible. Acting as a holding, the company develops its activities through its controlled companies that exercise the function of independent producers of energy in the national electrical sector.
One of these controlled companies is Monjolinho Energética S.A. – MONEL, created specifically to implement and to operate Monjolinho Energética S.A.'s CDM Project (hereafter referred to as "Monjolinho Project"), which contributes to the sustainable development once contributing to the economic growth without compromising the future generations, respecting the concept of Sustainable Development, established by Brundtland Report, elaborated by the World Commission on Environment and Development, which defines the term "sustainable development" as "the development that satisfies the present necessities, without compromising the capacity of future generations of supplying their own necessities".
Section A.2 of the PDD also shows the PP's view on the contribution of project activity to sustainable development, with a list of the main actions that evidence the Monjolinho Project's contribution to the sustainable development of its region and country.
Through its performance in several sectors of the society and through the investments in the energetic sector, Monjolinho Energética S.A. seeks to continue contributing to the sustainable development of the cities where it acts, in the region and in the country as a whole.
CL 05 was issued with respect to Project Description.
It has been satisfactorily resolved and was closed.
Refer to Appendix A.
The DOE hereby confirms that the project description in PDD version 03 is accurate and complete in all respects.

3.5 Baseline and monitoring methodology

3.5.1 Baseline and monitoring methodology

Title and reference of the approved baseline and monitoring methodology applied to the project activity:

- Approved consolidated baseline and monitoring methodology ACM0002, version 10 – "Consolidated baseline methodology for grid-connected electricity generation from renewable sources."
- Tool for the Demonstration and Assessment of Additionality, Version 05.2.
- Tool to calculate the emission factor for an electricity system, version 2.

The ACM0002 "consolidated baseline methodology for grid-connected electricity generation from renewable sources" is applicable to grid-connected renewable power

generation project activities that install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity.
The ACM0002 methodology can be applicable to Monjolinho Project due to the following aspects:

- HPP Monjolinho (Alzir dos Santos Antunes) is an installation of a new hydro power plant/unit; This information was validated during the plant site visit, on 27/08/2009.
- HPP Monjolinho (Alzir dos Santos Antunes) is a project activity which result in new reservoirs and the power density of the power plant is greater than 4 W/m2 (and it is also greater than 10 W/m2), as described in the table 6 of PDD version 03. This information was validated by the DOE utilizing the Operation License (LO) - no. 2282/2009 – DL, granted by FEPAM on 14/05/2009 and by "Despacho ANEEL no. 2151, of 04/06/2008.

The DOE hereby confirms that the selected baseline and monitoring methodology Approved consolidated baseline and monitoring methodology ACM0002, version 10 – "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", the "Tool for the Demonstration and Assessment of Additionality", Version 05.2 and the "Tool to calculate the emission factor for an electricity system", version 2, are previously approved by the CDM Executive Board, and are applicable to the project activity, which complies with all the applicability conditions therein.

The DOE hereby confirms that, as a result of the implementation of the proposed CDM project activity, there are not greenhouse gas emissions occurring within the proposed CDM project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.
The emission reductions resulting from the project will amount to 114,484 tCO2e per year.

3.5.2 Project boundary (79)

According to the methodology ACM0002, version 10, the spatial extent of the project boundary includes the project power plant and all power plants physically connected to the electricity system that the CDM project power plant is connected to. The HPP Monjolinho is connected to SIN - National Interconnected System.
The DOE validated the project boundary by:
a) The PDD description and other documentation available.
b) A site visit, that took place on August 27, 2009, with observations of the physical site and interviews with representatives of the Project Participants Monjolinho Energética S/A. – MONEL and of Enerbio Consultoria Ltda.
Based on the above assessment, the DOE hereby confirms that the idendified boundary and the selected sources and gases are justified for the project activity.
CAR 04 was issued with respect to Project Boundary.
It has been satisfactorily resolved and was closed.
Refer to Appendix A.

3.5.3 Baseline identification (86-87)

In the absence of the project activity, the clean energy generated by Monjolinho Project dispatched to the Brazilian National Interconnected System (SIN) would have been generated through non-renewable sources from Power Plants connected to the interconnected grid, fostering the emission of greater quantities of green house gases.

According to the methodology ACM0002, if the project activity is the installation of a new renewable grid-connected power generation plant, the baseline scenario is the following:

"Electricity delivered to the grid by the project would have been generated otherwise by the operation of a grid-connected power plant and by the addition of new generating sources, as reflected in the combined margin described in the Tool to calculate the emission factor for an electricity system."

The combined margin emission factor of National Interconnected System will be calculated, according to the "Tool to calculate the emission factor for an electricity system" approved by the CDM Executive Board.

The CO2 emission factors for power generation in the National Interconnected System, necessary for the Combined Margin (CM) calculation, are calculated based on the generation records of plants centrally dispatched by the National Operator of the System (From the Portuguese: Operador Nacional do Sistema - ONS).

It will be used, therefore, the combined margin emission factor for the National Interconnected System to calculate the emission reductions of the project.

This baseline is perfectly applicable to HPP Monjolinho (Alzir dos Santos Antunes).

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

(a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;

(b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;

(c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;

(d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;

(e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

The main sources used to cross check against the PDD were the Methodology ACM0002, version 10, the Tool for the demonstration and assessment of additionality, version 05.2, the Tool to calculate the emission factor for an electricity system, version 2, the UNFCCC site, other CDM projects and the site visit.

3.5.4 Algorithms and/or formulae used to determine emission reductions (91-92)

According to ACM0002 methodology (version 10), the emission reductions are calculated as follows:

ERy = BEy – PEy, where

ERy = Emission Reductions in year y (t CO2e/yr)
BEy = Baseline emissions in year y (t CO2e/yr)
PEy = Project emissions in year y (t CO2e/yr)

BEy Calculation (Baseline emissions in year y (t CO2e/year)

The baseline methodology ACM0002 establishes that baseline emissions include only CO2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.

The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants.

The baseline emission is calculated as follows:

BEy = EGPJ,y * EFgrid,CM,y, where

BEy = Baseline Emissions in year y (t CO2e/year)

EGPJ,y = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

EFgrid,CM,y = Combined margin CO2 emission factor for grid connected power generation in year y, calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"

As the project activity is the installation of a new grid-connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield renewable energy power plants), then:

EGPJ,y = EGfacility,y, where

EGPJ,y = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

EGfacility,y = Quantity of net electricity generation supplied by the project plant to the grid in year y (MWh/yr)

For the ex-ante estimation, it was considered for the variable EGfacility,y the HPP Monjolinho (Alzir dos Santos Antunes)'s assured electricity minus the internal consumption and the losses with transmission and connection.

To calculate EFgrid,CM,y, it was used the data supplied by the Brazilian DNA which makes available the data of Dispatch Data analysis operating margin emission factor and the build margin emission factor through using the steps suggested by the tool to calculate the emission factor for an electricity system (version 2).

The method chosen to calculate Monjolinho Project's emission factor was the Dispatch Data analysis OM. This method was chosen because it is, according to Brazilian DNA, the most accurate and the most recommended, if information is available.

The calculation of the operation margin emission factor follows the dispatch data analysis OM emission factor (EFgrid,OM-DD,y) and it is calculated and defined by the Brazilian Designated National Authority in accordance with the dispatch data of the ONS - National System Operator.

The CO2 emission factors resulting from the power generation in the Brazilian National Interconnected System (SIN) are calculated based on the generation record of plants centrally dispatched by ONS. The procedures for calculation were elaborated in cooperation between ONS, Ministry of Mines and Energy (MME) and the Ministry of Science and Technology (MCT).

Following that procedures, from July of 2008 on, the operating margin emission factor started to be calculated for the National Interconnected System, considering the System as unique, and it became available to be consulted by the interested public and investors.
At the date of the preparation of this PDD, it was available information about dispatch data OM emission factor, related to the whole year of 2008 and some months of 2009.
The dispatch data OM emission factor for the year 2008 was used for an ex-ante estimation of CERs generation, because they are the latest data available.
Regarding the cohort of the power units to be included in the building margin, in terms of vintage of data, project participants can choose between one of the following two options:

Option 1. For the first crediting period, calculate the build margin emission factor ex-ante based on the most recent information available on units already built for sample group m at the time of CDM-PDD submission to the DOE for validation. For the second crediting period, the build margin emission factor should be updated based on the most recent information available on units already built at the time of submission of the request for renewal of the crediting period to the DOE. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used. This option does not require monitoring the emission factor during the crediting period.
Option 2. For the first crediting period, the build margin emission factor shall be updated annually, ex-post, including those units built up to the year of registration of the project activity or, if information up to the year of registration is not yet available, including those units built up to the latest year for which information is available. For the second crediting period, the build margin emission factor shall be calculated ex-ante, as described in option 1 above. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used.
The option that was chosen by project participants was Option 2.
The combined margin emission factor is calculated as follows:

$$EF_{gridCM,y} = EF_{grid\ OM,y} * W_{OM} + EF_{grid\ BM,y} * W_{BM}$$

Where
$EF_{grid,\ BM,y}$ = Build margin CO2 emission factor in year y (tCO2e/ MWh)
$EF_{grid,\ OM,y}$ = Operating Margin CO2 emission factor in year y (tCO2e/ MWh)
W_{OM} = Weight of operating margin emissions factor
W_{BM} = Weight of build margin emissions factor
The tool to calculate the emission factor for an electricity system recommends that the following default values should be used for W_{OM} and W_{BM}:
Wind and Solar power generation project activities: W_{OM} = 0.75 and W_{BM} = 0.25 for the first crediting period and for subsequent crediting periods.
All other projects: W_{OM} = 0.5 and W_{BM} = 0.5 for the first crediting period, and W_{OM} = 0.25 and W_{BM} = 0.75 for the second and third crediting period, unless otherwise specified in the approved methodology which refers to this tool.
For the first crediting period of Monjolinho Project it was adopted the following weights: W_{OM} = 0.50 and W_{BM} = 0.50.

PEy Calculation (project emissions in year y (t CO2e/year))

According to the methodology adopted, for most renewable power generation project activities, PEy = 0.

However some project activities may involve project emissions that can be significant. These emissions shall be accounted for as project emissions by using the following equation:

PEy = PFF,y + PEGP,y + PEHP,y, where

PEy = Project Emissions in year y (tCO2e/yr)

PFF,y = Project emissions from fossil fuel consumption in year y (tCO2/yr)

PEGP,y = Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (tCO2/yr)

PEHP,y = Project emissions from water reservoirs of hydro power plants in year y (tCO2/yr).

For Monjolinho Project PFF,y and PEGP,y are zero.

Emissions from water reservoir

For hydro power project activities that result in new reservoirs and hydro power project activities that result in the increase of existing reservoirs, project proponents shall account for CH4 and CO2 emissions from the reservoir, estimated as follows:

(a) If the power density of the project activity (PD) is greater than 4 W/m2 and less than or equal to 10 W/m2:

$PEHP,y = \frac{EFRes * TEGy}{1000}$ where

PE HP,y = Project emission from water reservoir (tCO2e/yr);

EFRes = Default emission factor for emissions from reservoirs of hydro power plants in year y (Kg CO2e/MWh);

TEGy = Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y (MWh).

(b) If the power density of the project activity is greater than 10 W/m2, PE HP,y = 0.

As described in the table 6 of the section B.2 of PDD, the power density of HPP Monjolinho (Alzir dos Santos Antunes) is higher than 10 W/m2 and PEHP,y = 0 .

Therefore, for Monjolinho Project, PEy = 0.

Leakage

No leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (extraction, processing, and transport). These emissions sources are neglected.

Project Emissions Reductions

Therefore, the project emission reductions are calculated according to the equation

ERy = BEy = EGPJ,y * EFgrid,CM,y.

Note on Brazilian Emission Factor Validation

In order to comply with the guidance provided by the EB-CDM, on its 43rd meeting, regarding the validation of grid emission factors made available to project participants

for use in CDM project activities by some DNAs, the Brazilian DNA sent, in January 2009, official letters addressed to several DOEs inviting them for a meeting with the purpose to grant the opportunity for the DOEs to have access to the calculation of the emission factor of the national grid system.

The DOEs representatives had access to confidential data and were requested by Mr. Miguez from the Brazilian DNA that such information must not be disclosed for national strategic and market reasons.

The DOEs members had the opportunity to: i) assess the formulae used in the calculation spreadsheet; ii) to be informed about the sources of data and information used in the calculation spreadsheet; and, iii) to discuss and to take note of the assumptions adopted by the calculation working group from the Brazilian DNA.

A new meeting was conceded by the Brazilian DNA in order to allow two DOEs representatives to check the findings of the first meeting of 05 February 2009 regarding the Brazilian grid emission factor calculation again.

The second meeting took place in MCT's office, located at Praia do Flamengo, n° 200 – 7th floor, Rio de Janeiro, on 24 July 2009. The following participants attended the meeting: Mr. Newton Paciornik and Ms. Ana Carolina Avzaradel, both from MCT, on behalf of the Brazilian DNA, and; Mr. Ricardo Fontenele (BVC Holding SAS) and David Freire da Costa (DNV), both representing the group of DOEs.

During this second meeting, the DOEs' representatives were able to assess and verify a larger range of samples used in the emission factor calculation spreadsheets. Operating Margin (OM) and Build Margin (BM) data, sources, references, formulas and calculation were verified for the years 2007 and 2008. For the year 2009, only the OM calculation was verified, because the BM for the referred year will be only calculated after the end of 2009, as the Brazilian DNA needs to gather annual consolidated information from the power plants serving the Interconnected National System. In addition, the results of the emission factor calculation spreadsheets were cross-checked with the information made available at the Brazilian DNA website, on a sampling basis, and no discrepancy or inconsistencies of the verified values were found.

The second meeting, on 24 July 2009, was extremely useful for the DOEs' members to assess cross-check and verify complementary data and related information used in the emission factor calculation spreadsheets, given even more credibility and assurance of the calculation provided by the Brazilian DNA.

It was a common sense of the DOEs members, that the calculations provided in the spreadsheet are clearly and transparently demonstrated. The formulae, equations and steps followed in the calculations are in accordance to the "Tool to calculate the emission factor for an electricity system (Version 01.1)". The assumptions made in the calculations are considered reasonable and acceptable.

Under consideration of the general conditions, the group of DOEs express a final favorable validation opinion in regards of the results from the calculation of the emission factor of the Brazilian grid system provided by the Brazilian DNA.

Observation: During the ITR process of the Monjolinho Energética S.A.'s CDM Project, performed by Bureau Veritas Certification, it has been noticed that, during EB 50

meeting it has been approved the version 2 of the "Tool to calculate the emission factor for an electricity system". The DOE assessed this new version of the Tool and understands that the changes in version 02 don't affect the results of the emission factor as calculated by the Brazilian DNA and validated by the DOES during the meetings of February 2009 (1st meeting) and 24 July 2009 (2nd meeting).

Data and parameters available at validation

The following parameters will be available at Validation of project activity:
CapBL = Installed capacity of the hydro power plant before the implementation of the project activity. For Monjolinho project, a new hydro power plant, CapBL = 0.
ABL = Area of the reservoir measured on the surface of the water, before the implementation of the project activity when the reservoir is full. For Monjolinho project, a new hydro power plant, ABL=0.

Ex-ante calculation of emission reductions

As described on the item B.6.1 of the PDD, version 03, the project emission reductions will be calculated based on equation
ERy = BEy – PEy
Where it must be considered PEy = 0 (zero). Therefore, the project emissions reduction will be calculated according to the following equation:

ERy = BEy = EGPJ,y * EFgrid,CM,y.

Where:
ERy = Emission Reduction in year y (tCO2e/ano)
BEy = Baseline emissions in year y (tCO2e/ano)
EGPJ,y = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)
EFgrid,CM,y = Combined margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system".

EGPJ, Calculation

Table 15 of the PDD, version 03, brings the information of the Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr).
For the first monitoring period, from January 01, 2010 to December 31, 2016, the net electricity generation will be of 367,920 MWh/year, calculated as follows:
8,760 hours/year x 42 MW (Assured energy less losses with transmission, connection and internal consumption) = 367,920 MWh/year.

Emission Factor Calculation

Table 16 of PDD version 03 and Annex 3 of the PDD version 03 bring the information of $EF_{grid,OM}$ and $EF_{grid,BM}$, available in the site of the Brazilian Designated National Authority for the complete year of 2008.
$W_{OM} = W_{BM} = 0.5$

$EF_{grid,OM}$ = 0.47658 tCO2e/MWh
$EF_{grid,BM}$ = 0.1458 tCO2e/MWh
$EF_{grid,CM}$ = 0.3112 tCO2e/MWh

Emission reductions

0.3112 x 367,920 = 114,484 tCO2e/year

Or, for the first 7 year crediting period is of

801,391 tCO2e

Note on Assured Energy utilized in Large Scale Hydroelectric Power Plants

The marketable product of a hydro power plant in Brazil is the assured energy. Practically, the marketable energy is a little bit lower than the full assured energy because of the energy losses on the transmission system. The assured energy is formally calculated and established for commercial purposes by the regulators (ANEEL and MME, Ministry of Mines and Energy). For Monjolinho Project, the electricity output of 43.1 MW = Assured energy is the official unique possible value that the project can sell through PPAs – Power Purchase Agreements in the Brazilian Market.

If the project generates more or less than this value, the difference goes to the "Mechanism of Electricity Relocation".

The fundamentals of the "Mechanism of Electricity Relocation" are based on the centralized operation of the whole system, including the power plants and the definition of a marketable energy (named assured energy) for each power plant.

The main objective of the centralized operation is to minimize the thermal operation cost and the system shortages regarding the system security. There are several system characteristics suggesting a centralized operation. The most important are: the complementarily of the hydrology (water inflows) for the different hydrological basins, the existence of several hydro power plants in cascade topology and to the fact that the water on the rivers is considered as a public property which should be optimally used. So, the optimization of the use of water and the minimization of the thermal operation cost can be only achieved with a centralized and coordinated operation. In Brazil, the ONS (National System Operator) has the responsibility of taking the system operation decisions, including the energy generation by the hydro power plants. Only the operation of the Small Hydro Power Plants is not centralized by ONS.

Once the operation is centralized, the power plant owner cannot decide how much energy the plant should produce. To avoid the influence of the centralized operation on commercial aspects, the concept of assured energy was developed. The assured energy is defined for the purpose of commercialization. Its value is calculated and approved by Ministry of Mines and Energy (MME) for all hydro power plants. Its calculation is based on the simulation of the long term system operation, regarding a deficit risk lower than 5%. The commercialization contracts must be registered at CCEE (Electric Energy Commercial Chamber) and must not exceed the assured energy.

