

CDM: FORM FOR SUBMISSION OF A "LETTER TO THE BOARD" (Version 01.2)

This form should be used only by project participants and other stakeholders for submitting a "Letter to the Board" in accordance with the latest version of the *Modalities and procedures for direct communication with stakeholders*

Name of the stakeholder ¹ submitting	Melissa S. Hirschheimer			
this form (individual/organization):	Ecopart Assessoria em Negócios Empresariais Ltda			
Address and contact details of the	Address: Rua Padre João Manoel 222, 01411-000 São Paulo - SP, Brazil			
individual submitting this form:	Telephone number: +55 (11) 3063-9068			
	E-mail address: focalpoint@eqao.com.br			
Title/Subject (give a short title or specify the subject of your submission)	Editorial review of documents after I&RC incomplete, LT- Amazonas Project (9051)			
Please mention whether the submitter	🖂 Project participant			
of the form is:	Other stakeholder, please specify			
Specify whether you want the letter to	To be treated as confidential			
be treated as confidential ² :	To be publicly available (UNFCCC CDM web site)			
Please choose any of the type(s) below ³	to describe the purpose of this submission.			
V Type I:	ion Povision of existing rules			
	Please specify reference CDM VVS-v02.0			
Guidance. P	Please specify reference			
☐ Forms. Plea	se specify reference			
☐ Others. Please specify reference				
Type II: Request for Introdu	ction of new rules			
Type III: Provision of inform	nation and suggestions on policy issues			
Please describe in detail the issue on w exact reference source and version (if a	hich you request a response from the Board, including the pplicable).			

¹ DNAs and DOEs shall use the respective DNA/DOE forms for communication with the Board.

 $^{^{2}}$ As per the applicable modalities and procedures, the Board may make its response publicly available.

³ Latest CDM regulatory documents and information are available at: <u>http://cdm.unfccc.int/Reference/index.html</u>.



Members of the CDM Executive Board UNFCCC Secretariat Martin-Luther-King-Strasse 8 D 53153 Bonn Germany

Tocdm-info@unfccc.intFromMelissa H. Hirschheimer (focalpoint@eqao.com.br)Date15 July 2013SubjectEditorial review of documents after I&RC incomplete, LT-Amazonas Project (9051)

Honourable Members of the CDM Executive Board,

This communication refers to claryfing the applicable registration date for the above project.

The documentation relating to the request for registration of the LT-Amazonas Project (9051) was submitted to the UNFCCC Secretariat on 21-Dec-2012 and on the 10-April-2013 it was considered incomplete in the Information and Reporting Check phase (see the complete history of the submission in Annex I below).

After a teleconference with the Secretariat, the DOE and the PPs submitted a clarification letter to the Secretariat (submitted as attachment to the present letter) demonstrating that, with the single exception of a minor editorial revision, all other required clarification/information was contained already in the documentation submitted in December 2012The DOE and the PPs do acknowledge that some information could be repeated in different parts of the documents to improve the overall understanding of the submission. Nevertheless, to the best of our understanding, the only change of any substance to address the points raised in the incomplete message is a minor editorial revision at page 15 of the PDD ("post-tax" instead of "pre-tax").

In response to our letter the Secretariat replied, "all the additional explanation/information provided in the response letter dated 2013/05/20 needs to be incorporated in the revised PDD/Validation Report to make the documents clear enough with respect to issues raised."

The DOE and the PPs are of course available to review the documentation as required by the Secretariat but, before doing it would like to request a clarification from the Board. Taking into account that no substance will be changed (only repeating already provided information in different parts of the documentation to improve understanding), will this change be considered of editorial nature and the date of the submission maintained 21-Dec-2102?

Thank you very much for any clarification.

Melissa S. Hirschheimer

CC:

Mr. Peer Stiansen, Norway, Annex-I, Chair of the EB

Mr. Antonio Huerta-Goldman, Mexico, GRULAC

Mr. Eduardo Calvo Buendia, Peru, GRULAC

Mr. José Domingos Gonzalez Miguez, Brazil, Non-Annex-I

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ANNEX I – History of the submission

21-Dec-2012

The documentation relating to the request for registration of the LT-Amazonas Project (9051) was submitted to the UNFCCC Secretariat on 21-Dec-2012.

29-Jan-2013

Message received by the DOE/PPs

"We would like to notify you that the completeness check for request for registration of 'Tucuruí-Macapá-Manaus Electrical Interconnected grid' (for simplicity hereafter referred to simply as the 'LT-Amazonas Project'). (9051) has been scheduled to start on 29 January 2013."