The generation of hydropower plants and thermal plants are subject to the centralized dispatch made by ONS (National Operator of the System), considering the availability of the plants that are in conditions for generation. These plants are dispatched to obtain

the minimization of the operation costs and the lowest marginal cost, considering the hydrological influx, the price offered by the thermal plants and the restrictions of operations. This way, the Agents under the centralized dispatch do not have control over their level of electricity generation, independently of their selling commitment based in the assured energy.
The “Mechanism of Electricity Relocation” was created to operationalize the share of the hydrological risks related to the centralized dispatch, hydrological issues and the optimization of the hydro-thermal system by ONS. Its objective is to assure that all plants (from the MRE) receive its assured energy independently of its real generation. Thus, the “Mechanism of Electricity Relocation” relocates the electricity, transferring the surplus of those agents that generated more than their assured energy for those agents that generated less (deficit plants).
The plants with energy surplus had an unexpected increase of costs (operation and maintenance, financial compensation for the use of hydro resources and some other taxes) due to this over production. On the other hand, the deficit plants has a lower production cost than it was expected. Once the MRE locates the extra energy from the plants that generate more to the deficit plants, it is fair that the deficit plants compensate the plants that generated more ones by these extra expenses. This compensation is valued by TEO (Tariff of Energy Optimization). The value o TEO for 2008 is R$ 8.18/MW and is understood as a reimbursement of these extra expenses and not as a payment for any energy commercialization.
It is important to remember that it is impossible to forecast when the plant will generate more than the assured energy and when it will generate less than the assured energy during the project period. The reason for that is that it is impossible to forecast the behaviour of all variables that impact in the generation of electricity, including the performance of the whole system, the quantity of rainfall and droughts. For this fact, it is impossible to say when the plant will have to pay TEO and when it will receive it.
The conclusions are: (i) the maximum amount of energy that can be commercialized is the assured energy, (ii) plants that generate more cannot sell more than its assured energy (iii) the deficit plants are not directly penalized due to its lower energy production but they have to compensate the costs of the plants that had to generate more. Thus, because of the MRE, the differences between energy production and assured energy are irrelevant for the cash flow, both for energy surplus or deficit plants. This mechanism of compensation just pays for the costs that the plants with energy surplus plants will incur to generate more. Therefore the Mechanism of Electricity Relocation does not impact or change the assessment of the investment analysis and, consequently, the additionality of the project.
Based on the above assessment, the DOE hereby confirms that:
(a) All assumptions and data used by the project participants are listed in the PDD, including their references and sources;
(b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;
(c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
(d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;

(e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

3.6 Additionality of a project activity (95)

According to the "Tool for the demonstration and assessment of additionality", a step-wise approach was used to demonstrate and assess the additionality of Monjolinho project:

Step 1: Identification of alternatives to the project activity according to current laws and regulations.

Sub-step 1a. Define alternatives to the project:

1. The realistic alternatives to the project activity are:

- The continuity of the present scenario, with electricity generation happening according to the current generation composition of the National Interconnected System;
- The construction of a new mineral coal thermoelectric power plant, with similar installed capacity to the HPP Monjolinho (Alzir dos Santos Antunes);
- The project activity undertaken without being registered as a CDM Project Activity.

Sub-step 1b. Consistency with mandatory laws and regulations:

Both the project activity and the alternative scenarios are in accordance to the applicable laws and regulations. As exposed in item B.4 of the PDD, version 02, it is in the South Region where the only thermoelectric mineral coal plants of the country are located. Particularly, approximately 38% of thermo electrical coal plants of the country are located in Rio Grande do Sul. Moreover, according to the Brazil's Atlas of Electric Energy, 90% of the national reservations of mineral coal are concentrated in Rio Grande do Sul, where Monjolinho Project is located.

It is also remarkable that according to what was exposed in item B.4, the Ministry of Mines and Energy projects a growth in the offer of energy generation from mineral coal thermoelectric centrals and that this projection indicates that, until 2015, the capacity to generate energy of the entrepreneurships that dispatch energy from mineral coal in the South Region will grow approximately 74%.

It is important to clarify that the Brazilian Institutional New Model of the Electric Sector allows the private and public agents to decide the amount of energy to be hired and the investments to be realized from the participation in auctions of power plants and systems of transmission.

According to MME, "it is the agents of distribution that decide and compromise themselves to pay, through contracts resulting from auctions, amounts of electrical energy coming from new installations of electric energy generation to be delivered (…). With the distributors' information, the generators may then decide which new entrepreneurships of generation they wish to build, presenting in the auctions proposals of selling prices of their electric energy, competing for contracts of energy purchase from distributors. Additionally, the generators may also hire direct and freely with free consumers".

This way, it can be noticed that there are no restrictions in the applicable laws and regulations to the implantation of the alternative scenarios to CDM's project activity. Furthermore, we can also verify that through the MME's projection mentioned before there is even a tendency with great probabilities of occurrence of the alternative scenarios in the absence of projects similar to Monjolinho Project.
It is further noticeable that the Brazilian Institutional New Model of the Electric Sector provides autonomy to the economic agents about the investments to be realized in the Brazilian electric sector, not existing, therefore, restrictions nor impositions to the project activity and to its alternatives.
Thus, both the project activity and the alternative scenarios fulfill all the Brazilian norms and regulations, being also plausible according to the tendencies in the country's electrical sector.

Step 2 - Investment analysis.

This item will be analysed in item 3.6.3 of this report.

Step 3 - Barrier analysis.

This item will be analysed in item 3.6.4 of this report.

Step 4 - Common practice analysis.

This item will be analysed in item 3.6.5 of this report.

CAR 06, **CAR 07**, **CAR 08**, **CAR 09**, **CL 03**, **CL04** and **CL 05** were issued with respect to additionality.
They have been satisfactorily resolved and were closed.
Refer to Appendix A.
As steps 1, 2 and 4 were satisfied, the project is additional.

3.6.1 Prior consideration of the clean development mechanism (102)

The project activity starting date is 16/07/2007, which corresponds to the issuing date of the Construction Service Order (from the Portuguese: Ordem de Serviço de Construção) to COMAX Terraplenagem Ltda, for the service of common excavation of left and right margins and ground work for construction site of HPP Monjolinho (Alzir dos Santos Antunes). This Construction Service Order was checked and confirmed by the DOE.
According to Annex 22 of EB 49 "Guidelines on the demonstration and assessment of prior consideration of the CDM", version 03, as the start date of the proposed project activity is before 2 August 2008 and is prior to the date of publication of the PDD for global stakeholder consultation, to demonstrate that the CDM was seriously considered in the decision to implement the project activity the following elements were satisfied:
(a) The project participant Monjolinho Energética S/A – MONEL demonstrated awareness with the CDM, prior to the project activity start date and that the benefits of the CDM were a decisive factor in the decision to proceed with the project. Evidences to support this include minutes related to the consideration of the decision, by its Board of Directors, to undertake the project as a CDM project activity.
(b) The project participant Monjolinho Energética S/A – MONEL indicated, by means of reliable evidences, that continuing and real actions were taken to secure CDM status for the project, in parallel with its implementation. Evidences to support this include

contracts with consultants for CDM/PDD/methodology services and negotiations with a DOE for validation services.
Item B.5 of the PDD, version 03, presented a timeline table that shows all the actions taken from Project Owner to secure the status of CDM Project for the Project. All the evidences to confirm the timeline were checked by the DOE during the validation process.
Based on the above assessment, the DOE hereby confirms that the proposed CDM project activity complies with the requirements of Annex 22 of EB49.

3.6.2 Identification of alternatives (105)

The DOE considers the list of alternatives complete.

3.6.3 Investment analysis (112)

Step 2: Investment Analysis

Determine whether the proposed project activity is not:
(a) The most economically attractive; or
(b) Economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs).

Sub-step 2a – Determine appropriate analysis method

As the project generates financial and economical benefits, other than CDM related income, it will be used the benchmark analysis as the analysis method.

Sub-step 2b – Option III. Apply benchmark analysis

The option of the project proponent was to use the project internal rate of return (IRR) as the project financial indicator, because it is the most commonly and appropriate indicator used for infrastructure project investment analysis. The project cash flow and the IRR were analyzed by the DOE and considered correct.
As the benchmark, it will be used the Weighted Average Capital Cost (WACC) of the project.
The WACC was utilized as the Project Benchmark because:
- It was based on internationally recommended financial models, normally utilized by pension funds, private equity funds and investment banks.
- All the assumptions used on its calculation were cross-checked and were based on public available sources that could be clearly validated by the DOE. The PDD has all the necessary links to access the data sources. The only data that is not publicly available is the loan cost. It was based on the contract signed with BNDES. This contract was provided by the PP during the validation process.
- The WACC assumptions are in conformance with the best market practices for this investment.
Bureau Veritas Certification was able to confirm the investment analysis and particularly the benchmark analysis presented by Monjolinho

Energética S/A to assess the financial attractiveness of the project activity to demonstrate additionality.
The total capital obtained for the project includes two components: loan and equity. The project IRR is based on the total investment (including the debt and the equity portions). In order to evaluate the financial viability of the project, the project developer is required to assess the expected minimum returns on all components of the investment made. Therefore, the benchmark selected needs to be such that, the expected minimum return takes into consideration the risks associated with each of the components of the total investment. Thus, from an investor's perspective, the WACC is one of the most appropriate benchmarks for comparing with the project IRR, since it is the weighted average of the total cost of the different components of the investment.

The Monjolinho Energética S.A's Weighted Average Capital Cost was calculated according the equation below:

WACC= E/V*Re + D/V*Rd*(1-Tc)

Where:

E/V = Percentage of Equity in Company's Capital Structure;
Re = Cost of Equity;
D/V = Percentage of Debt in Company's Capital Structure;
Rd = Cost of Debt
Tc = Income Tax in Brazil

To calculate the cost of equity it was used the CAPM Model (Capital Assets Price Model), using the following equation:

Re = R*f* + β*i* (ERP)

Where:

Re = Cost of Equity;
R*f* = Rate of Return of a Risk Free Asset;
β*i* = Beta Coefficient;
ERP = Equity Risk Premium;

Sub-step 2c. Calculation and comparison of financial indicators
Table 10 of the PDD shows the assumptions used to prepare Monjolinho Project's cash flow.

The project internal rate of return resulting from the cash flow, calculated according to the above mentioned assumptions is 7.88% per year.

Project IRR = 7.88%

The parameters and assumptions used to determinate the projects IRR were checked and the DOE determined the accuracy and suitability of them.

The installed capacity of 74 MW was cross-checked with "Despachos ANEEL- Agência Nacional de Energia Elétrica - nº 2151, of June 04, 2008, nº 2668, of July 21, 2009 and nº 2785, of July 30, 2009".

The assured energy was cross-checked at the document: "CG0218Monjolinho" page 3.
The project's total investment and capital structure was cross-checked at the document: "Carta Consulta suplementaçao - Monjolinho - abr2009 16 04 09 – Evidência".

The energy price was cross-checked at the document: "PPA".

To calculate the benchmark (weighted average capital cost), the following assumptions were used:
Re = Cost of Equity;
R*f* = Rate of Return of U.S. Treasure (T-Bond) of 30 years + Median of Brazilian Risk between 2001 and 2006 + Average of Adjustment between U.S Inflation and Brazilian Inflation of the years 2004, 2005 and 2006.

Sub-step 2c of the PDD shows the assumptions made to calculate β*i* = Beta Coefficient and table 11 of the PDD shows the values used to calculate the Cost of Equity.
ERP = Equity Risk Premium in Brazil, calculated by Aswath Damodaran, according to Standard & Poors data.
Therefore, according to the calculations,
Cost of Equity = 23.94% per year.

The cost of debt is based on the cost of lending's contract. The Monjolinho project's funding was signed with BNDES, according to conditions described on table 10 of the PDD. For financial and economic modeling effects, TJLP was considered uniform during all lending period, with a value of 6.25% per year. **The cost of debt is composed by TJLP plus 2.1% per year, as banking spread, constituting a total cost of 8.35% per year.**

Cost of Debt = 8.35% per year

The project's capital structure is composed by 29.08% of equity and 70.92% of debt, as described in table 10 of the PDD. Considering a cost of equity of 23.94%, a cost of debt of 8.35%, an Income Tax + Social Contribution of 34% and applying the equation below,

WACC= E/V*Re + D/V*Rd*(1-Tc)

WACC = 10.8%

As Project IRR = 7.88% < WACC = 10.8%

CDM Project Activity cannot be considered as financially attractive.

Sub-step 2d. Sensitivity analysis

The three variables that might affect the project's finance are (i) the electricity price, (ii) the total amount of investment and (iii) the O&M Cost. The sensitivity analysis considers just the scenarios which contribute to increase the project's financial and economical attractiveness with the objective to confirm how solid the sub-step 2b and 2c's analysis is. Table 13 of the PDD presents the results for the main parameters variation which can affect project's cash flow. It can be seen that the total amount of investment is the main item which can affect project's cash flow. The investment's projection is based on macroeconomic, climatic and technologic scenarios that show uncertainties which might burden the investment and to cause a total amount increase. Therefore, the total amount of investment reduction scenario, presented in Sensitivity analysis, is difficult to occur.

The sensitivity analysis demonstrates that the Monjolinho Project is not financially attractive once the entrepreneurship's internal rate of return is lower than the reference indicators in all scenarios analyzed.
The tool for demonstration an assessment of additionality says that:
"If after the sensitivity analysis is concluded that the proposed CDM project activity is unlike to be the most financially attractive, or is unlikely to be financially attractive, then proceed to Step 4 (Common practice analysis)."

Therefore, as the sensitivity analysis has shown that the proposed activity is not attractive in the financial point of view, and step 3, Barrier analysis was not considered in the project, we should proceed to the fourth step, common practice analysis.
CAR 07, **CAR 08**, **CAR 09**, **CL 03** and **CL 04**, were issued with respect to Investment Analysis. They have been satisfactorily resolved and were closed.
Refer to Appendix A.

The DOE, based on the assessment result by the financial expert engaged, hereby confirms that the underlying assumptions are appropriate and the financial calculations are correct.

3.6.4 Barrier analysis (116)

The proposed project activity does not consider the existence of barriers to it and does not use the barrier analysis to demonstrate additionality.

3.6.5 Common practice analysis (119)

According to the information already given in item 1 of this validation report, the "Monjolinho S.A.'s CDM project" is being re-submitted to validation.
During the first validation, one of the questions raised in the CDM's team request for review was related to sub-step 4: Common practice analysis.
The answer of that question to the CDM team was received and accepted.

Step 4: Common practice analysis

Sub-step 4a: Analyze other activities similar to the proposed project activity

It is observed that there are in the South Region of the Country, region where HPP Monjolinho (Alzir dos Santos Antunes) is located, entrepreneurships with activities similar to those of the project being proposed.
Table 14 of the PDD, version 03, presents a summary of the number of electricity generation's entrepreneurships in operation in the Country's South Region, according to existing information ANEEL's website (http://www.aneel.gov.br/area.cfm?idArea=15&idPerfil=2).
The table shows that 12.8% of electricity generation entrepreneurships in the southern region of the country are similar to the Monjolinho project. The greatest part of these entrepreneurships has been implanted by state companies or organs, within the national energy development politics, when the electrical energy sector was still centrally ruled. At that time, environmental legislation was softer and there was, according to Atlas of Electric Energy in Brazil (Atlas de Energia Elétrica do Brasil / Agência Nacional de Energia Elétrica, Página 45. – Brasília: ANEEL, 2002), the option of forming great reservoirs and for the inundation of big flooded areas in the construction of hydroelectric power plants in the country, with little consideration to the environmental aspects of the projects.
As examples of hydroelectric power plants similar to Monjolinho Project, implanted in the South Region, it can be cited HPP Passo Fundo, whose operation started in 1973, with an installed capacity of 220 MW and flooded area of 229.02 km² and the HPP Passo Real, with an installed capacity of 220 MW and a flooded area of 153.5 km², whose operation also started in 1973. Both entrepreneurships were developed by state companies.

Sub-step 4b: Discuss similar options that are occurring

In spite of the existence of projects similar to Monjolinho Project's project activity in operation in the south region of the country, it is necessary to establish peculiar characteristics of these entrepreneurships that do not allow them to be configured as a common business scenario in the country.

According to the Atlas of Electric Energy in Brazil, the hydroelectric energy generation in Brazil is constituted essentially by major entrepreneurships. According to this study, the 23 hydroelectric power centrals of the country with a generation capacity of over 1,000 MW correspond to 71.4% of its installed capacity. Entrepreneurships of this magnitude present, for their generation capacity and consequent capacity of revenues, a great economic viability.
Still according to ANEEL, in the study mentioned above, the use of hydraulic potentials in Brazil for the generation of electric energy has historically demanded the formation of great reservoirs and inundation of big flooded areas. These constructions have used, in the majority of the cases, water accumulation reservoirs and regulations of water flow that provoked alterations in the regimen of water and the formation of microclimates, favouring, damaging or even extinguishing certain species.
Other fact that must be highlighted is that, analyzing the history of Brazilian electrical sector, it is verified that in the past the country's legislation did not incorporate the environmental variable in national electric sector planning. However, facing the undesirable social-environmental impacts resulting from the implantation of hydroelectric entrepreneurships, a series of legal demands that aim at avoiding and mitigating the environmental effects of this kind of project have become demands of the conceding power and of the legislative organs. With this, for the implementation of new hydro projects in Brazil there is a tremendous increase in investments regarding environmental and social issues, where in some cases become so higher that the financial attractiveness of new entrepreneurships can be seriously affected, also becoming not viable the implementation.
HPP Monjolinho (Alzir dos Santos Antunes) is an entrepreneurship that has 74 MW of installed capacity and 43.1 MW of assured energy, being different, therefore, of the great national hydro electrical sites and not having the enormous potential of revenues of this kind of entrepreneurship. Moreover, HPP Monjolinho (Alzir dos Santos Antunes) is a run-of-the-river power plant that has a power density of 13.55 MW/km², with a flooded area of 5.46 km², presenting low environmental impacts and that considers in its planning a series of investments in programs and environmental actions that did not exist when there was the implantation of the greatest part of hydroelectric power plants in the Southern Region. This way, the implantation of this project does not count on large revenues from the great Brazilian hydroelectric entrepreneurships and has minimal environmental impacts that demand investment and, for these characteristics, its cash flow presents return rates below the market references and the revenue from selling certified emission reduction becomes important to make the project possible.
It is also interesting to notice that as mentioned in sub-step 4.a, the number of hydroelectric power plants in the southern region of the country corresponds to only 12.8% of the entrepreneurships of its energetic matrix, presenting a greater concentration of small hydroelectric power plants and thermoelectric power plants. This greater quantity of small hydroelectric power plants in operation is directly associated to economical and tax benefits conceded by the Federal Government and to the creation, through the law nº 10,438, on April 26, 2002, of the Program PROINFA. The massive presence of thermoelectric power plants in the region is closely related to the fact that the region detains 90% of the country's natural coal reserves, favouring thermoelectric power plants implantation.

It is necessary to clarify that Desenvix S.A. is a subsidiary of Engevix Engenharia S.A., created in 1995 to develop new businesses, especially in the area of electric energy generation in three states of Brazil - Rio Grande do Sul, Santa Catarina and Rio de Janeiro through its controlled companies. Desenvix S.A. is controlled by Engevix Engenharia S.A, which holds 100% of the social capital and its directors are the same shareholders of the controller company. A great part of the company's growth history is related to its performance in the energy sector and, this way, Desenvix S.A was created to make the participation of Engevix in energetic generation projects possible. Acting as a holding, the company develops its activities through its controlled companies that exercise the function of independent producers of energy in the national electrical sector. One of these controlled companies is Monjolinho Energética S.A. – MONEL, created specifically to implement and to operate Monjolinho Energética S.A.'s CDM Project.

Furthermore, it is important to highlight that the great majority of Hydro Projects that were not developed by state-owned companies were developed by consortium with several companies that shared the project risks. HPP Monjolinho is being developed by just one company (MONEL), which assumes all the projects risks and investments.

In the South Region of Brazil, region where HPP Monjolinho is located, there are 12 (twelve) hydropower plants above 30 MW that were not built by state-owned entities. It is important to say that in Rio Grande do Sul state, where Monjolinho Project is located, there are only 5 hydropower plants above 30 MW that were not built by state-owned entities, proving that this kind of project activity is not a common practice in this state as will be proven below .

As recommended by the sub-step 4a of the "Tool for the demonstration and assessment of additionality", other CDM Activities (registered project activities and project activities which have been published on the UNFCCC website for global stakeholders consultation as part of the validation process) are not to be included in this analysis.

Therefore, the following HPPs above 30 MW must be excluded from the analysis, because they are CDM Project Activities (or they are registered or they were submitted for global stakeholders consultation):

- Hydropower Plants Fundão and Santa Clara (2 Power Plants in the same project):
http://cdm.unfccc.int/Projects/DB/BVQI1186161655.85/view
- Hydropower Plant Monte Claro:
http://cdm.unfccc.int/Projects/DB/DNVCUK1163591697.79/view
- Hydropower Plant 14 de Julho:
http://cdm.unfccc.int/Projects/DB/SGSUKL1209121131.35/view
- Hydropower Plant Campos Novos:
http://cdm.unfccc.int/Projects/Validation/DB/QJV07OUUF95DPM8EES0YT0G4KEW2DV/view.html.

Therefore, there are only 7 (seven) other Hydropower Plants located in the South Region that were neither built from state-owned entities nor CDM project activities. The essential distinction between them and HPP Monjolinho are described below:

- Hydro Power Plant Machadinho: This entrepreneurship started to be built in 1998. It has an installed capacity of 1,140 MW which means that has an enormous potential of revenues that makes it more profitable and more financially attractive.

It also presents more environmental impacts. Furthermore, to construct this entrepreneurship, it was created a consortium with 11 (eleven) companies associated (7 private companies and 4 state-owned companies). This type of configuration attenuates risks. Due to the size of this Hydropower Plant, it cannot be compared with HPP Monjolinho, because the revenues and the environment impacts are in another level.
- Hydro Power Plant Barra Grande: This project is under validation in the UNFCC (http://cdm.unfccc.int/Projects/Validation/DB/SONAXN2JJ91TO2UMXXJRRC4U6UKECB/view.html) but project proponents have requested the withdrawn from the CDM, therefore we included in this analysis. HPP Barra Grande has 708 MW of installed capacity and 380.6 MW of assured energy which means that has more revenues that makes it more profitable. Besides that, one consortium of 6 big Brazilian companies was formed to construct and operate this Plant.
- Hydropower Plant Castro Alves: This plant was withdrawn from the CDM (http://cdm.unfccc.int/Projects/Validation/DB/CJJACA7U4ILONCA4SXLQVQORWJMKCC/view.html)
and it was also analyzed in common practice analysis. This plant is one enterprise of the CERAN Complex that has three plants (two of them are CDM projects – HPP Monte Claro and HPP 14 de Julho) in the same river (Antas River). CERAN was also implemented by a consortium with three shareholders and one of them is a state-owned company (CEEE) which has 30% of the complex. The fact that the Complex has three plants dilutes risks, mitigates risks of electricity generation and, therefore, risks of revenues generation. Furthermore the consortium formed by three companies also mitigates risks.
- Hydro Power Plant Quebra-Queixo: The installed capacity is 121.5 MW and its assured energy is 59.7 MW what brings more revenues for the project and it makes it more financially attractive than HPP Monjolinho. It is also important to say that HPP Monjolinho is more efficient than HPP Quebra-Queixo because the load factor of HPP Monjolinho is 58.2% and the load factor of HPP Quebra-Queixo is 49.7%. HPP Quebra-Queixo started to be constructed in 2001 before the Kyoto Protocol entered into force. HPP Quebra-Queixo has two shareholders: Construtora Queiroz Galvão and Construtora Barbosa Mello S.A. They shared risks, profits and they can also have an easier access to the capital markets. This Hydropower plant is located in Santa Catarina state.
- Hydro Power Plant Ourinhos: This HPP is located between the states of Paraná and São Paulo.
The construction had to be interrupted in 2003 due to technical and financial problems. Due to these financial problems, one of the biggest industrial group in Brazil, called CBA – Companhia Brasileira de Alumínio – bought the concession from another company (that had achieved the public concession before) and restarted the construction. This HPP has an installed capacity of 44 MW and a flooded area of 5.09523 km2, therefore its power density is 8.63 MW/ km2, less than HPP Monjolinho power density, which means that to provide less energy, HPP Ourinhos needs to flood more area and impact more the environment. As it was said before, HPP Ourinhos started its construction before 2005, year when Kyoto Protocol got into force and due that the former investors faced some financial barriers. The CDM will provide MONEL revenues to develop the project by itself and do not face the financial barriers that the former investors of HPP Ourinhos met. The construction of Hydro

Power Plants by CBA has the objective of supplying electricity for its activities, where today 60% of its necessity of electricity is supplied by own hydro plants, and specifically for Ourinhos, 100 % of its production is for internal consume, which is an essential distinction compared with Monjolinho.
It can be clearly seen that in Rio Grande do Sul, state where Monjolinho Project is located, hydro power plants like HPP Monjolinho are not the common practice in the state because there are few HPPs above 30 MW that are neither built by state-owned companies nor CDM Project Activities and which have different characteristics from HPP Monjolinho that were described above. If the analysis is wider, considering all the South Region, it can be obtained the same conclusion where in the three states of this region, there are only 7 HPPs (including the two located in Rio Grande do Sul) with also different characteristics of HPP Monjolinho. If the analysis is still wider considering the other state where Desenvix S.A acts, Rio de Janeiro State, the same conclusion is also obtained, once just state-owned companies built hydro power plants there.
we can perceive that the reduced number of hydroelectric centrals is responsible for a great part of the country's installed capacity and that the hydroelectric power plants are not the main component in terms of number of entrepreneurships of the energetic matrix in the southern region of Brazil.
Furthermore, it is possible to see that part of the hydroelectric entrepreneurships built in Brazil in the past had a high installed capacity, not respecting or establishing as a priority environmental questions, as it will happen in Monjolinho Project. It can be also clearly noted that the Hydro Power Plants that were built by private companies are usually implemented by consortium, where several companies share the risks. In some of them, there are also state-owned companies in the consortium. HPP Monjolinho is being implemented by one unique investor that supports all risks. These characteristics make Monjolinho Project singular among the other entrepreneurships.

As sub-steps 4a and 4b are satisfied, i.e., similar activities are observed, but essential distinctions between the project activity and similar activities can reasonably be explained, then the proposed project activity is additional.

3.7 Monitoring plan (122)

The Monitoring Plan is elaborated according to the Monitoring Methodology included in the "Consolidated baseline methodology for grid-connected electricity generation from renewable sources ACM0002", version 10.

Responsibilities

- Operation and Maintenance Board: responsible for activities related to the plant's operation and maintenance.
- Special Measurement Area, linked to Operation and Maintenance Board: responsible for collecting information directly from the HPP Monjolinho (Alzir dos Santos Antunes)'s meters and for sending it to Electric Power Commercialization Chamber (CCEE). The Special Measurement Area is also responsible for the consolidation and analysis of monthly generation

spreadsheets and for System of Energy Data Collection (SCDE), through the collected data consistence analysis and software operation monitoring.

- Measurement Outsourced Agent: Part of the Special Measurement Area's responsibility can be outsourced through the hiring of a Measurement Agent. In this case, the Special Measurement Area is responsible for supervising the work performed by the Measurement Outsourced Agent.
- Electric Power Commercialization Chamber (CCEE): it is responsible for implantation, operation and maintenance of SCDE, to enable the collection of electric energy's data for the use of Accounting and Settlement System (SCL), aiming at assuring the accuracy of the amounts measured, as well as the meeting of the required deadlines.

Process Description

I – Procedure of Generation Data Collection

There are two data collection channels in each measurement point. A channel is used by the company for direct collection and the other one is used by CCEE for data validation.

In the company, the Special Measurement Area is responsible for obtaining data directly from the meters and make them available in files in xml format. Data obtained by the company are sent daily to CCEE through SCDE system, which makes the National Interconnected Grid measurement point generation and consumption data's collection and treatment.

The Special Measurement Area is also responsible for generating, at each month in the first working day, based on consultation from a meters' database, the spreadsheets with the generation data, consolidated hourly, regarding the previous month. These files are sent to CCEE in TXT format.

The procedure quoted above might be outsourced through a Measurement Agent's hiring. In this case, the Special Measurement Area is responsible for supervising the work performed by the Measurement Outsourced Agent.

In CCEE, the collected data, through SCDE, are transferred to the software SCL to accounting and financial clearance based on the CCEE's Rules and Procedures for Commercialization.

II – Data Consolidation Procedure

CCEE compares data available and if an inconsistency occurs, it will be generated a non-conformity report that will verify with CCEE the cause for the disagreement between the information.

In case of unavailability of any measurement point, due to maintenances, commissioning or any other reason, the methodology of data estimation will be used according to the item 14.3 of the Commercialization Procedure PdC ME.01.

III – Data Storage

The generation information, both the internally generated and the spreadsheets generated through the CCEE website, are electronically stored by the Operation and Maintenance Board.

Periodically, the Information Technology Area accomplishes an insurance backup for all company's data through a Data Server backup.

All data collected as part of the monitoring will be archived and be kept for at least 2 years after the end of the last crediting period.

IV – Confronting of the internal generation data with the third part reports
The internal information might be confronted with data available on CCEE website.
V – Calibration of Meters (measuring tools)
The calibration of meters will follow what was described in the document elaborated by ONS – Sub module 12.3 - Maintenance of the measurement system for billing, which establishes that:
(a) The periodicity for the responsible agent's preventive maintenance for Measurement System for Billing (SMF) is of 2 (two) years at the most. That periodicity can be altered in function of the occurrence history observed for all facilities.
(b) The preventive maintenance can be postponed by the period of up to 2 (two) years, in the case of happening inspection in the measurement point. The postponement of that maintenance starts to apply from the inspection date.
The DOE hereby confirms that the monitoring plan complies with the requirements of the methodology.
The DOE hereby confirms that the project participants are able to implement the monitoring plan.

3.8 Sustainable development (125)

A letter of approval has not yet been received from the DNA-Designated National Authority.
The final decision from the DNA will be available only after its first ordinary meeting, after the receiving of all the required documents necessary for evaluation, including this validation report, according to Article 6 of the Resolution nº 1 of CIMGC – Comissão Interministerial de Mudança Global do Clima (Interministerial Comission of Global Climate Change).

3.9 Local stakeholder consultation (128)

According to the Resolutions Number 1, 4 and 7 of the Brazilian Designed National Authority (CIMGC – Comissão Interministerial de Mudança Global do Clima / Interministerial Commission on Global Climate Change), project participants shall send letters to local stakeholders 15 days before the start of the validation period, in order to receive comments. In order to satisfy and comply with this ruling, invitation letters describing the project and requesting comments have been sent to the local stakeholders.
The DOE confirms that had access to the confirmation receipts of all the letters.
The PDD has been published in the UNFCCC website in the period of 14/08/2009 to 12/09/2009.
There was only one comment, from the Secretary of Agriculture and Environment of Faxinalzinho City.
The secretary of Agriculture and Environment of this city said that he is optimistic about the project and asked that, in the moment of production and supply of native seedlings to be planted in the outskirts of the dam and of the reservoir, some seedlings be passed to the Secretary with the objective of donating to farmers of some localities in the interior of the municipality. Through this action, the Secretary of Agriculture and

Environment of Faxinalzinho seeks to promote the forestation and reforestation, increasing the area of native forests in all locations of the city.
MONEL incorporated the comment and the request made by the Secretary of Agriculture and Environment of Faxinalzinho in the Reforestation Program of HPP Monjolinho (Alzir dos Santos Antunes), establishing that, in the moment of production and supply of native seedlings to be planted in the area of the entrepreneurship's direct influence, it will be supplied to the Secretary of Agriculture and Environment native seedlings to be supplied to farmers in the interior of the city.
The DOE hereby confirms that the process of local stakeholder consultation is observed to be adequate.

3.10 Environmental impacts (131)

In Brazil, it is required to the sponsor of any project that involves construction, installation, expansion or operation of any polluting or potentially pollutant activity or any other activity that may cause environmental decay, a series of licenses from the pertinent environmental agency (federal and/or local, depending on the project).
To obtain all the environmental licenses, every hydroelectric project must mitigate, when they exist, the following impacts:
- Inundation of indigenous lands and slave historic areas – authorization for that depends on the National Congress resolution;
- Inundation of environmental preservation areas, legally defined as National Parks and Conserve Units;
- Inundation of urban areas or rural communities;
- Reservoirs where future urban expansion will occur;
- Elimination of natural patrimony;
- Expressive losses for other uses of water;
- Inundation of protected historic areas;
- Inundation of cemeteries and other sacred locations.

The process begins with an environmental impact study (EIA) undertaken by the entrepreneur and it follows with the previous analysis (preliminary studies) made by the local environmental department.
Afterwards, if the project is considered environmentally feasible, the sponsors have to prepare an environmental assessment, which is basically composed of the following information:
Reasons to implement the project;
- Project Description, including information related to the reservoir;
- Preliminary Environmental Diagnosis, mentioning the main physical, biotic and anthropic aspects;
- Preliminary estimation of the project impacts; and
- Possible mitigating measures and environmental programs.

The result of these evaluations is the Preliminary License (LP), which reflects the positive understanding of the local environmental agency on the project environmental concepts.
To obtain the installation license (LI), it is necessary to present (a) additional information about the previous assessment; (b) a new simplified assessment; or

(c) the Environmental Basic Project (PBA), according to the resolution of the environmental agency informed in the LP.
The operation license (LO) is requested during the final phase of the construction and it is obtained after the entrepreneur proves that all exigencies made by the local environmental agency were fulfilled.
The following licenses were granted by HPP Monjolinho (Alzir dos Santos Antunes):

Prior License (LP) – nº. 1065/2005 – DL
- Signed on: 19/12/2005
- Valid until: 19/12/2007
Installation License (IL) - nº. 886/2008 – DL
- Signed on: 15/08/2008.
- Valid until: 23/03/2010.
Operation License (LO) - nº. 2282/2009 – DL
- Signed on: 14/05/2009.
- Valid until: 13/05/2013.

4 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Monjolinho Energética S.A.'s CDM Project in Brazil. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

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

Monjolinho Energética S.A., with the implementation of this project activity, that consists on the supply of clean hydroelectric energy to the Brazilian National Interconnected System – SIN, through the implementation and operation of Hydro Power Plant (HPP) Monjolinho (Alzir dos Santos Antunes), with an installed capacity of 74 MW, located in the state of Rio Grande do Sul, Southern Region of Brazil, using a small reservoir with low environmental impact, confirmed that the project is likely to result in reductions of GHG emissions partially. An analysis of the investment demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation version 03 and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to

determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

The validation is based on the information made available to us and the engagement conditions detailed in this report.

Date: 18 November 2009	Date: 18 November 2009
	
Marco F. Prauchner	Antonio Daraya
Internal Technical Reviewer	Lead GHG Verifier

5 REFERENCES

Category 1 Documents:
Documents provided by Type the name of the company that relate directly to the GHG components of the project.

/1/ Project design document (CDM-PDD) – Monjolinho Energética S/A's CDM Project, Version 01, of July 30, 2009.
/2/ Project design document (CDM-PDD) – Monjolinho Energética S/A's CDM Project, Version 02, of October 12, 2009.
/3/ Project design document (CDM-PDD) – Monjolinho Energética S/A's CDM Project, Version 03, of October 27, 2009.
/4/ EFS-Monjolinho - Cronograma atual.xls.
/5/ Sensitivity Analysis 74 MW Final.xls.
/6/ WACC.xls.
/7/ Emission Reduction – Monjolinho.xls.
/8/ LP - Preliminary License nº. 1065/2005 – DL – 19/12/2005 – FEPAM – Fundação Estadual de Proteção Ambiental.
/9/ LI – Installation License nº. 886/2008 – DL – 15/08/2008 – FEPAM – Fundação Estadual de Proteção Ambiental.
/10/ LO – Operation License nº. 2282/2009 – DL – 14/05/2009 to 13/05/2013 – FEPAM – Fundação Estadual de Proteção Ambiental.
/11/ Despacho ANEEL nº. 2.151, of June 04, 2008 – License for the installation of a power capacity of 74 MW at Monjolinho Energética S/A.
/12/ Submódulo 12.3 – Manutenção do Sistema de Medição para Faturamento – ONS.
/13/ PdC ME.01, version 2 - Procedimento de Comercialização – CCEE.

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design or other reference documents.