01-Feb-2013

Message received by the DOE/PPs

"Please be informed that your request for registration of CDM project activity "Tucuruí-Macapá-Manaus Electrical Interconnected grid" (for simplicity hereafter referred to simply as the "LT-Amazonas Project"). (9051) is incomplete for the following reason(s): The DOE submitted this request for registration using the VVM track. However, according to the documentation uploaded on the web interface, the validation of this project was based on the VVS. The DOE is kindly requested to submit this request for registration using the VVS track. Please submit revised documentation addressing the points above by logging into your CDM account and uploading directly to the record for this project."

05-Mar-2013

Message received by the DOE/PPs

"We would like to notify you that the completeness check for request for registration of "Tucuruí-Macapá-Manaus Electrical Interconnected grid" (for simplicity hereafter referred to simply as the "LT-Amazonas Project")." (9051) has been scheduled to start on 05 March 2013."

10-Apr-2013

Message received by the DOE/PPs

"Please be informed that your request for registration of CDM project activity "Tucuruí-

Macapá-Manaus Electrical Interconnected grid" (for simplicity hereafter referred to simply as the "LT-Amazonas Project"). (9051) is incomplete for the following reason(s):

1: The DOE is requested to describe how each applicability condition of the methodology/ies is fulfilled by the project activity as per VVS version 2 paragraphs 76 and 77.

In particular, the applicability criterion (d) of the applied methodology (page 3 out of 22) which requires that the total installed power capacity in the previously isolated grid is less than 10% of the total installed power capacity in the main grid in the year prior to the implementation of the project activity. It was observed that the PDD and Validation report do not provide clear information/data on the installed capacity of the main grid and isolated grid system as required by the methodology. Please provide the necessary information/data

2: The DOE is requested to describe how it has validated the suitability of the input values used in the financial calculations as per VVS version 2 paragraphs 120 and 123 (a).

In particular, the level of investment cost assumed for the project activity given that the PDD and Validation report lack information regarding : i) values and sources of the assumed investment cost; ii) details on the evidence used to cross-check the values (i.e. EPC contract), and iii) how the DOE has determined that the level of investment cost assumed at the time of investment decision is reasonable and valid.

3: The DOE is requested to include information on how it has validated sensitivity analysis of the investment analysis as per VVS version 2 paragraph 120 (e).

In particular, how the DOE has determined that the reductions in the investment cost (i.e. decrease of 41% for LXTE, 36.8% for LMTE and 42.1% for MTE) required to cross the benchmark are unlikely to happen.

4: The DOE is requested to describe how it has validated the suitability of the benchmark as per VVS version 2 paragraphs 121 and 123 (b).

Considering that the PDD (page 15) and calculation spreadsheet show that the applied benchmark is pre-tax benchmark, whereas the IRR calculated is post-tax project (VR, page 39). Please clarify.

Please submit revised documentation addressing the points above by logging into your CDM account and uploading directly to the record for this project."

24-Apr-2013

Conference call with the secretariat for clarifications regarding the incomplete.

19-May-2013

Response sent to the Secretariat (also submitted as annex to the present letter).

17-Jun-2013

Response from the Secretariat: "As we have communicated earlier, all the additional explanation/information provided in the response letter dated 2013/05/20 need to be incorporated in the revised PDD/Validation Report to make the documents clear enough with respect to issues raised. In this case, the revision/changes can not be treated as issues of editorial nature considering the nature of the changes/revision to be made in the documents. Hence, as per the project cycle procedure the re-submission of the revised documents will be treated as a new submission of a request for registration."

Please provide any specific suggestions or further information which would address the issue raised in the previous section, including the exact reference source and version (if applicable).

[replace this bracket with text, the field will expand automatically with size of text]

If necessary, list attached files containing relevant information (if any)	 Letter submitted by the DOE to the incomplete message, dated 19th May 2012. 		
Section below to be filled in by UNFCCC se	cretariat		
Date when the form was received at UNFCCC secr	etariat 18 July 2013		

Reference number

- - - -

2013-279-S

History of document

Version	Date	Nature of revision
01.2	08 February 2012	Editorial revision.
01.1	09 August 2011	Editorial revision.
01	04 August 2011	Initial publication date.
Decision Class: Regulatory Document Type: Form Business Function: Governance		



Response to the Request for Registration Incomplete for the CDM project activity

UNFCCC Secretariat Attn. CDM Executive Board Martin-Luther-King-Straβe 8 D – 53175 Bonn Germany

Response to the Request for Registration Incomplete for the CDM project activity "Tucuruí-Macapá-Manaus Electrical Interconnected grid" (for simplicity hereafter referred to simply as the "LT-Amazonas Project") (Ref. no.: 9051)

2013-05-20

Dear UNFCCC Representative,

The DOE TÜV Rheinland (China) Ltd. was informed on 10 April 2013 that the request for registration of CDM project activity *"Tucuruí-Macapá-Manaus Electrical Interconnected grid"* (for simplicity hereafter referred to simply as the *"LT-Amazonas Project"*) (Ref. no. 9051), is considered incomplete.