/1/ Resolução Interministerial 01 - Comissão Interministerial de Mudança Global do Clima, Sep 2003.
/2/ Resolução Interministerial 02 - Comissão Interministerial de Mudança Global do Clima, Aug. 2005.
/3/ Resolução Interministerial 05 - Comissão Interministerial de Mudança Global do Clima, April 2007.
/4/ Resolução Interministerial 06 - Comissão Interministerial de Mudança Global do Clima, June 2006.
/5/ Resolução Interministerial 07 - Comissão Interministerial de Mudança Global do Clima, March 2008.
/6/ Resolução Interministerial 08 - Comissão Interministerial de Mudança Global do Clima, May 2008.
/7/ Clean Development Mechanism Project Design Document Form, (CDM-PDD), version 03 – in effect as of 28 July 2006.
/8/ Annex 12 of EB 41 – Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed New Baseline and

Monitoring Methodologies (CDM-NM), version 07.
/9/ Annex 3 of EB 44 – Clean Development Mechanism Validation and Verification Manual, version 01.
/10/ Approved Consolidated Baseline and Monitoring Methodology ACM0002 "Consolidated Baseline Methodology for Grid-Connected Electricity Generation from Renewable Sources", version 10.
/11/ "Tool for the Demonstration and Assessment of Additionality", version 05.2.
/12/ "Tool to Calculate the Emission Factor for an Electricity System", version 2.
/13/ Kyoto Protocol to the United Nations Framework Convention on Climate Change. United Nations, Dec, 1997.
/14/ Annex 45 of EB 41 Report – Guidance on the Assessment of Investment Analysis, version 02.
/15/ Annex 22 of EB 49 – Guidelines on the demonstration and assessment of prior consideration of the CDM, version 03.

Persons interviewed:

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

/1/ Eduardo Baltar – Enerbio Consultoria Ltda.
/2/ Marcelo Loureiro – Desenvix.
/3/ Nicolau Sarda – Desenvix.
/4/ José Carlos Mota – Enex.
/5/ Glauber Leoni Wandscheer – Enex.
/6/ José Carlos Soares – Monjolinho Energética S/A.

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6. CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Bureau Veritas Certification - Lead GHG Verifier
Antonio Daraya – is graduated in Chemical Engineering with a very large experience in Industrial and Environmental management in several industrial fields. He is ISO 9001:2000, ISO 14001:2004 and OHSAS 18001 Lead Auditor and has also experience in the implementation of Quality and Environmental Management Systems. Antonio is qualified as Lead Verifier GHG – Green House Gases.

Bureau Veritas Certification – Especialista Elétrico
Roberval Kaminski é engenheiro eletricista, com mais de 20 anos de experiência, trabalhando em atividades relacionadas com geração, transmissão e distribuição de eletricidade. As suas principais especializações são: gerenciamento e controle de perdas elétricas técnicas e comerciais em sistemas de energia elétrica; estabelecimento de guias, critérios e procedimentos de conexão ao Sistema de transmissão, para serem usados por cogeradores e por sistemas de distribuição de energia elétrica; análise e implementação de práticas de eficiência energética nos setores industrial e comercial; análise de tarifas; análise de qualidade de energia elétrica de clientes e de fornecedores de energia elétrica; gerenciamento da qualidade de serviços, incluindo serviços comerciais de distribuidores de energia elétrica.

Bureau Veritas Certification – Financial Specialist
Bernardo Aleksandravicius is graduated in Business Administration with a very expressive experience in valuation of new projects in the electrical and technology sectors; Equity analyst with focus on the consumer staples, consumer discretionary, technology and telecommunications sectors for many companies in Brazil.

Bureau Veritas Certification – Internal Technical Reviewer
Marco F. Prauchner – is graduated in Mechanical Engineering with experience in Quality and Environmental management in mechanical, plastic and chemical industries. He is ISO 9001:2000 and ISO 14001:2004 Lead Auditor and has also experience in the implementation of Environmental Management Systems. Marco is qualified as Lead Verifier GHG – Green House Gases.

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APPENDIX A: MONJOLINHO ENERGÉTICA S/A'S CDM PROJECT VALIDATION PROTOCOL

Table 1 – Validation requirements based on the Validation and Verification Manual (EB44 Annex 3)

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl

CHECKLIST QUESTION	RTef.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			*COUNTRY A* *BRAZIL*	*COUNTRY B* *(insert the country name)*		
a. Have all Parties involved approved the project activity?	VVM	44	The final decision from the DNA will be available only after its first ordinary meeting, after the receiving of all the required documents necessary for evaluation, including this validation report, according to Article 6 of the Resolution nº 1 of CIMGC – Comissão Interministerial de Mudança Global do Clima.		OK	OK
b. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD provided a writTen letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participatn or directly from the DNA)	VVM	45	Refer to item 1.a.		OK	OK
c. Does the letter of approval from DNA of each Party involved:	VVM	45				

CHECKLIST QUESTION	RTef.	§	COMMENTS		Draft Concl	Final Concl
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	Refer to item 1.a.		OK	OK
ii. confirm that participation is voluntary?	VVM	45.b	Refer to item 1.a.		OK	OK
iii. confirm that, in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	VVM	45.c	Refer to item 1.a.		OK	OK
iv. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration?	VVM	45.d	Refer to item 1.a.		OK	OK
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	Refer to item 1.a.		OK	OK
e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA)?	VVM	47	Refer to item 1.a.		OK	OK
f. If there is doubt with respect to (e) above, was verified with the DNA that the letter of approval is valid for the proposed CDM project activity under validation?	VVM	47	Refer to item 1.a.		OK	OK
g. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	Refer to item 1.a.		OK	OK
h. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	Refer to item 1.a.		OK	OK
2. Participation			*PP1 - Monjolinho Energética S.A.*	*PP2 - Enerbio Consultoria Ltda*		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Yes.	Yes.	OK	OK
b. Has the participation of the project participants in	VVM	51	Refer to item 1.a.		OK	OK

CHECKLIST QUESTION	RTef.	§	COMMENTS		Draft Concl	Final Concl
the project activity been approved by a Party to the Kyoto Protocol?						
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes.	Yes.	OK	OK
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	Yes.	Yes.	OK	OK
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	Refer to item 1.a.	Refer to item 1.a.	OK	OK
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	No.		OK	OK
g. Has the approval of participation issued from the relevant DNA?	VVM	53	Refer to item 1.a.	Refer to item 1.a.	OK	OK
h. Is there doubt with respect to (g) above? I	VVM	53	Refer to item 1.a.	Refer to item 1.a.	OK	OK
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	Refer to item 1.a.	Refer to item 1.a.	OK	OK
3. Project desing document						
a. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website?	VVM	55	Yes.		OK	OK
b. Is the PDD in accordance with the applicable	VVM	56	No. Refer to **CAR 01** to **CAR 05** and to **CL 01** and		CAR 01	OK

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
CDM requirements for completing the PDD?			**CL 02**.	to CAR 05 CL 01 CL 02	OK
c. In CDM-PDD section A.1 are the following provided?	EB 41	Ann 12			
i. Title of project	EB 41	Ann 12	Yes. Monjolinho Energética S.A.'s CDM Project.	OK	OK
ii. Current version number and date of document	EB 41	Ann 12	Yes. Version 03, of October 27, 2009.	OK	OK
d. In CDM-PDD section A.2 are following provided (max. one page)?	EB 41	Ann 12			
i. A brief description ot the project activity covering purpose which includes the scenario existing prior to the start or project, present scenario and baseline scenario	EB 41	Ann 12	**CAR 01** – According to the section A.2.1.c of the "Guidelines for Completing the Project Design Document (CDM-PDD), version 07, it has not been stated in the section A.2 of the PDD that the baseline scenario is the same as the scenario existing prior to the start of implementation of the project activity.	CAR 01	OK
ii. Explanation on how the GHG emission reductions are effected	EB 41	Ann 12	Yes.	OK	OK
iii. The PP's view on the contribution of project activity to sustainable development	EB 41	Ann 12	Yes.	OK	OK
e. In CDM-PDD section A.3 are following provided in the tabular format?	EB 41	Ann 12			
i. List of project participants and parties	EB 41	Ann 12	Yes.	OK	OK
ii. Identification of Host Party			Yes.	OK	OK
iii. Indication whethre the Party wishes to be	EB	Ann	Yes.	OK	OK

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
considered as project participant	41	12			
f. In CDM-PDD section A.4.1 are following provided?	EB 41	Ann 12			
i. Technical description, location, host party(ies) and address as required	EB 41	Ann 12	Yes.	OK	OK
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 41	Ann 12	Yes.	OK	OK
g. In CDM-PDD section A.4.2 is the list of categoreis of project activities provided?	EB 41	Ann 12	Yes.	OK	OK
h. In CDM-PDD section A.4.3 are following provided?	EB 41	Ann 12			
i. A description of how environmentally safe and sound technology, and know-how, is transferred to the Host Party(ies)	EB 41	Ann 12	Yes. The equipments and technologies employed in the project were developed in Brazil and have already been successfully applied to similar projects in the country and in the world. It is not expected any transfer of know-how or technology to the host country.	OK	OK
ii. Explanation of purpose of project activity with scenario existing prior to the start of project, scope or present activities and the baseline scenario	EB 41	Ann 12	**CAR 02** – According to the section A.4.3 of the "Guidelines for Completing the Project Design Document (CDM-PDD), version 07, section A.4.3 of the PDD is not informing: (a) the scenario existing prior to the start of the implementation of the project, the monitoring equipment and their location in the systems; (c) The baseline scenario as identified in section B.4 of the PDD.	CAR 02	OK
iii. List and arrangement of the main manufacturing/production technologies, systems and equipments involved	EB 41	Ann 12	Yes.	OK	OK

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iv. The emissions sources and GHGs involved	EB 41	Ann 12	**CAR 03** – Section A.4.3 of the PDD is not providing the information of the emission sources and GHGs involved.	CAR 03	OK
i. In CDM-PDD section A.4.4 is the estimation of emission reductions provided as requested in a tabular format?	EB 41	Ann 12	Yes.	OK	OK
j. In CDM-PDD section A.4.5 is Information regarding Public funding provided?	EB 41	Ann 12	Yes.	OK	OK
k. In CDM-PDD section B.1 are following provided?	EB 41	Ann 12			
i. The approved methodology and version number	EB 41	Ann 12	Approved Consolidated Baseline and Monitoring Methodology ACM0002, version 10 – "Consolidated baseline methodology for grid-connected electricity generation from renewable sources".	OK	OK
ii. Any methodologies or tools which the above approved methodology draws upon and their version noumber	EB 41	Ann 12	- Tool for the Demonstration and Assessment of Additionality, version 5.2, - Tool to Calculate the emission factor for an electricity system, version 2.	OK	OK
l. In CDM-PDD section B.2 are following provided?	EB 41	Ann 12			
i. Justification ot the choice of methodology that the project activity meets each of the applicability conditions	EB 41	Ann 12	Yes.	OK	OK
ii. Documentations with references that had been used. This can be provided in Annex 3 instead	EB 41	Ann 12	Yes. Documentation provided in annex 3.	OK	OK
m. In CDM-PDD section B.3 are following provided?	EB 41	Ann 12			
i. Description of all sources and gases included in	EB	Ann	Yes.	CL 01	OK

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the project boundary in the table	41	12	**CL 01** – Please inform if in the third paragraph of section B.3 of the PDD "the special extension of the project boundary" should not be "the spatial extent of the project boundary".		
ii. A flow diagram of the project boundary physically delineating the project activity	EB 41	Ann 12	**CAR 04** – Section B.3 of the PDD has not presented a flow diagram of the project boundary physically delineating the project activity, including in the flow diagram all the equipments, systems and flows of mass and energy described in section A.4.3 of the PDD, particularly representing in the diagram the emissions sources and gases included in the project boundary and the monitoring variables.	CAR 04	OK
iii. The flow diagram with all equipments, systems and flows of mass and energy etc	EB 41	Ann 12	Refer to **CAR 04**.	CAR 04	OK
n. In CDM-PDD section B.4 are following provided?	EB 41	Ann 12			
i. Explanation how the most plausible baseline scenario is identified in accordance with the selected baseline methodology	EB 41	Ann 12	Yes.	OK	OK
ii. Justification of key assumptions and rationales	EB 41	Ann 12	Yes.	OK	OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources, etc.)	EB 41	Ann 12	Yes.	OK	OK
iv. A transparent and detailed description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take	EB 41	Ann 12	Yes.	OK	OK

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place in the absence of the proposed project activity					
o. In CDM-PDD section B.5 are following provided?	EB 41	Ann 12			
i. Explanation of how and why this project activity is additional and therefore not the baseline scenario in accordance with the selected baseline methodology	EB 41	Ann 12	Yes.	OK	OK
ii. Justification of key assumptions and rationales	EB 41	Ann 12	Yes.	OK	OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources etc)	EB 41	Ann 12	Yes.	OK	OK
iv. Evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation	EB 41	Ann 12	Yes.	OK	OK
p. In CDM-PDD section B.6.1 are following provided?	EB 41	Ann 12			
i. Explanation as to how the procedures, in the approved methodology to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity	EB 41	Ann 12	Yes.	OK	OK
ii. Equations used in calculating emission redutions	EB 41	Ann 12	Yes.	OK	OK
iii. Explanation and justification for all relevant methodological choices, including different	EB 41	Ann 12	Yes.	OK	OK

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scenarios or cases, options and default values					
q. In CDM-PDD section B.6.2 are following provided?	EB 41	Ann 12			
i. A compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period AND that are available when validation is undertaken	EB 41	Ann 12	Yes.	OK	OK
ii. The actual value period	EB 41	Ann 12	Yes.	OK	OK
iii. Explanation and justification for the choice of the source of data	EB 41	Ann 12	Yes.	OK	OK
iv. Clear and transparent references or additional documentation in Annex 3	EB 41	Ann 12	Yes.	OK	OK
v. Where values have been measured, a description of the measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results	EB 41	Ann 12	Yes.	OK	OK
r. In CDM-PDD section B.6.3 are following provided?	EB 41	Ann 12	Yes.	OK	OK
i. A transparent *ex ante* calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant	EB 41	Ann 12	Yes.	OK	OK

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equations provided in the approved methodology					
ii. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 41	Ann 12	Yes.	OK	OK
iii. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 41	Ann 12	Yes.	OK	OK
s. In CDM-PDD section B.6.4 are the results of the *ex ante* estimation of emission reductions for all years of the crediting period, provided in a tabular format?	EB 41	Ann 12	Yes.	OK	OK
t. In CDM-PDD section B.7.1 are following provided?	EB 41	Ann 12			
i. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity	EB 41	Ann 12	Yes.	OK	OK
ii. For each parameter the following below information, using the table provided:	EB 41	Ann 12			
a. The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where several sources may be used, explain and justify which data sources should be preferred.	EB 41	Ann 12	Yes.	OK	OK
b. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, including a	EB 41	Ann 12	Yes.	OK	OK

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specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person/entity that should undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment. Provide any relevant further background documentation in Annex 4.					
u. In CDM-PDD section B.7.2 are following provided?	EB 41	Ann 12	**CAR 05** – The version 7 of the applicable methodology ACM0002, as informed is section B.7.2 of the PDD, it is not correct.	CAR 05	OK
i. A detailed description of the monitoring plan	EB 41	Ann 12	Yes.	OK	OK
ii. The operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity	EB 41	Ann 12	Yes.	OK	OK
iii. The responsibilities for and institutional arrangements for data collection and archiving	EB 41	Ann 12	Yes.	OK	OK
iv. Indication that the monitoring plan reflects good monitoring practice appropriate to the type of project activity	EB 41	Ann 12	Yes.	OK	OK

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v. Relevant further background information in Annex 4	EB 41	Ann 12	Yes.	OK	OK
v. In CDM-PDD section B.8 are following provided?	EB 41	Ann 12			
i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	EB 41	Ann 12	Yes.	OK	OK
ii. Contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity	EB 41	Ann 12	Yes.	OK	OK
iii. Indication if the person/entity is also a project participant listed in Annex 1	EB 41	Ann 12	Yes.	OK	OK
w. In CDM-PDD section C.1.1 are following provided?	EB 41	Ann 12			
i. The starting date of a CDM project activity, which is the earliest of the date(s) on which the implementation or construction or real action of a project activity begins/has begun (EB33, Para 76/CDM Glossary of terms/EB41, Para 67)	EB 41	Ann 12	Yes.	OK	OK
ii. A description of how this start date has been determined, and a description of the evidence available to support this start date	EB 41	Ann 12	Yes.	OK	OK
iii. If this starting date is earlier than the date of publication of the CDM-PDD for global stakeholder consultation by a DOE, description in Section B.5 contain a of how the benefits of the CDM were seriously considered prior to the starting date (EB41, Para 68).	EB 41	Ann 12	Yes.	OK	OK

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x. In CDM-PDD section C.1.2 is the expected operational lifetime of the project activity in years and months provided?	EB 41	Ann 12	Yes.	OK	OK
y. In CDM-PDD section C.2 is it stated whether the project activity will use a renewable or a fixed crediting period and is C.2.1 or C.2.2 completed accordingly?	EB 41	Ann 12	Yes.	OK	OK
z. In CDM-PDD section C.2.1 is it indicated that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable?	EB 41	Ann 12	Yes.	OK	OK
aa. In CDM-PDD section C.2.1.1 are dates in the following format: (DD/MM/YYYY) provided?	EB 41	Ann 12	Yes.	OK	OK
bb. In CDM-PDD section C.2.1.2 is the length of the first crediting period in years and months provided?	EB 41	Ann 12	Yes.	OK	OK
cc. In CDM-PDD section C.2.2 is the fixed crediting period at most ten (10) years provided?	EB 41	Ann 12	N.A	-	-
dd. In CDM-PDD section C.2.2.1are the dates provided in the following format: (DD/MM/YYYY)?	EB 41	Ann 12	N.A	-	-
ee. In CDM-PDD section C.2.2.2 is te length of the crediting period in years and months Provided?	EB 41	Ann 12	N.A	-	-
ff. In CDM-PDD section D.2 are the conclusions and all references to support documentation of an environmental impact assessment undertaken in	EB 41	Ann 12	Yes. **CL 02** – Please, inform if, in section D.1 of the PDD, the Installation License is LI or IL, in the	CL 02	OK

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accordance with the procedures as required by the Host Party, if environmental impacts are considered significant by the project participants or the Host, provided?			description of the applicable licenses (IL nº 886/2008 or LI nº 886/2008?).		
gg. In CDM-PDD section E.1 are the following provided?	EB 41	Ann 12			
i. The process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilities comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.	EB 41	Ann 12	Yes.	OK	OK
ii. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures.	EB 41	Ann 12	Yes.	OK	OK
iii. The local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation.	EB 41	Ann 12	Yes.	OK	OK
hh. In CDM-PDD section E.2 are following provided?	EB 41	Ann 12			
i. Identification of local stakeholders that have made comments	EB 41	Ann 12	Yes.	OK	OK
ii. A summary of this comments.	EB 41	Ann 12	Yes.	OK	OK
ii. In CDM-PDD section E.3 is the explanation of	EB	Ann	Yes.	OK	OK

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how due account have been taken of comments received from local stakeholders provided?	41	12			
jj. In CDM-PDD Annex 1 are the following provided?	EB 41	Ann 12			
i. Contact information of project participants	EB 41	Ann 12	Yes.	OK	OK
ii. For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	EB 41	Ann 12	Yes.	OK	OK
kk. In CDM-PDD Annex 2 is information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties provided?	EB 41	Ann 12	Yes. No public funding coming from Annex I countries was used in this project.	OK	OK
ll. In CDM-PDD Annex 3 is the background information used in the application of the baseline methodology provided?	EB 41	Ann 12	Yes.	OK	OK
mm. In CDM-PDD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 41	Ann 12	Yes.	OK	OK
4. Project description					
a. Does the PDD contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?	VVM	58	**CL 05** - Why it has not been stated in section A.2 of the PDD version 01, of July 30, 2009 that "Monjolinho Energética S.A.'s CDM project", is being re-submitted for validation?	CL 05	OK

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b. Is the description of the proposed CDM project activity as contained in the PDD:	VVM	59			
i. sufficiently covering all relevant elements?	VVM	59	Refer to **CAR 01**.	CAR 01	OK
ii. acurate?	VVM	59	Yes.	OK	OK
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	Yes.	OK	OK
c. Is the proposed CDM project activity in existing facilities or or utilizing existing equipments?	VVM	60	No. The project activity will have new facilities and new equipments.	OK	OK
d. Is the CDM project activity one of the following types:	VVM	60			
i. Large scale?	VVM	60	Yes.	OK	OK
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	No.	OK	OK
iii. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	No.	OK	OK
e. If yes to (c) and (d) above, was a physical site inspection conducted to confirm that the description in the PDD reflects the proposed CDM project activity, unless other means are specified in the methodology?	VVM	60	A physical site inspection has been conducted on August 27, 2009.	OK	OK
f. If yes to (d.iii) above, was the number of physical site visits base on samping?	VVM	60	N.A.	-	-
g. If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	N.A.	-	-
h. For all other proposed CDM project activities not referred to in paragraphs 59 – 60, and for other individual proposed small scale CDM project	VVM	62	N.A.	-	-

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activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?					
i. If no:	VVM	62	N.A.	-	-
i. Was the validation undertaken by reviewing available designs and feasibility studies, conducting comparison analysis to equivalent projects, as appropriate?	VVM	62	N.A.	-	-
ii. Was it appropriately justified?	VVM	62	N.A.	-	-
j. Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	N.A.	-	-
k. If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	N.A.	-	-
5. Baseline and monitoring methodology					
a. General requirement					
a. Do the the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board?	VVM	65	Yes. According to section B.1 of the PDD, the project participants are using: - Approved consolidated baseline and monitoring methodology “ACM0002 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 10, - Tool for the demonstration and assessment of additionality, Version 05.2, - Tool to calculate the emission factor for an electricity system, Version 2.	OK	OK

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b. Is the selected methodology applicable to the project activity?	VVM	66	Refer to (5.b.a) below	-	-
c. Had the selected methodology been correctly applied?	VVM	66	Refer to (5.b.c) below	-	-
d. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Refer to (5.c) below	-	-
e. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Refer to (5.d) below	-	-
f. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	Refer to (5.e) below	-	-
g. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	Yes.	OK	OK
h. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	Yes.	OK	OK
b. Applicability of the selected methodology to the project activity					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity?	VVM	68	Yes. The ACM0002 methodology is applicable to Greenfield renewable energy power plants - the installation of a new grid-connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the project activity.	OK	OK
b. Is the methodology correctly quoted?	VVM	69	Yes.	OK	OK
c. Are the applicability conditions of the methodology met?	VVM	70	Yes.	OK	OK
d. Is the proeject activity expected to result in emissions other than those allowed by the	VVM	70	No.	OK	OK

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methodology?					
e. Is the choice of the methodology justified?	VVM	70	Yes.	OK	OK
f. Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	70	Refer to (5.b.c) above	-	-
g. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology component referred to the methodology?	VVM	70	Yes.	OK	OK
h. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?	VVM	70	Yes.	OK	OK
i. If yes, was the PDD cross checked against the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	70	Some of the other sources used to cross check against the PDD to confirm that the project activity meets the applicability conditions were: UNFCCC website, catalogues and other information from the main equipments' suppliers, physical site inspection. The UNFCCC site information were: Methodology ACM0002, version 10, Tool for the Demonstration and Assessment of additionality, version 05.2; Tool to calculate the emission factor for an electricity system, version 2; Project Design Document Form (CDM PDD), version 01; Guidelines for completing the Project Design Document Form (CDM PDD), version 07.	OK	OK
j. Can a determination regarding the applicability of the selected methodology to the proposed CDM	VVM	71	Yes.	OK	OK

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project activity be made?					
k. If no, clarification of the methodoloy was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	71	N.A.	-	-
l. If answer to (5.b.c) above is “no”, revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	N.A.	-	-
m. If yes to (5.b.k) and (5.b.l) above, a request for registration was submited before the CDM Executive Board has approved the proposed deviation or revision?	VVM	73	N.A.	-	-
c. Project boundary					
a. Does the PDD correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity?	VVM	77	According to ACM0002, version 10, the spatial extent of the project boundary includes the project power plant and all power plants physically connected to the electricity system that the CDM project power plant is connected to. The HPP Monjolinho is connected to National Interconnected System.	OK	OK
b. Is the delineation in the PDD of the project boundary correct?	VVM	78	Yes.	OK	OK
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	78	Yes.	OK	OK
d. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	78	Yes.	OK	OK
e. Does the methodology allow project participant to	VVM	78	Yes.	OK	OK

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choose whether a source or gas is to be included within the project boundary?					
f. If yes, have the project participants justified that choice?	VVM	78	The project participants have justified the choice whether a source or gas were included within the project boundary.	OK	OK
g. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	78	The justification was based on assessment of supporting documented evidences (PDD and applicable methodologies and tools).	OK	OK
d. Baseline identification					
a. Does the PDD identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity?	VVM	80	Yes. In the absence of the project activity, the clean energy generated by Monjolinho Project dispatched to the Brazilian National Interconnected System (SIN) would have been generated through non-renewable sources from Power Plants connected to the interconnected grid, fostering the emission of greater quantities of green house gases. According to the methodology ACM0002, if the project activity is the installation of a new renewable grid-connected power generation plant, the baseline scenario is the following: "Electricity delivered to the grid by the project would have been generated otherwise by the operation of a grid-connected power plant and by the addition of new generating sources, as reflected in the combined margin described in the Tool to calculate the emission factor for an electricity system." The combined margin emission factor of National	OK	OK

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			Interconnected System will be calculated, according to the "Tool to calculate the emission factor for an electricity system" approved by the CDM Executive Board. The CO2 emission factors for power generation in the National Interconnected System, necessary to Combined Margin (CM) calculation, are calculated based on the generation record of plants centrally dispatched by the National Operator of the System (From the Portuguese: Operador Nacional do Sistema - ONS). It will be used, therefore, the combined margin emission factor for the National Interconnected System to calculate the emission reductions of the project. This baseline is perfectly applicable to HPP Monjolinho (Alzir dos Santos Antunes).		

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	81	Yes.	OK	OK
c. Does the selected methodology require use of tools (such as the "Tool for the demonstration and assessment of additionality" and the "Combined tool to identify the baseline scenario and demonstrate additionality") to establish the baseline scenario?	VVM	81	No. To identify the baseline scenario it has been utilized the procedure existing in the Methodology ACM0002, version 10.	OK	OK
d. If yes, was the methodology consulted on the application of thes tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	81	N.A.	-	-
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	82	No.	OK	OK
f. If yes, are all scenarios that are considered by the project participants and are supplementary to those required by the methodology reasonable in the context of the proposed CDM project activity?	VVM	82	N.A.	-	-
g. Has any reasonable alternative scenario been excluded?	VVM	82	N.A.	OK	OK
h. Is the baseline scenario identified reasonably supported by:	VVM	83			
i. Assumptions?	VVM	83	No.	OK	OK
ii. Calculations?	VVM	83	No.	OK	OK
iii. Rationales?	VVM	83	Yes.	OK	OK
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	83			

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j. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (idendify the sources)	VVM	83	Yes. The main sources used to cross check against the PDD was the Methodology ACM0002, version 10, Tool for the demonstration and assessment of additionality, version 05.2, Tool to calculate the emission factor for an electricity system, version 2, the UNFCCC site, other CDM projects and the site visit.	OK	OK
k. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	84	Yes.	OK	OK
l. Have all relevatn policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	84	Yes.	OK	OK
m. Does the PDD provide a verifiable 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?	VVM	85	Yes.	OK	OK
e. Algorithms and/or formulae used to determine emission reductions					
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring?	VVM	88	Yes.	OK	OK
b. Have the equations and parameters in the PDD	VVM	89	Yes. According to ACM0002 methodology	OK	OK

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been correctly applied with respect those in the select approved methodology?			(version 10), the emission reductions are calculated as follows: ERy = BEy – PEy, where ERy = Emission Reductions in year y (t CO2e/yr) BEy = Baseline emissions in year y (t CO2e/yr) PEy = Project emissions in year y (t CO2e/yr) **BEy Calculation (Baseline emissions in year y (t CO2e/year)** The baseline methodology ACM0002 establishes that baseline emissions include only CO2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. The baseline emission is calculated as follows: BEy = EGPJ,y * EFgrid,CM,y, where BEy = Baseline Emissions in year y (t CO2e/year) EGPJ,y = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr) EFgrid,CM,y = Combined margin CO2 emission factor for grid connected power generation in year y, calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"		

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			As the project activity is the installation of a new grid-connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield renewable energy power plants), then: EGPJ,y = EGfacility,y, where EGPJ,y = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr) EGfacility,y = Quantity of net electricity generation supplied by the project plant to the grid in year y (MWh/yr) For the ex-ante estimation, it was considered for the variable EGfacility,y the HPP Monjolinho (Alzir dos Santos Antunes)' s assured electricity minus the internal consumption and the losses with transmission and connection. To calculate EFgrid,CM,y, it was used the data supplied by the Brazilian DNA which makes available the data of Dispatch Data analysis operating margin emission factor and the build margin emission factor through using the steps suggested by the tool to calculate the emission factor for an electricity system (version 2). The method chosen to calculate Monjolinho Project's emission factor was the Dispatch Data analysis OM. This method was chosen because it is, according to Brazilian DNA, the most accurate		

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
			and the most recommended, if information is available. The calculation of the operation margin emission factor follows the dispatch data analysis OM emission factor (EFgrid,OM-DD,y) and it is calculated and defined by the Brazilian Designated National Authority in accordance with the dispatch data of the ONS - National System Operator. The CO2 emission factors resulting from the power generation in the Brazilian National Interconnected System (SIN) are calculated based on the generation record of plants centrally dispatched by ONS. The procedures for calculation were elaborated in cooperation between ONS, Ministry of Mines and Energy (MME) and the Ministry of Science and Technology (MCT). Following that procedures, from July of 2008 on, the operating margin emission factor started to be calculated for the National Interconnected System, considering the System as unique, and it became available to be consulted by the interested public and investors. At the date of the preparation of this PDD, it was available information about dispatch data OM emission factor, related to the whole year of 2008 and some months of 2009. The dispatch data OM emission factor for the year 2008 was used for an ex-ante estimation of CERs		

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
			generation, because they are the latest data available. Regarding the cohort of the power units to be included in the building margin, in terms of vintage of data, project participants can choose between one of the following two options: Option 1. For the first crediting period, calculate the build margin emission factor ex-ante based on the most recent information available on units already built for sample group m at the time of CDM-PDD submission to the DOE for validation. For the second crediting period, the build margin emission factor should be updated based on the most recent information available on units already built at the time of submission of the request for renewal of the crediting period to the DOE. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used. This option does not require monitoring the emission factor during the crediting period. Option 2. For the first crediting period, the build margin emission factor shall be updated annually, ex-post, including those units built up to the year of registration of the project activity or, if information up to the year of registration is not yet available, including those units built up to the latest year for which information is available. For the second crediting period, the build margin emission factor shall be calculated ex-ante, as		

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			described in option 1 above. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used. The option that was chosen by project participants was Option 2. The combined margin emission factor is calculated as follows: $EF_{gridCM,y} = EF_{grid\ OM,y} * W_{OM} + EF_{grid\ BM,y} * W_{BM}$ Where $EF_{grid,\ BM,y}$ = Build margin CO2 emission factor in year y (tCO2e/ MWh) $EF_{grid,\ OM,y}$ = Operating Margin CO2 emission factor in year y (tCO2e/ MWh) W_{OM} = Weight of operating margin emissions factor W_{BM} = Weight of build margin emissions factor The tool to calculate the emission factor for an electricity system recommends that the following default values should be used for W_{OM} and W_{BM}: Wind and Solar power generation project activities: W_{OM} = 0.75 and W_{BM} = 0.25 for the first crediting period and for subsequent crediting periods. All other projects: W_{OM} = 0.5 and W_{BM} = 0.5 for the first crediting period, and W_{OM} = 0.25 and W_{BM} = 0.75 for the second and third crediting period, unless otherwise specified in the approved methodology which refers to this tool. For the first crediting period of Monjolinho Project		

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			it was adopted the following weights: W_{OM} = 0.50 and W_{BM} = 0.50. **PEy Calculation (project emissions in year y (t CO2e/year))** According to the methodology adopted, for most renewable power generation project activities, PEy = 0. However some project activities may involve project emissions that can be significant. These emissions shall be accounted for as project emissions by using the following equation: PEy = PFF,y + PEGP,y + PEHP,y, where PEy = Project Emissions in year y (tCO2e/yr) PFF,y = Project emissions from fossil fuel consumption in year y (tCO2/yr) PEGP,y = Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (tCO2/yr) PEHP,y = Project emissions from water reservoirs of hydro power plants in year y (tCO2/yr). For Monjolinho Project PFF,y and PEGP,y are zero. **Emissions from water reservoir** For hydro power project activities that result in new reservoirs and hydro power project activities that result in the increase of existing reservoirs, project proponents shall account for CH4 and CO2 emissions from the reservoir, estimated as follows:		

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
			(a) If the power density of the project activity (PD) is greater than 4 W/m2 and less than or equal to 10 W/m2: PEHP,y = EFRes*TEGy / 1000 where PE HP,y = Project emission from water reservoir (tCO2e/yr); EFRes = Default emission factor for emissions from reservoirs of hydro power plants in year y (Kg CO2e/MWh); TEGy = Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y (MWh). (b) If the power density of the project activity is greater than 10 W/m2, PE HP,y = 0. As described in the table 6 of the section B.2 of PDD, the power density of HPP Monjolinho (Alzir dos Santos Antunes) is higher than 10 W/m2 and PEHP,y = 0 . Therefore, for Monjolinho Project, PEy = 0. **Leakage** No leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (extraction, processing, and transport). These emissions sources are neglected. **Project Emissions Reductions**		

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			Therefore, the project emission reductions are calculated according to the equation ERy = BEy = EGPJ,y * EFgrid,CM,y.		

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c. Does the methodology provide for selection between different options for equations or parameters?	VVM	89	Yes.	OK	OK
d. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?	VVM	89	Yes.	OK	OK
e. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	89	Refer to (5.e.b) above	-	-
f. Will data and parameters be monitored throughout the crediting period of the proposed CDM project activity?	VVM	90	Yes.	OK	OK
g. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	90			
i. Appropriate and correct?	VVM	90	N.A.	-	-
ii. Applicable to the proposed CDM project activity?	VVM	90	N.A.	-	-
iii. Resulting in a conservative estimate of the emission reductions?	VVM	90	N.A.	-	-
h. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	90	Yes. The following parameters will be available at Validation of project activity: Cap_{BL} = Installed capacity of the hydro power plant before the implementation of the project activity. For Monjolinho project, a new hydro power plant, $Cap_{BL} = 0$. A_{BL} = Area of the reservoir measured on the	OK	OK

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			surface of the water, before the implementation of the project activity when the reservoir is full. For Monjolinho project, a new hydro power plant, A_{BL}=0.		

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i. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	90	Yes.	OK	OK
6. Additionality of a project activity					
a. Does the PDD describe how a proposed CDM projet activity is additional?	VVM	93	Yes.	OK	OK
b. Does the CDM-PDD state the latest version of the additionality tool being used?	VVM	94	Yes. "Tool for the demonstration and assessment of additionality", version 05.2.	OK	OK
c. Were the following steps of the tool to assess additionality used:	EB 39	Ann 10			
i. Identification of alternatives to the project activity?	EB 39	Ann 10	Yes.	OK	OK
ii. Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible?	EB 39	Ann 10	Yes.	OK	OK
iii. Barriers analysis?	EB 39	Ann 10	No.	OK	OK
iv. Common practice analysis?	EB 39	Ann 10	Yes.	OK	OK
d. In step 1 (i) have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 1a: Define alternatives to the project activity	EB 39	Ann 10	Yes.	OK	OK
ii. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	Yes. **CAR 06** – According to the "Tool for the demonstration and assessment of additionality", version 05.2, the name of the sub-step 1b "Compliment with the applicable laws and norms" it is not correct in the PDD, version 1.	CAR 06	OK

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
e. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10			
i. (a) The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Yes.	OK	OK
ii. (b) Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;	EB 39	Ann 10	Yes.	OK	OK
iii. (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Yes.	OK	OK
f. Has the project participant included the technologies or practices that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently being introduced in the relevant country/region?	EB 39	Ann 10	Yes.	OK	OK
g. Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly? Please briefly mention the outcome.	EB 39	Ann 10	Yes. Realistic and credible alternatives have been have been established in section B5 of the PDD, which may be summarized: 1 - The continuity of the present scenario, with electricity generation happening according to the current generation composition of the National Interconnected System;	OK	OK

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			2 - The construction of a new mineral coal thermoelectric power plant, with similar installed capacity to HPP Monjolinho (Alzir dos Santos Antunes); 3 - The project activity undertaken without being registered as a CDM Project Activity.		