In this submission, we would like to provide our response to those issues raised.

In summary, we understand the issues raised in the "Information and Reporting check" and regret if the previous Validation Report was not clear enough.

However, we are confident that the present explanation will demonstrate that all applicable guidelines and regulations were duly applied in the validation of the project activity.

Yours sincerely

Mr. Henri Phan DOE Manager TÜV Rheinland (China) Ltd.



1. Issue 1 raised

The DOE is requested to describe how each applicability condition of the methodology/ies is fulfilled by the project activity as per VVS version 2 paragraphs 76 and 77. In particular, the applicability criterion (d) of the applied methodology (page 3 out of 22) which requires that the total installed power capacity in the previously isolated grid is less than 10% of the total installed power capacity in the year prior to the implementation of the project activity. It was observed that the PDD and Validation report do not provide clear information/data on the installed capacity of the main grid and isolated grid system as required by the methodology. Please provide the necessary information/data.

1.1. Requirements

1.1.1. Clean development mechanism validation and verification standard (version 02.0)

L. Application of the selected baseline and monitoring methodology.

Paragraph 76. The DOE shall determine whether the project activity meets each of the applicability conditions of the approved methodology or any tool or other methodology component referred to therein. This shall be done by validating the documentation referred to in the PDD and by verifying that the documentation content is correctly quoted and interpreted in the PDD. If the DOE, based on local and sectoral knowledge, is aware that comparable information is available from credible sources other than that used in the PDD, then the DOE shall cross-check the PDD against other sources to confirm that the project activity meets the applicability conditions of the methodology.

Paragraph 77. For each applicability condition listed in the approved methodology selected, the DOE shall describe the steps taken to assess the relevant information contained in the PDD against these criteria. The DOE shall provide a validation opinion regarding the applicability of the selected methodology to the proposed CDM project activity.

1.1.2. AM0104 "Interconnection of electricity grids in countries with economic merit order dispatch" (version 1.0.0)

2.2 Applicability. The methodology is applicable under the following conditions: (a) The geographic and system boundaries for the relevant grids can be clearly identified and information on the characteristics and composition of grids is available; (b) Electricity exchange of the previously isolated grid with other grid(s) through the interconnection line(s) that might be constructed after implementation of the project activity shall be monitored; (c) After the implementation of the project activity, there will be only one dispatch centre responsible for the operation of the resulting grid (previously isolated and main grid); (d) The total installed power capacity in the previously isolated grid is less than 10 per cent of the total installed power capacity in the main grid in the year prior to the implementation of the project activity.

1.2. Related information in the submitted PDD (version 06.1)

On section 'A. Description of the project activity' of the PDD it is stated that the purpose of the project activity is the expansion of the Brazilian interconnected grid to isolated systems in the Brazilian states: Pará, Amazonas and Amapá.

Specifically on section A.1 (page 3) it is mentioned regarding to the applicability condition (d): "In the present situation, according to Eletrobrás, Brazilian electric power market is supplied by one



Interconnected Grid System (97%) and many isolated systems (3%). 98.3% of the isolated systems are located in north region, mainly in Amazonian region. Manaus system corresponds for 44% of the isolated system demand, which 44% is supplied to industries, on the contrary of the rest of the isolated systems that are mainly residential consumers".

The evidences used are mentioned in the page 3, as footnote: ELETROBRÁS, 2007. Electric Power Market Analysis - Isolated Systems 2006-2016 Planning Period. Grupo Técnico Operacional da Região Norte. ELETROBRÁS, 2008. Electric Power Market Analysis, Isolated Systems 2007-2017 Planning Period. Grupo Técnico Operacional da Região Norte. Additionally on section 'A.3. Technologies and/or measures' of the PDD, it is described and explained in detail the electrical transmission line that will be implemented in the project activity (from page 6 to 10).