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h. Is the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.?	EB 39	Ann 10	Yes.	OK	OK
i. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country?	EB 39	Ann 10	N.A.	-	-
j. Has the outcome of Step 1b: Identified realistic and credible alternative scenario(s) to the project activity that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations done correctly? Please state the outcome.	EB 39	Ann 10	Both the project and the alternative scenario are in compliance with all the regulations, according to the following entities: National Electric System Operator (ONS - Operador Nacional do Sistema Elétrico), Electricity Regulatory Agency (ANEEL - Agência Nacional de Energia Elétrica), FEPAM – Environmental Protection State Foundation – Rio Grande do Sul and the CDM Executive Board.	OK	OK
k. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	The PP has selected Step 2 (Investment analysis).	OK	OK
l. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10	Yes.	OK	OK

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ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	No.	OK	OK
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	No.	OK	OK
iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Yes.	OK	OK
v. Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	Yes.	OK	OK
vi. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Yes.	OK	OK
m. In sub-step 2a has the determination of appropraite method of analysis done as per the guidance as below?	EB 39	Ann 10			
i. Simple cost analysis if the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income (Option I).	EB 39	Ann 10	No.	OK	OK
ii. Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	EB 39	Ann 10	Yes. It was used the project internal rate of return (IRR) as a project financial indicator, due to it is the most commonly and appropriate indicator used for infrastructure projects' investment analysis. As a benchmark, it was used the Weighted Average Capital Cost – WACC - of the project.	OK	OK
n. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step1 and	EB 39	Ann 10	No.	OK	OK

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demonstrate that there is at least one alternative which is less costly than the project activity.					
o. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis? Identify the financial indicator, such as IRR, NPV, cost benefit ratio, or unit cost of service most suitable for the project type and decision-making context. Please specify	EB 39	Ann 10	No.	OK	OK
p. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10	Yes.	OK	OK
i. Identify the financial/economic indicator, such as IRR, most suitable for the project type and decision context.	EB 39	Ann 10	It was used the project internal rate of return (IRR) as the project financial indicator, due to it is the most commonly and appropriate indicator used for infrastructure projects' investment analysis.	OK	OK
ii. 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, but not linked to the subjective profitability expectation or risk profile of a particular project developer. 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.	EB 39	Ann 10	The financial/economic analysis was based on parameters that are standard in the market, considering the specific characteristics of the project type, not linked to the subjective profitability expectation or risk profile of a particular project developer.	OK	OK
iii. Discount rates and benchmarks shall be derived from: (a) Government bond rates,	EB 39	Ann 10	The choice was (c) company internal benchmark (weighted average capital cost of the company).	OK	OK

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increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for investment decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately justified. Please specify benchmark and justify.			The WACC – Weighted Average Capital Cost was utilized as the Project Benchmark because: - It was based on internationally recommended financial models, normally utilized by pension funds, private equity funds and investment banks. - All the components utilized on its calculation are based on data sources publicly available that could be clearly validated by the DOE. The PDD has all the necessary links to access the data sources. The only data that is not publicly available is the loan cost. It was based on the contract signed with BNDES. This contract was available to Bureau Veritas Certification during the validation.		
q. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 39	Ann 10	Refer to items i to vi.	CL 04	OK
i. Calculate the suitable financial indicator for the	EB	Ann	Monjolinho Energética S.A. considers the project's	O K	OK

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	proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.	39	10	cash flow a confidential information and, thus, it was presented entirely to the Designated Operational Entity which performed the validation and, If considered necessary, to any entity linked to the CDM that asks it for the purpose of proving the project's additionality. However, it was not be available in the PDD. The cash flow was elaborated according to the assumptions listed in table 10 of the PDD, version 03.		
ii.	Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD.	EB 39	Ann 10	The investment analysis was presented in separate annexes to the CDM-PDD, in a transparent manner and provides all the relevant assumptions. Please, refer to item 6.q.i.	OK	OK
iii.	Justify and/or cite assumptions.	EB 39	Ann 10	- Installed capacity = 74 MW - Assured energy = 43.1 MW The assured energy is formally calculated and established for commercial purposes by the regulators (ANEEL and MME, Ministry of Mines and Energy). - Commercializable Energy = 42 MW Calculated from the assured energy, deducting connection losses and transmission losses. - Selling price = R$ 124.52/MWh For the other assumptions, please refer to table 10 of the PDD version 01. Please, refer to **CL 04**.	CL 04	OK

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iv. In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 39	Ann 10	The financial/economic indicator chosen was the IRR, calculated in the cash flow elaborated according to the assumptions listed in table 10 of the PDD, version 03, and provided to the DOE in separate annexes to the CDM-PDD.	OK	OK
v. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 39	Ann 10	The assumptions and input data for the investment analysis do not differ across the project activity and its alternatives.	OK	OK
vi. Present in the CDM-PDD a clear comparison of the financial indicator for the proposed CDM activity.Please specify details for above.	EB 39	Ann 10	The financial indicator is the IRR = 7.88%. The benchmark utilized was WACC = 10.8%, according to the calculations presented in separate annexes to the CDM-PDD.	OK	OK
r. Has the below guideline followed for Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)? Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions.	EB 39	Ann 10	The sensitivity analysis was presented in sub-step 2 d of the PDD. Please, refer to **CAR 08** and to **CAR 09**.	CAR 08 CAR 09	OK OK
s. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Yes. Outcome of step 2: The sensitivity analysis demonstrates that the Monjolinho Project is not financially attractive once the entrepreneurship's internal rate of return is lower than the reference indicators in all scenarios analyzed. The tool for demonstration an assessment of additionality says that: "If after the sensitivity analysis is concluded that the proposed CDM project activity is unlike to be	OK	OK

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			the most financially attractive (as per step 2c -8a) or is unlikely to be financially attractive (as per step 2c – 8b), then proceed to Step 4 (Common practice analysis)."		

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t. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10	N.A.	-	-
i. Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity;	EB 39	Ann 10	N.A.	-	-
ii. Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity).	EB 39	Ann 10	N.A.	-	-
u. Has the below guideline followed for Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project?	EB 39	Ann 10	N.A.	-	-
i. (a) Investment barriers: For alternatives undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. No private capital is available from domestic or international capital markets due to real or perceived risks associated with investment in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investments reports of reputed origin.	EB 39	Ann 10	N.A.	-	-
ii. (b) Technological barriers: Skilled and/or properly trained labour to operate and maintain the technology is not available in the relevant country/region, which leads to an unacceptably high risk of equipment disrepair and	EB 39	Ann 10	N.A.	-	-

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malfunctioning or other underperformance; Lack of infrastructure for implementation and logistics for maintenance of the technology, Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information, The particular technology used in the proposed project activity is not available in the relevant region.					
iii. (c) Barriers due to prevailing practice: The project activity is the "first of its kind".	EB 39	Ann 10	N.A.	-	-
iv. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	N.A.	-	-
v. Has the outcome from Step 3a clearly mentioned in PDD?	EB 39	Ann 10	N.A.	-	-
w. Has the below guideline followed for Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)?	EB 39	Ann 10	N.A.	-	-
i. If the identified barriers also affect other alternatives, explain how they are affected less strongly than they affect the proposed CDM project activity. In other words, demonstrate that the identified barriers do not prevent the	EB 39	Ann 10	N.A.	-	-

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implementation of at least one of the alternatives. Any alternative that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration.					
ii. Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers and whether alternatives are prevented by these barriers.	EB 39	Ann 10	N.A.	-	-
iii. The type of evidence to be provided should include at least one of the following: (a) Relevant legislation, regulatory information or industry norms; (b) Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, industry associations, companies, bilateral/multilateral institutions, etc; (c) Relevant statistical data from national or international statistics; (d) Documentation of relevant market data (e.g. market prices, tariffs, rules); (e) Written documentation of independent expert judgments from industry, educational institutions (e.g. universities, technical schools, training centres), industry associations and others. Please specify.	EB 39	Ann 10	N.A.	-	-
x. Has the outcome from Step 3 clearly mentioned in PDD?	EB 39	Ann 10	N.A.	-	-

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y. In step 4: Common practice analysis have all the sub-steps as below followed?	EB 39	Ann 10			
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	Yes.	OK	OK
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	Yes.	OK	OK
z. Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	It is observed that there are in the South Region of the Country, region where HPP Monjolinho (Alzir dos Santos Antunes) is located, entrepreneurships with activities similar to those of the project being proposed. Table 14 of the PDD, version 03, presents a summary of the numbers of electricity generation's entrepreneurships in operation in the Country's South Region, according to existing information ANEEL's website (http://www.aneel.gov.br/area.cfm?idArea=15&idPerfil=2). The table shows that 12.8% of electricity generation entrepreneurships in the southern region of the country are similar to the Monjolinho project. The greatest part of these entrepreneurships has been implanted by state companies or organs, within the national energy development politics, when the electrical energy sector was still centrally ruled. At that time, environmental legislation was softer and there was, according to Atlas of Electric Energy in Brazil (Atlas de Energia Elétrica do Brasil /	OK	OK

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			Agência Nacional de Energia Elétrica, Página 45. – Brasília: ANEEL, 2002), the option of forming great reservoirs and for the inundation of big flooded areas in the construction of hydroelectric power plants in the country, with little consideration to the environmental aspects of the projects. As examples of hydroelectric power plants similar to Monjolinho Project, implanted in the South Region, it can be cited HPP Passo Fundo, whose operation started in 1973, with an installed capacity of 220 MW and flooded area of 229.02 km² and the HPP Passo Real, with an installed capacity of 220 MW and a flooded area of 153.5 km², whose operation also started in 1973. Both entrepreneurships were developed by state companies.		
aa. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, 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 enjoyed certain benefits	EB 39	Ann 10	In spite of the existence of projects similar to Monjolinho Project's project activity in operation in the south region of the country, it is necessary to establish peculiar characteristics of these entrepreneurships that do not allow them to be configured as a common business scenario in the country. According to the Atlas of Electric Energy in Brazil, the hydroelectric energy generation in Brazil is constituted essentially by major entrepreneurships. According to this study, the 23 hydroelectric power centrals of the country with a	OK	OK

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that rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the PDD should include justification about non-accessibility of data/information.			generation capacity of over 1,000 MW correspond to 71.4% of its installed capacity. Entrepreneurships of this magnitude present, for their generation capacity and consequent capacity of revenues, a great economic viability. Still according to ANEEL, in the study mentioned above, the use of hydraulic potentials in Brazil for the generation of electric energy has historically demanded the formation of great reservoirs and inundation of big flooded areas. These constructions have used, in the majority of the cases, water accumulation reservoirs and regulations of water flow that provoked alterations in the regimen of water and the formation of microclimates, favouring, damaging or even extinguishing certain species. Other fact that must be highlighted is that, analyzing the history of Brazilian electrical sector, it is verified that in the past the country's legislation did not incorporate the environmental variable in national electric sector planning. However, facing the undesirable social-environmental impacts resulting from the implantation of hydroelectric entrepreneurships, a series of legal demands that aim at avoiding and mitigating the environmental effects of this kind of project have become demands of the conceding power and of the legislative organs. With this, for the implementation of new hydro projects in Brazil there is a tremendous increase on		

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			investments regarding environmental and social issues, where in some cases become so higher that the financial attractiveness of new entrepreneurships can be seriously affected, also becoming not viable the implementation. HPP Monjolinho (Alzir dos Santos Antunes) is an entrepreneurship that has 74 MW of installed capacity and 43.1 MW of assured energy, being different, therefore, of the great national hydro electrical sites and not having the enormous potential of revenues of this kind of entrepreneurship. Moreover, HPP Monjolinho (Alzir dos Santos Antunes) is a run-of-the-river power plant that has a power density of 13.55 MW/km², with a flooded area of 5.46 km², presenting low environmental impacts and that considers in its planning a series of investments in programs and environmental actions that did not exist when there was the implantation of the greatest part of hydroelectric power plants in the Southern Region. This way, the implantation of this project does not count on large revenues from the great Brazilian hydroelectric entrepreneurships and has minimal environmental impacts that demand investment and, for these characteristics, its cash flow presents return rates below the market references and the revenue from selling certified emission reduction becomes important to make the project possible.		

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			It is also interesting to notice that as mentioned in sub-step 4.a, the number of hydroelectric power plants in the southern region of the country corresponds to only 12.8% of the entrepreneurships of its energetic matrix, presenting a greater concentration of small hydroelectric power plants and thermoelectric power plants. This greater quantity of small hydroelectric power plants in operation is directly associated to economical and tax benefits conceded by the Federal Government and to the creation, through the law nº 10,438, on April 26, 2002, of the Program PROINFA. The massive presence of thermoelectric power plants in the region is closely related to the fact that the region detains 90% of the country's natural coal reserves, favouring thermoelectric power plants implantation. It is necessary to clarify that Desenvix S.A. is a subsidiary of Engevix Engenharia S.A., created in 1995 to develop new businesses, especially in the area of electric energy generation in three states of Brazil - Rio Grande do Sul, Santa Catarina and Rio de Janeiro through its controlled companies. Desenvix S.A. is controlled by Engevix Engenharia S.A, which holds 100% of the social capital and its directors are the same shareholders of the controller company. A great part of the company's growth history is related to its performance in the energy sector and, this way,		

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			Desenvix S.A was created to make the participation of Engevix in energetic generation projects possible. Acting as a holding, the company develops its activities through its controlled companies that exercise the function of independent producers of energy in the national electrical sector. One of these controlled companies is Monjolinho Energética S.A. – MONEL, created specifically to implement and to operate Monjolinho Energética S.A.'s CDM Project. Furthermore, it is important to highlight that the great majority of Hydro Projects that were not developed by state-owned companies were developed by consortium with several companies that shared the project risks. HPP Monjolinho is being developed by just one company (MONEL) that assumes all the projects risks and investments. In the South Region of Brazil, region where HPP Monjolinho is located, there are 12 (twelve) hydropower plants above 30 MW that were not built by state-owned entities. It is important to say that in Rio Grande do Sul state, where Monjolinho Project is located, there are only 5 hydropower plants above 30 MW that were not built by state-owned entities, proving that this kind of project activity is not a common practice in this state as will be proven below . As recommended by the sub-step 4a of the "Tool		

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			for the demonstration and assessment of additionality", other CDM Activities (registered project activities and project activities which have been published on the UNFCCC website for global stakeholders consultation as part of the validation process) are not to be included in this analysis. Therefore, the following HPPs above 30 MW must be excluded from the analysis, because they are CDM Project Activities (or they are registered or they were submitted for global stakeholders consultation): - Hydropower Plants Fundão and Santa Clara (2 Power Plants in the same project): http://cdm.unfccc.int/Projects/DB/BVQI1186161655.85/view - Hydropower Plant Monte Claro: http://cdm.unfccc.int/Projects/DB/DNVCUK1163591697.79/view - Hydropower Plant 14 de Julho: http://cdm.unfccc.int/Projects/DB/SGSUKL1209121131.35/view - Hydropower Plant Campos Novos: http://cdm.unfccc.int/Projects/Validation/DB/QJV07OUUF95DPM8EES0YT0G4KEW2DV/view.html. Therefore, there are only 7 (seven) other Hydropower Plants located in the South Region that were neither built from state-owned entities nor CDM project activities. The essential distinction between them and HPP		

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			Monjolinho are described below: - Hydro Power Plant Machadinho: This entrepreneurship started to be built in 1998. It has an installed capacity of 1,140 MW which means that has an enormous potential of revenues that makes it more profitable and more financially attractive. It also presents more environmental impacts. Furthermore, to construct this entrepreneurship, it was created a consortium with 11 (eleven) companies associated (7 private companies and 4 state-owned companies). This type of configuration attenuates risks. Due to the size of this Hydropower Plant, it cannot be compared with HPP Monjolinho, because the revenues and the environment impacts are in another level. - Hydro Power Plant Barra Grande: This project is under validation in the UNFCC (http://cdm.unfccc.int/Projects/Validation/DB/SONAXN2JJ91TO2UMXXJRRC4U6UKECB/view.html) but project proponents have requested the withdrawn from the CDM, therefore we included in this analysis. HPP Barra Grande has 708 MW of installed capacity and 380.6 MW of assured energy which means that has more revenues that makes it more profitable. Besides that, one consortium of 6 big Brazilian companies was formed to construct and operate this Plant. - Hydropower Plant Castro Alves: This plant was withdrawn form the CDM		

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			(http://cdm.unfccc.int/Projects/Validation/DB/CJJACA7U4ILONCA4SXLQVQORWJMKCC/view.html) and it was also analyzed in common practice analysis. This plant is one enterprise of the CERAN Complex that has three plants (two of them are CDM projects – HPP Monte Claro and HPP 14 de Julho) in the same river (Antas River). CERAN was also implemented by a consortium with three shareholders and one of them is a state-owned company (CEEE) which has 30% of the complex. The fact that the Complex has three plants dilutes risks, mitigates risks of electricity generation and, therefore, risks of revenues generation. Furthermore the consortium formed by three companies also mitigates risks. - Hydro Power Plant Quebra-Queixo: The installed capacity is 121,5 MW and its assured energy is 59.7 MW what brings more revenues for the project and it makes it more financially attractive than HPP Monjolinho. It is also important to say that HPP Monjolinho is more efficient than HPP Quebra-Queixo because the load factor of HPP Monjolinho is 58.2% and the load factor of HPP Quebra-Queixo is 49.7%. HPP Quebra-Queixo started to be constructed in 2001 before the Kyoto Protocol entered into force. HPP Quebra-Queixo has two shareholders: Construtora Queiroz Galvão and Construtora Barbosa Mello S.A. They shared risks, profits and		

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			they can also have an easier access to the capital markets. This Hydropower plant is located in Santa Catarina state. - Hydro Power Plant Ourinhos: This HPP is located between the states of Paraná and São Paulo. The construction had to be interrupted in 2003 due to technical and financial problems. Due to these financial problems, one of the biggest industrial group in Brazil, called CBA – Companhia Brasileira de Alumínio – bought the concession from another company (that had achieved the public concession before) and restarted the construction. This HPP has an installed capacity of 44 MW and a flooded area of 5.09523 km2, therefore its power density is 8.63 MW/ km2, less than HPP Monjolinho power density, which means that to provide less energy, HPP Ourinhos needs to flood more area and impact more the environment. As it was said before, HPP Ourinhos started its construction before 2005, year when Kyoto Protocol got into force and due that the former investors faced some financial barriers. The CDM will provide MONEL revenues to develop the project by itself and do not face the financial barriers that the former investors of HPP Ourinhos met. The construction of Hydro Power Plants by CBA has the objective of supplying electricity for its activities, where today 60% of its necessity of		

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			electricity is supplied by own hydro plants, and specifically for Ourinhos, 100 % of its production is for internal consume, which is an essential distinction compared with Monjolinho. It can be clearly seen that in Rio Grande do Sul, state where Monjolinho Project is located, hydro power plants like HPP Monjolinho are not the common practice in the state because there are few HPPs above 30 MW that are neither built by state-owned companies nor CDM Project Activities and which have different characteristics from HPP Monjolinho that were described above. If the analysis is wider, considering all the South Region, it can be obtained the same conclusion where in the three states of this region, there are only 7 HPPs (including the two located in Rio Grande do Sul) with also different characteristics of HPP Monjolinho. If the analysis is still wider considering the other state where Desenvix S.A acts, Rio de Janeiro State, the same conclusion is also obtained, once just state-owned companies built hydro power plants there. we can perceive that the reduced number of hydroelectric centrals is responsible for a great part of the country's installed capacity and that the hydroelectric power plants are not the main component in terms of number of entrepreneurships of the energetic matrix in the southern region of Brazil.		