1.3. Related information in the submitted Validation Report (version 03.1)

On section '3.4.1. Applicability of the selected methodology to the project activity', pages 20 and 21 of the Validation Report, it is stated if the project activity complies with all the applicability conditions required by AM0104 (version 1.0.0). Specifically, regarding to the applicability criterion (d), the following conclusion is mentioned: "*All the power plants operating in the previously isolated system after the interconnection and the complete electricity import and export are monitored in the substations of the project activity by the ONS as verified in the official ONS links, Information validated in the links on the internet. On section A.3 of the PDD is described that the isolated grid it's less than 10% of the national grid".*

The reference /44/ plus the documents mentioned in the footnote 5 in the PDD, as it is mention in Section 1.2 above, were used as support to determine compliance of the project activity with the applicability condition (d) of the applied methodology, as it is explained in the Section 1.4 below.

1.4. TÜV Rheinland's response

The applicability criterion (d) of the applied methodology (AM0104 version 01.0.0) is fulfilled. On PDD is clearly mentioned that the purpose of the project activity is the expansion of the Brazilian interconnected grid to isolated system (in the Brazilian states: Pará, Amazonas and Amapá).

The Brazilian electric power market is supplied by one Interconnected Grid System, which corresponds to 97% and many isolated systems, which add up a 3%. Therefore, as the methodology requires, the isolated systems correspond to less than 10% of the total installed power capacity in the main grid prior to the implementation of the project activity (noteworthy that the requirement refers to the percentage of the total installed capacity and isolated grid capacity). In the Validation report, each of the applicability conditions were analyzed. Specifically, the information presented by PP for the applicability condition (d) which requires that the total installed power capacity in the previously isolated grid must be less than 10 per cent of the total installed power capacity in the main grid in the year prior to the implementation of the project activity. The above information was validated with the revision of three documents: 1) History of the Energy in Brazil (included in the list of documents of the Validation report with the reference number /44/); 2) Electric Power Market Analysis - Isolated Systems 2006-2016 Planning Period. Grupo Técnico Operacional da Região Norte by ELETROBRÁS, 2007; and 3) Electric Power Market Analysis, Isolated Systems 2007-2017 Planning Period, Grupo Técnico Operacional da Região Norte by ELETROBRÁS, 2008 (included as footnote 5 in page 3 of the PDD).

As a conclusion, the Validation team, has reviewed the Electric Power Market Analysis, issued by Eletrobrás, where it was verified the information about the total installed power capacity in the previously isolated grid is less than 10 per cent of the total installed power capacity in the main grid in the year prior to the implementation of the project activity, as the methodology requires.

Hence, the DOE complies with the paragraph 76 and 77 of VVS version 02.0, and the DOE determination is that the project activity meets each of the applicability conditions of the approved methodology and tools.



This was done by reviewing the documentation referred to in the PDD and by confirming that the documentation content was correctly quoted and interpreted in the PDD.

The information submitted by PP is obtained from official sources and it is traceable. As mentioned above, this information was crosschecked and compared with the revision of three documents (ref. /44/ in the VR and footnote 5 in the PDD). The DOE listed each of the applicability conditions in the approved methodology selected and described the steps taken to assess the relevant information contained in the PDD on section '3.4.1 Applicability of the selected methodology to the project activity' (pages 20 and 21) of Validation Report, version 03.1, as required on paragraph 77 of VVS version 02.0.

Moreover, no other comparison was needed due to the fact that no other similar CDM project activity exists in Brazil, this is the first one implemented in Brazil following the above methodology¹.

2. Issue 2 raised

The DOE is requested to describe how it has validated the suitability of the input values used in the financial calculations as per VVS version 2 paragraphs 120 and 123 (a).

In particular, the level of investment cost assumed for the project activity given that the PDD and Validation report lack information regarding: i) values and sources of the assumed investment cost; ii) details on the evidence used to cross-check the values (i.e. EPC contract), and iii) how the DOE has determined that the level of investment cost assumed at the time of investment decision is reasonable and valid.

2.1. Requirements

2.1.1. Clean development mechanism validation and verification standard (version 02.0)

11. Investment Analysis.

Paragraph 120. (a) Determine the suitability of the financial indicator selected by the project participants and conduct a thorough assessment of all parameters and assumptions used in calculating such financial indicators, and determine the accuracy and suitability of these parameters using available evidence and applying its expertise in relevant accounting practices; (b) Cross-check the parameters against third-party or publicly available sources, such as invoices or price indices; (c) Review, as appropriate, feasibility reports, public announcements and annual financial reports related to the proposed project activity and the project participants; (d) Assess the correctness of computations carried out and documented by the project participants; and (e) Assess, where applicable, the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions.