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			Furthermore, it is possible to see that part of the hydroelectric entrepreneurships built in Brazil in the past had a high installed capacity, not respecting or establishing as a priority environmental questions, as it will happen in Monjolinho Project. It can be also clearly noted that the Hydro Power Plants that were built by private companies are usually implemented by consortium, where several companies share the risks. In some of them, there are also state-owned companies in the consortium. HPP Monjolinho is being implemented by one unique investor that supports all risks. These characteristics make Monjolinho Project singular among the other entrepreneurships.		
bb. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Yes.	OK	OK
cc. Has it been proved that the porject is additional?	EB 39	Ann 10	No. Refer to CARs 07 to 09 and to CLs 03 to 05.	CARs 07 to 09 CLs 03 to 05	OK OK

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a. Prior consideration of the clean development mechanism					
a. Is the project ativity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	96	Yes.	OK	OK
b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	96	Yes.	OK	OK
c. Is the start date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM terms", which states that "The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins."?	VVM	97	Yes. The start date of the project is 16/07/2007, when was issued the Construction Service Order to Comax Terraplanagem Ltda, for the service of common excavation of left and right margins and ground work for construction site of HPP Monjolinho (Alzir dos Santos Antunes).	OK	OK
d. Does the project activity require construction, retrofit or other modifications?	VVM	97	Yes. The project activity requires construction and acquisition of new equipments.	OK	OK
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	97	Yes. Refer to item 6.a.c.	OK	OK
f. Is it a new project activity (project activities with staring date on or after 02 August 2008) or an existing project activity (project activities with a start date before 02 August 2008)?	VVM	98	It is an existing project activity, with starting date on 16/07/2007.	OK	OK
g. For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the Executive Board before the project activity start date, had	VVM	99	N.A.	-	-

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the PP informed the Host Party DNA and/or the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status? (Provide reference to such confirmation from Hos Party DNA and/or UNFCCC secretariat).					
h. For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following evidences provided:	VVM	100			
ii. evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project, including, inter alia:	VVM	100	Yes.	OK	OK
a. 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 proposed CDM project activity?			Yes.	OK	OK
iii. reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, including, inter alia:	VVM	100	Yes.	OK	OK
a. contract with consultants for CDM/PDD/methodology services?	VVM	100	Yes.	OK	OK
b. Emission Reduction Purchase Agreements or other documentation	VVM	100	No.	OK	OK

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related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?					
c. evidence of agreements or negotiations with a DOE for validation services?	VVM	100	Yes.	OK	OK
d. submission of a new methodology to the CDM Executive Board?	VVM	100	No.	OK	OK
e. publication in newspaper?	VVM	100	No.	OK	OK
f. interviews with DNA?	VVM	100	No.	OK	OK
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	100	No.	OK	OK
b. Identification of alternatives					
a. Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	103	Yes.	OK	OK
b. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	103	N.A.	OK	OK
c. Does the list of alternatives given in the PDD esure that:	VVM	104			
i. the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity?	VVM	104	Yes.	OK	OK
ii. the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable	VVM	104	Yes.	OK	OK

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means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?					
iii. the alternatives comply with all applicable and enforced legislation?	VVM	104	Yes.	OK	OK
c. Investment analysis					
a. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	106	Yes.	OK	OK
b. If yes, does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	106			
i. the most economically or financially attractive alternative?	VVM	106	Not applicable.	-	-
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	106	Yes.	OK	OK
c. Was this shown by one of the following approaches?	VVM	107			
i. Demonstrate that the proposed CDM project activity would produce no financial or economic benefits other than CDM-related income. Document the costs associated with the proposed CDM project activity and the alternatives identified and demonstrate that there is at least one alternative which is less costly than the proposed CDM project activity.	VVM	107	Not applicable.	-	-
ii. The proposed CDM project activity is less economically or financially attractive than at	VVM	107	Not applicable.	-	-

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least one other credible and realistic alternative.					
iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	107	Yes, the project proponent choosed a financial indicator and compared with a benchmark.	OK	OK
d. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 41	Ann 45	No, the proposed period is from 2009 to 2040 and the crediting period of the CDM project is from 2010 to 2016.	OK	OK
e. Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 41	Ann 45	**CL 03** – Both project IRR and equity IRR calculations shall as a preference reflect the period of expected operation of the underlying project activity (technical lifetime),if not used the PP must clearly described the reasons with justifications.	CL 03	OK
f. Does the IRR calculation include the cost of major maintenance and/or rehabilitation if these are expected to be incurred during the period of assessment?	EB 41	Ann 45	Yes, see the document "EFS - Monjolinho - cronograma atual" line 57.	OK	OK
g. Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period?	EB 41	Ann 45	According with the "Tool for demonstration and assessment of additionality": the project participants are requested to justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period. **CAR 07** – The Project proponent didn't justify the appropriateness of the period of assessment in	CAR 07	OK

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			the context of the underlying project activity.		

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h. Does the cash flow in the final year include a fair value of the project activity assets at the end of the assessment period?	EB 41	Ann 45	See item 6 C – e. Refer to **CL 03**.	CL 03	OK
i. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 41	Ann 45	See item 6 C – e. Refer to **CL 03.**	CL 03	OK
j. Does the fair value calculations include both the book value of the asset and the reasonable expectation of the potential profit or loss on the realization of the assets?	EB 41	Ann 45	See item 6 C – e. Refer to **CL 03.**	CL 03	OK
k. Was depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, added back to net profits for the purpose of calculating the financial indicator (e.g. IRR, NPV)?	EB 41	Ann 45	Yes, see the document "EFS - Monjolinho - cronograma atual" line 228.	OK	OK
l. Has taxation been included as an expense in the IRR/NPV calculation in cases where the benchmark or other comparator is intended for post-tax comparisons?	EB 41	Ann 45	Yes see the document "EFS - Monjolinho - cronograma atual" line 218.	OK	OK
m. Are the input values used in all investment analysis valid and applicable at the time of the investment decision taken by the project participant?	EB 41	Ann 45	Yes, all the input values are consistent and appropriate with the input values.	OK	OK
n. Is the timing of the investment decision consistent and appropriate with the input values?	EB 41	Ann 45	Yes.	OK	OK
o. Are all the listed input values been consistently applied in all calculations?	EB 41	Ann 45	Yes.	OK	OK
p. Does the investment analysis reflect the	EB	Ann	Not applicable.	-	-

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	economic decision making context at point of the decision to recomence the project in the case of project activities for which implementation ceases after the commencement and where implementation is recommenced due to consideration of the CDM?	41	45			
q.	Have project participants supplied the spreadsheet versions of all investment analysis?	EB 41	Ann 45	Yes, see the document "EFS - Monjolinho - cronograma atual".	OK	OK
r.	Are all formulas used in this analysis readable and all relevant cells be viewable and unprotected?	EB 41	Ann 45	Yes, see the document "EFS - Monjolinho - cronograma atual".	OK	OK
s.	In cases where the project participant does not wish to make such a spreadsheet available to the public has the PP provided an exact read-only or PDF copy for general publication?	EB 41	Ann 45	Not applicable.	-	-
t.	In case the PP wishes to black-out certain elements of the publicly available version, is it justifiable?	EB 41	Ann 45	Not applicable.	-	-
u.	Was the cost of financing expenditures (i.e. loan repayments and interest) included in the calculation of project IRR?	EB 41	Ann 45	No, see the document "EFS - Monjolinho - cronograma atual".	OK	OK
v.	In the calculation of equity IRR, has only the portion of investment costs which is financed by equity been considered as the net cash outflow?	EB 41	Ann 45	Not applicable.	-	-
w.	Has the portion of the investment costs which is financed by debt been considered a cash outflow in the calcualtion of equity IRR? (this is not allowed)	EB 41	Ann 45	Not applicable.	-	-
x.	In cases where a benchmark approach is used is	EB	Ann	Yes.	OK	OK

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the applied benchmark appropriate to the type of IRR calculated?	41	45			
y. Has local commercial lending rates or weighted average costs of capital (WACC) selected as appropriate benchmarks for a project IRR?	EB 41	Ann 45	Yes.	OK	OK
z. Has required/expected returns on equity selected as appropriate benchmark for an equity IRR?	EB 41	Ann 45	Not applicable.	-	-
aa. In case benchmarks supplied by relevant national authorities selected is it applicable to the project activity and the type of IRR calculation presented?	EB 41	Ann 45	Not applicable.	-	-
bb. In the cases of projects which could be developed by an entity other than the project participant is the benchmark applied based on publicly available data sources which can be clearly validated?	EB 41	Ann 45	Not applicable.	-	-
cc. Have internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC) been applied in cases where there is only one possible project developer?	EB 41	Ann 45	Not applicable.	-	-
dd. In such cases, have these values been used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region?	EB 41	Ann 45	The WACC – Weighted Average Capital Cost was utilized as the Project Benchmark because: - It was based on internationally recommended financial models, normally utilized by pension funds, private equity funds and investment banks. - All the components utilized on its calculation are based on data sources publicly available that	OK	OK

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			could be clearly validated by the DOE. The PDD has all the necessary links to access the data sources. The only data that is not publicly available is the loan cost. It was based on the contract signed with BNDES. This contract was available to Bureau Veritas Certification during the validation.		

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ee. Has a minimum clear evidence of the resolution by the company's Board and/or shareholders been provided to the effect as above?	EB 41	Ann 45	Not applicable.	-	-
ff. Has a thorough assessment of the financial statements of the project developer - including the proposed WACC - to assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects been conduted?	EB 41	Ann 45	See item 6 C – dd.	OK	OK
gg. Does the risk premiums applied in the determination of required returns on equity reflect the risk profile of the project activity being assessed, established according to national/international accounting principles? (It is not considered reasonable to apply the rate general stock market returns as a risk premium for project activities that face a different risk profile than an investment in such indices.)	EB 41	Ann 45	Yes see a detailed description of the risk premiuns calculation in the document "PDD MonjolinhoV01 sem controle de alterações" page 20.	OK	OK
hh. Has an investment comparison analysis and not a benchmark analysis used when the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services?	EB 41	Ann 45	Not applicable.	-	-
ii. Have variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues been subjected to reasonable variation (positive and negative) and the results of this variation been	EB 41	Ann 45	No, the project proponent did not include the load factor in the sensitivity analysis. **CAR 08** - The project proponent did not include the load factor in the sensitivity analysis.	CAR 08 CAR 09	OK OK

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presented in the PDD and be reproducible in the associated spreadsheets?			**CAR 09** – The PP has not explained how it has determined that the parameters used in the sensitivity analysis are the most critical and that the ranges of variations are appropriate.		
jj. Have a corrective action been raised for a variable to be included in the sensitivity analysis which constitute less than 20% and have a material impact on the analysis ?	EB 41	Ann 45	Not applicable.	-	-
kk. Is the range of variations selected is reasonable in the project context?	EB 41	Ann 45	Yes, see document "PDD MonjolinhoV01 sem controle de alterações" page 21.	OK	OK
ll. Dos the variations in the sensitivity analysis at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances?	EB 41	Ann 45	Please see item 6 C – ii. Refer to **CAR 09**.	CAR 09	OK
mm. In cases where a scenario will result in the project activity passing the benchmark or becoming the most financially attractive alternative, is an assessment done of the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the project activity?	EB 41	Ann 45	Not applicable.	-	-
nn. Was a thorough assessment of all parameters and assumptions used in calculating the relevant	VVM	109	Yes, all the parameters and assumptions were checked and the DOE determined the accuracy	OK	OK

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financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices conducted?			and suitability of them. The parameters and assumptions were: - Energy price -Total investment - Specific tax (TUST) - Installed capacity - Assured energy - Capital Structure - O&M costs - Use of public assets		
oo. Were the parameters cross-checked agains third-party or publicly available sources, such as invoices or price indices?	VVM	109	**CL 04** – The Doe couldn't cross-check the energy price, the assured energy, the capital structure, O&M expenses, use of the public asset and the concession term. The installed capacity of 74 MW was cross-checked with Despachos ANEEL- Agência Nacional de Energia Elétrica - nº 2151, of June 04, 2008, nº 2668, of July 21, 2009 and nº 2785, of July 30, 2009.	CL 04	OK
pp. Were feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants reviewed?	VVM	109	See item 6 C – oo. Refer to **CL 04**.	CL 04	OK
qq. Was the correctnes of computations carried out	VVM	109	Yes all the formulas were checked.	OK	OK

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and documented by the project participants assessed?					
rr. Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?	VVM	109	See item ii. Refer to **CAR 08** and **CAR 09**.	CAR 08 CAR 09	OK OK
ss. Is the type of benchmark applied is suitable for the type of financial indicator presented?	VVM	110	Yes see item 6 C – dd.	OK	OK
tt. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	110	Yes see item 6 C –gg.	OK	OK
uu. To determine this, was it assessed whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by:					
i. assessing previous investment decisions by the project participants involved?	VVM	110	Not applicable.	-	-
ii. determining whether the same benchmark has been applied?	VVM	110	Not applicable.	-	-
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	110	Not applicable.	-	-
vv. Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed project activities?	VVM	111	Not applicable.	-	-
tt. If yes:	VVM	111			
i. has the FSR been the basis of the decision to proceed with the investment in the	VVM	111	Not applicable.	-	-

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed?					
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	111	Not applicable.	-	-
iii. If not, was the appropriateness of the values validated?	VVM	111	See item 6 C – oo. Refer to **CL 04**.	CL 04	OK
iv. On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVM	111	Not applicable.	-	-
d. Barrier analysis					
a. Has barrier analysis been used to demonstrated the additionality of the proposed CDM project activity?	VVM	113	No.	OK	OK
b. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that:	VVM	113			
i. prevent the implementation of this type of proposed CMD project activity?	VVM	113	N.A.	-	-
ii. do not prevent the implementation of at least one of the alternatives?	VVM	113	N.A.	-	-
c. Are there any issues that have a clear direct	VVM	114	N.A.	-	-

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of finance for the project activity? {If yes, these issues cannot be considered barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}					
d. Were the barriers determined as real by:	VVM	115			
i. asssing the available evidence and/or undertaking interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist?	VVM	115	N.A.	-	-
ii. ensuring that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?	VVM	115	N.A.	-	-
iii. Is existence of a barrier substantiated only by the opinions of the project participants? (If yes, this barrier cannot be considered as adequately substantiated)	VVM	115	N.A.	-	-
e. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying local and sectoral	VVM	115	N.A.	-	-

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of *at least one of* the possible alternatives, in particular the identified baseline scenario?					
e. Common practice analysis					
a. Is this a large-scale, or first-of-its kind small-scale project activity?	VVM	117	Yes. It is a large scale project activity.	OK	OK
b. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality?	VVM	117	Yes.	OK	OK
c. Was it assessed whether the geographical scope (e.g. defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologis the relevant region for assessment will be local and for others it may be transnational/global.	VVM	118	Yes. The geographical scope of the common practice analysis is appropriate.	OK	OK
d. Was a region other than the entire host country chosen?	VVM	118	Yes. It was chosen the South Region of Brazil.	OK	OK
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	118	Yes.	OK	OK
f. Using official sources and local and industry expertise, was it determined to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM	VVM	118	Yes.	OK	OK

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
project activities, have been undertaken in the defined region?					
g. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	118	Yes.	OK	OK
h. If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	118	Yes.	OK	OK
7. Monotoring plan					
a. Does the PDD include a monitoring plan?	VVM	120	Yes.	OK	OK
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	120	Yes. According to section B.1 of the PDD, the project participants are using: - Approved consolidated baseline and monitoring methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 10.		
c. Were the list of parameters required by the the selected methodology identified?	VVM	121	Yes.	OK	OK
d. Does the monitoring plan contains all necessary parameters?	VVM	121	Yes.	OK	OK
e. Are the parameters clearly described?	VVM	121	Yes.	OK	OK
f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	121	Yes.	OK	OK
g. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	121	Yes.	OK	OK

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
h. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified:	VVM	121			
i. data management procedures?	VVM	121	Yes.	OK	OK
ii. quality assurance procedures?	VVM	121	Yes.	OK	OK
iii. quality control procedures?	VVM	121	Yes.	OK	OK
8. Sustainable development					
a. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	123	Yes.	OK	OK
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVM	124	The letter of approval from the DNA will be available only after its first ordinary meeting, after the receiving of all the required documents necessary for evaluation, including this validation report, according to Article 6 of the Resolution nº 1 of CIMGC – Comissão Interministerial de Mudança Global do Clima. This letter of approval shall confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party.	OK	OK
9. Local stakeholder consultation					
a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity) invited by the	VVM	126	Yes. According to the Resolutions Number 1, 4 and 7 of the Brazilian Designed National Authority (CIMGC – Comissão Interministerial de Mudança Global do Clima / Interministerial Commission on Global Climate Change), project	OK	OK

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website?			participants shall send letters to local stakeholders 15 days before the start of the validation period, in order to receive comments. In order to satisfy and comply with this ruling, on 02/04/2008, invitation letters describing the project and requesting comments have been sent to the local stakeholders. The DOE confirms that had access to the confirmation receipts of all the letters. The PDD has been published on the UNFCCC website in the period of 14/08/2009 to 12/09/2009.		
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	127	Yes.	OK	OK
c. Is the summary of the comments received as provided in the PDD complete?	VVM	127	There was only one comment, from the Secretary of Agriculture and Environment of Faxinalzinho City. The secretary of Agriculture and Environment of this city said that he is optimistic about the project and asked that, in the moment of production and supply of native seedlings to be planted in the outskirts of the dam and of the reservoir, some seedlings be passed to the Secretary with the objective of donating to farmers of some localities in the interior of the municipality. Through this action, the Secretary of Agriculture and Environment of Faxinalzinho seeks to promote the forestation and	OK	OK

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
			reforestation, increasing the area of native forests in all locations of the city.		

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	127	MONEL incorporated the comment and the request made by the Secretary of Agriculture and Environment of Faxinalzinho in the Reforestation Program of HPP Monjolinho (Alzir dos Santos Antunes), establishing that, in the moment of production and supply of native seedlings to be planted in the area of the entrepreneurship's direct influence, it will be supplied to the Secretary of Agriculture and Environment native seedlings to be supplied to farmers in the interior of the city.	OK	OK
10. Environmental impacts					
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	129	In Brazil, it is required to the sponsor of any project that involves construction, installation, expansion or operation of any polluting or potentially pollutant activity or any other activity that may cause environmental decay, a series of licenses from the pertinent environmental agency (federal and/or local, depending on the project). To obtain all the environmental licenses, every hydroelectric project must mitigate, when they exist, the following impacts: - Inundation of indigenous lands and slave historic areas – authorization for that depends on the National Congress resolution; - Inundation of environmental preservation areas, legally defined as National Parks and Conserve Units;	OK	OK

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
			- Inundation of urban areas or rural communities; - Reservoirs where future urban expansion will occur; - Elimination of natural patrimony; - Expressive losses for other uses of water; - Inundation of protected historic areas; - Inundation of cemeteries and other sacred locations. The process begins with an environmental impact study (EIA) undertaken by the entrepreneur and it follows with the previous analysis (preliminary studies) made by the local environmental department. Afterwards, if the project is considered environmentally feasible, the sponsors have to prepare an environmental assessment, which is basically composed of the following information: Reasons to implement the project; - Project Description, including information related to the reservoir; - Preliminary Environmental Diagnosis, mentioning the main physical, biotic and anthropic aspects; - Preliminary estimation of the project impacts; and - Possible mitigating measures and environmental programs. The result of these evaluations is the Preliminary License (LP), which reflects the positive understanding of the local environmental agency		

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
			on the project environmental concepts. To obtain the installation license (LI), it is necessary to present (a) additional information about the previous assessment; (b) a new simplified assessment; or (c) the Environmental Basic Project (PBA), according to the resolution of the environmental agency informed in the LP. The operation license (LO) is requested during the final phase of the construction and it is obtained after the entrepreneur proves that all exigencies made by the local environmental agency were fulfilled. The following licenses were granted by HPP Monjolinho (Alzir dos Santos Antunes): Prior License (LP) – nº. 1065/2005 – DL o Signed on:19/12/2005 o Valid until: 19/12/2007 Installation License (IL) - nº. 886/2008 – DL o Signed on: 15/08/2008. o Valid until: 23/03/2010. Operation License (LO) - nº. 2282/2009 – DL o Signed on: 14/05/2009. o Valid until: 13/05/2013.		
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	130	Refer to item 10.a.	OK	OK
c. Does the host Party require an environmental impact assessment?	VVM	130	Refer to item 10.a.	OK	OK
d. If yes, have the project participants undertaken	VVM	130	Refer to item 10.a.	OK	OK

CHECKLIST QUESTION	RTef.	§	COMMENTS	Draft Concl	Final Concl
an environmental impact assessment?					

Table 2 – Approved Consolidated Baseline and Monitoring Methodology ACM0002 – Version 10

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl	Final Concl
1. Baseline Methodology					
1.1. Applicability					
Is the project activity a grid-connected electricity generation from renewable sources?	-	DR	Yes.	OK	OK
Is the project activity 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?	-	DR	HPP Monjolinho is an installation of a new hydro power plant.	OK	OK
Is the hydro power plant a project activity that results in a new reservoir and the power density of the power plant, as per definition given in the Project Emissions section, greater than 4 W/m²?	-	DR	Yes. HPP Monjolinho (Alzir dos Santos Antunes) is a project activity which result in new reservoir and the power density of the power plant is greater than 4 W/m2 (and it is also	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl	Final Concl
			greater than 10 W/m2).		
1.2.Identification of the baseline scenario					
Is the baseline the following: Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected 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"?	-	DR	Yes.	OK	OK
Did the project participants identify the most plausible baseline scenario among all realistic and credible alternatives(s)?	-	DR	Yes.	OK	OK
Do the project type and the baseline scenario conform to one of those described on applicability of Baseline Methodology ACM0002?	-	DR	Yes. The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m2.	OK	OK
1.3. Project boundary					
Did the project participants include the physical site of the plant as well as the reservoir area?	-	DR	Yes.	OK	OK
Does the spatial extent of the project boundary include the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to?	-	DR	Yes, the spatial extension of the project boundary includes the project power plant and all power plants physically connected to the electricity system that the CDM project power plant is connected to. The HPP Monjolinho is connected to National Interconnected System.	OK	OK
1.4. Emissions reductions					
Are the emission reductions determined according to the following formula: ERy = BEy – PEy – Ly?	-	DR	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl	Final Concl
Are all values chosen in a conservative manner and is the choice justified?	-	DR	Yes.	OK	OK
1.5. Project emissions					
Do the project emissions include emissions from the reservoir?	-	DR	No. As described in section B.6.1 of the PDD, the power density of HHP Monjolinho is greater than 10 W/m2. Therefore, PEy = 0.	OK	OK
1.6. Emissions reductions due to displacement of electricity					
Are the emission reductions calculated by multiplying the net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (EGPJy) with the Combined Margin CO2 emission factor for grid connected power generation in year y using the latest version of the "Tool to calculate the emission factor for an electricity system" (EFgrid,CM,y)?	-	DR	Yes. As project emissions are zero and leakage is considered zero, emission reductions are calculated by multiplying the net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (EG_{PJy}) with the Combined Margin CO_2 emission factor for grid connected power generation in year y using the latest version of the "Tool to calculate the emission factor for an electricity system" (EFgrid,CM,y). Please, refer to section B.6.3 of the PDD.	OK	OK
Does the emission factor for the displacement of electricity (EFgrid,CM,y) correspond to the combined margin CO2 emission factor (EFgrid,CM,y)?	-	DR	Yes. Please, see section B.6.1 of the PDD. EFgrid,CM,y = Combined Margin CO_2 emission factor for grid connected power generation in year y using the latest version of the "Tool to calculate the emission factor for an electricity system".	OK	OK
Is the grid emission factor (EFgrid,CM,y) calculated as a combined margin (CM)?	-	DR	Yes. Please, see section B.6.1 of PDD.	OK	OK
In determining the net quantities of electricity generation	-	DR	Yes. According to section B.7.1 of the PDD, the	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl	Final Concl
or the net efficiency of electricity generation, did the project participants subtract the quantity of electricity required for the operation of the power plant (in both the baseline and project cases)?			project participants subtracted the quantity of electricity required for the operation of the power plant (in both, the baseline and project cases)		
1.7. Additionality					
Was the additionality of the project activity demonstrated by using the latest version of the "Tool for the demonstration and assessment of additionality"?	-	DR	Yes. It was used the version 05.2 of the "Tool for the demonstration and assessment of additionality".	OK	OK
1.8. Leakage					
Were the leakage effects addressed?	-	DR	According to the ACM0002 methodology, project participants do not need to consider leakage effects.	OK	OK
2. Monitoring Methodology					
2.1. Applicability					
Is the project activity a grid-connected renewable power generation project?	-	DR	Yes	OK	OK
Is the electricity capacity addition from a run-of-river power plant; hydro power projects with existing reservoirs where the volume of the reservoir is not increased?	-	DR	No	OK	OK
Is the electricity capacity addition from a new hydro electric power project with reservoirs having power densities (installed power generation capacity divided by the surface area at full reservoir level) greater than 4 W/m2?	-	DR	Yes.	OK	OK
Is the electricity capacity addition from Wind sources?	-	DR	No.	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl	Final Concl
Is the electricity capacity addition from Geothermal sources?	-	DR	No.	OK	OK
Is the electricity capacity addition from Solar sources?	-	DR	No.	OK	OK
Does the project activity involve switching from fossil fuels to renewable energy at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site?	-	DR	No.	OK	OK
Is it applied to grid connected electricity generation from landfill gas capture to the extent that it is combined with the approved "Consolidated baseline methodology for landfill gas project activities?	-	DR	No.	OK	OK
2.2. Monitoring Methodology					
Will the electricity generation from the proposed project activity be monitored?	-	DR	Yes. The Electricity supplied to the grid by the project will be monitored	OK	OK
Will the data needed to recalculate the operating margin emission factor, if needed, based on the choice of the method to determine the operating margin (OM), consistent with "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (ACM0002) be monitored?	-	DR	Yes.	OK	OK
Will the data need to recalculate the build margin emission factor, if needed, consistent with "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (ACM0002) be monitored?	-	DR	Yes	OK	OK
Will the data needed to calculate fugitive carbon dioxide and methane emissions and carbon dioxide emissions from combustion of fossil fuels required to operate the geothermal plant be monitored?	-	DR	No. This is not a geothermal power project.	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl	Final Concl
Will the surface area of reservoir at the full reservoir level be monitored?	-	DR	Yes. This is a new hydro electric power project.	OK	OK
2.3. Project emissions parameters					
Do the project emissions include emissions from the reservoir?	-	DR	No.	OK	OK
Do the reservoirs have power densities (installed power generation capacity divided by the surface area at full reservoir level) greater than 4 W/m2 and less or equal to 10 W/m2?	-	DR	No.	OK	OK
Do the reservoirs have power densities (installed power generation capacity divided by the surface area at full reservoir level) greater than 10 W/m2?	-	DR	Yes. As described in section B.6.1 of the PDD, the power density of HHP Monjolinho is greater than 10 W/m2. Therefore, PEy = 0.	OK	OK
Are the project emissions of the Project being considered as null?	-	DR	Yes.	OK	OK
Are there: a) Fugitive carbon dioxide and methane emissions due to the release of non-condensable gases from the produced steam? or b) Carbon dioxide emissions from fossil fuel combustion?	-	DR	No. This is not a Geothermal project activity.	OK	OK
2.4. Baseline emission parameters					
Will the net quantity of electricity generated in the project plant during the year y be monitored?	-	DR	Yes. The net quantity of electricity generated supplied to the grid by the project will be monitored by measurement with calibrated equipment	OK	OK
Will the EFy CO2 emission factor be calculated in tCO2e/MWh, at the validation?	-	DR	The $EFyCO_2$ emission factor will be calculated ex-post, in tCO_2e/MWh, at the validation, for the calculation of the ex-ante estimative of emission reductions. During the monitoring period, the $EFyCO_2$ emission factor will be calculated ex-post yearly, in tCO_2e/MWh. The data will be provided by	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl	Final Concl
			the DNA (Designated National Authority).		
Will the EFom,y CO2 operating margin emission factor be calculated, in tCO2e/MWh, at the validation?	-	DR	The EFom,y CO_2 operating margin emission factor will be calculated ex-post, in tCO_2e/MWh, at the validation, for the calculation of the $EFyCO_2$ emission factor. During the monitoring period, the EFom,y CO_2 emission factor will be calculated ex-post yearly, in tCO_2e/MWh, for the calculation of the EFy CO_2 emission factor. The data will be provided by the DNA (Designated National Authority).	OK	OK
Will the EFbm,y CO2 build margin emission factor be calculated, in tCO2e/MWh, at the validation?	-	DR	The EFbm,y CO_2 build margin emission factor will be calculated ex-post, in tCO_2e/MWh, at the validation, for the calculation of the $EFyCO_2$ emission factor. During the monitoring period, the EFbm,y build margin CO_2 emission factor will be calculated ex-post yearly, in tCO_2e/MWh, for the calculation of the EFy CO_2 emission factor. The data will be provided by the DNA (Designated National Authority).	OK	OK
Will the surface area at full reservoir level be measured?	-	DR	Yes. It will be measured in the surface of the water, after the implementation of the project activity, when the reservoir is full.	OK	OK
2.5. Leakage					
Were the leakage effects addressed?	-	DR	According to the ACM0002 methodology, project participants do not need to consider leakage effects.	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl	Final Concl
2.6. Quality Control (QC) and Quality Assurance (QA) procedures					
Will all measurements use calibrated measurement equipment that is maintained regularly and checked for its functioning?	-	I	According to section B.7.2 of PDD: Calibration of meters The calibration of meters will follow what was described in the document elaborated by ONS – Sub module 12.3 – Maintenance of the measurement system for billing, which establishes that: (a) The periodicity for the responsible agent's preventive maintenance for Measurement System for Billing (SMF) is of 2 (two) years at the most. That periodicity can be altered in function of the occurrence history observed for all facilities. (b) The preventive maintenance can be postponed by the period of up to 2 (two) years, in the case of happening inspection in the measurement point. The postponement of that maintenance starts to apply from the inspection date.	OK	OK

Table 3 – Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
CAR 01 – According to the section A.2.1.c of the "Guidelines for Completing the Project Design Document (CDM-PDD), version 07, it has not been stated in the section A.2 of the PDD that the baseline scenario is the same as the scenario existing prior to the start of implementation of the project activity.	EB 41 Ann 12	PDD version 02 presents this state in the section A.2.	Section A.2.1 of the version 02 of the PDD was checked by the DOE that confirmed the requested statement. The answer was considered correct and it was accepted. **CAR 01** was closed. OK
CAR 02 – According to the section A.4.3 of the "Guidelines for Completing the Project Design Document (CDM-PDD), version 07, section A.4.3 of the PDD is not informing: (a) the scenario existing prior to the start of the implementation of the project, the monitoring equipment and their location in the systems; (c) The baseline scenario as identified in section B.4 of the PDD.	EB 41 Ann 12	The section A.4.3 of the PDD Version 02 follows what is recommended by the "Guidelines for Completing the Project Design Document (CDM-PDD), version 07".	Section A.4.3 of the version 02 of the PDD was checked by the DOE that confirmed the existence of the requested information. The answer was considered correct and it was accepted. **CAR 02** was closed. OK

CAR 03 – Section A.4.3 of the PDD is not providing the information of the emission sources and GHGs involved.	EB 41 Ann 12	PDD version 02 provides the information of the emission sources and GHGs involved.	Section A.4.3 of the version 02 of the PDD was checked by the DOE that confirmed that requested information was provided. The answer was considered correct and it was accepted. **CAR 03** was closed. OK
CAR 04 – Section B.3 of the PDD has not presented a flow diagram of the project boundary physically delineating the project activity, including in the flow diagram all the equipments, systems and flows of mass and energy described in section A.4.3 of the PDD, particularly representing in the diagram the emissions sources and gases included in the project boundary and the monitoring variables.	EB 41 Ann 12	PDD version 02 presents the flow diagram of the project boundary.	Section B.3 of the version 02 of the PDD was checked by the DOE that confirmed that the requested information was provided. The answer was considered correct and it was accepted. **CAR 04** was closed. OK
CAR 05 – The version 7 of the applicable methodology ACM0002, as informed is section B.7.2 of the PDD, it is not correct.	EB 41 Ann 12	PDD version 02 presents correction in the section B.7.2 of the PDD..	Section B.7.2 of the version 02 of the PDD was checked by the DOE that confirmed that the version of the applicable methodology was corrected. The answer was considered correct and it was accepted. **CAR 05** was closed. OK

CAR 06 – According to the "Tool for the demonstration and assessment of additionality", version 05.2, the name of the sub-step 1b "Compliment with the applicable laws and norms" it is not correct in the PDD, version 1.	EB 39 Ann 10	The name of the sub-step 1B was corrected in the PDD version 02.	The version 02 of the PDD was checked by the DOE that confirmed that the name of the sub-step 1b was corrected to "consistency with mandatory laws and regulations". The answer was considered correct and it was accepted. **CAR 06** was closed. OK
CAR 07 – The Project proponent didn't justify the appropriateness of the period of assessment in the context of the underlying project activity.	EB 41 Ann 45	The period of assessment in the context of the underlying project activity is 35 year as determined in the clause 2 (two) of the Concession Contract established with ANEEL (National Electric Energy Agency). Line 01 of the Table 10 of the PDD had to be corrected and the item C.1.2 also had to be corrected.	The answer to CAR 07 was accepted. **CAR 07** was closed. OK
CAR 08 - The project proponent has not included the load factor in the sensitivity analysis.	EB 41 Ann 45 VVM 109	This CAR is not correct. The load factor was already included in the sensitivity analysis when the PPs presented the variation in the assured energy. Scenarios with the variation in the assured energy are the same scenario with the variation in the Plant Load Factor.	The answer to CAR 08 was accepted. **CAR 08** was closed. OK

CAR 09 - The PP has not explained how it has determined that the parameters used in the sensitivity analysis are the most critical and that the ranges of variations are appropriate.	EB 41 Ann 45	Explanation about the parameters and the range of variation used in the sensitivity analysis were provided in the PDD version 02.	The answer to CAR 09 was accepted. **CAR 09** was closed. OK
CL 01 – Please inform if in the third paragraph of section B.3 of the PDD "the special extension of the project boundary" should not be "the spatial extent of the project boundary".	EB 41 Ann 12	The third paragraph of section B.3 of the PDD was corrected.	Section B.3 of the version 02 of the PDD was checked by the DOE that confirmed that the third paragraph was corrected. The answer was considered correct and it was accepted. **CL 01** was closed. OK
CL 02 – Please, inform if, in section D.1 of the PDD, the Installation License is LI or IL, in the description of the applicable licenses (IL nº 886/2008 or LI nº 886/2008?).	EB 41 Ann 12	In Portuguese, the license is called Licence of Installation ("Licença de Instalação"). Section 01 of the PDD was corrected and it was used the name "LI".	Section D.1 of the version 02 of the PDD was checked by the DOE that confirmed that the Installation License was corrected to LI nº 886/2008. The answer was considered correct and it was accepted. **CL 02** was closed. OK

CL 03 – Both project IRR and equity IRR calculations shall as a preference reflect the period of expected operation of the underlying project activity (technical lifetime),if not used the PP must clearly described the reasons with justifications.	EB 41 Ann 45	The period of assessment in the context of the underlying project activity is 35 year as determined in the clause 2 (two) of the Concession Contract established with ANEEL (National Electric Energy Agency). This is the same expected technical lifetime of the underlying project activity (35 years). The item C.1.2 had to be corrected.	The answer to CL 03 was accepted. **CL 03** was closed. OK
CL 04 – the Doe couldn't cross-check the energy price, the assured energy, the capital structure, O&M expenses, use of the public asset and the concession term.	VVM 109	All evidences were supplied to the DOE during the validation process.	The answer to CL 04 was accepted. **CL 04** was closed. OK
CL 05 – Why it has not been stated in section A.2 of the PDD version 01, of July 30, 2009 that "Monjolinho Energética S.A.'s CDM project", is being re-submitted for validation?	Section A.2 of PDD version 01	In the Section B.5, it already said that the project is being re-submitted for validation. To put this information in the Section A.2 is not mandatory. Taking this observation in consideration, PDD version 02 presents this information in the section A.2.	Section A.2 of the version 02 of the PDD was checked by the DOE that confirmed that the information "Monjolinho Energética S.A.'s CDM project", is being re-submitted for validation was included. The answer was considered correct and it was accepted. **CL 05** was closed. OK