Paragraph 123. The DOE shall: (a) Describe in detail how the parameters used in any financial calculations, including those taken from the FSR, if applicable, have been validated; (b) Describe how the suitability of any benchmark applied has been assessed; (c) Confirm whether the underlying assumptions are appropriate and the financial calculations are correct.

2.1.2. AM0104 "Interconnection of electricity grids in countries with

¹ AM0104 is based on NM035, prepared by the project participants of the present project activity.



economic merit order dispatch" (version 1.0.0)

The Investment Analysis has been assessed for compliance with the "Tool for the demonstration and assessment of additionality" (version 06.1.0) and the "Guidance on the Assessment of Investment Analysis" (version 05.0).

2.2. Related information in the submitted PDD (version 06.1)

According to the information provided on section 'B.4 Establishment and description of baseline scenario regarding to Investment Analysis', each step applied was properly explained and referenced. On page 16 of the PDD it is stated that: "*The cash flow of the project activity, containing the calculation of the IRR of the project activity has been provided to the DOE in a separate annex to this CDM-PDD*" (included in the list of documents of the Validation Report with the reference numbers: /47/, /48/ and /49/)'.

The appendixes to the PDD (for example, the IRR calculation spreadsheets), submitted for registration, are part of the PDD. In each IRR calculation spreadsheet all investment analysis parameters, including the value of investment cost, and the calculations are openly available, exactly as they were made publicly available by ANEEL, at the time of the auction. The source of the data, ANEEL, the Electric Energy National Agency, is described in page 16 of the PDD as well as in every single IRR calculation spreadsheet.

Is important to stress that the spreadsheet with the IRR calculation is the one prepared by ANEEL before the concession auction, only translated into English. The spreadsheet is also supplied as a tool for the project activity's IRR calculation in order for the project activity IRR to match the given WACC, also provided by ANEEL.

The only input by the PPs is the estimated "allowed annual revenues" (RAP, from the Portuguese "receita anual permitida"), annual revenues to be paid to the project activity to keep the transmission lines available for the National Dispatch Center (National Electricity System Operator or ONS, from the Portuguese, Operador Nacional do Sitema Elétrico), which is also the parameter used to define the action winner.

If the actual total investment communicated and approved by ANEEL is used, the actual estimated project IRR is obtained.

2.3. Related information in the submitted Validation Report (version 03.1)

On section '3.5 Additionality' of the PDD (from page 28 to 41) it is explained the steps taken and sources used for the Additionality Tool applied by the project. Regarding to the Investment analysis, the financial indicator identified for LT-Amazonas project is the IRR and compared with the Weighted Average Cost of Capital - WACC. The calculation of the WACC is explained in section 3.5 (pages 28-29). On section '3.5.3.1 Choice of approach' (from page 32 to 39), the principal parameters are discussed and analyzed.

On page 32 it is stated: "The total investment necessary to build the transmission line as stated in the cash flow, corresponds to the estimated investment cost made by the project owner. Specifically for this project activity the project owner signed an EPC contract. This type of contract fixes the price of construction and any variation either in favour or against the project is in charge of the construction company which means that no variation in project IRR can be attributed to a variation in the investment costs".

On page 31 states "A spreadsheet with the ANEEL WACC was provided and shown to the audit team. It has two validation this table, first the one for the bid, which is the one used for the project analysis, in the moment of the decision, and second our analysis, based on the request by ANEEL (origin of the calculation)".

"The IRR was developed using the Auction Bid parameters (value which was finally the start data



for the financial analysis and also for win the auction). A spreadsheet was provided with the parameters provided by ANEEL (model) in order to uniform all the offers under similar parameters".

2.4. TÜV Rheinland's response:

As mentioned in the Validation report, from section 3.5 onwards, all inputs values and parameters used in the financial calculations contained in the spreadsheets provided for each transmission line, are based on the concession contract awarded by the Brazilian Federal Electricity Regulatory Agency (ANEEL, from the Portuguese "Agência Nacional de Energia Elétrica") references /20/, /21/, /22/, also is indicated on footnote 10 in page 17 of the PDD (see Reference Document below).

Regarding the IRR analysis, the PP presented three scenarios per Concession Auction, the first with the investment value "according to program ANEEL" (see "inputs concession company" worksheet; Validation Report (VR) references /47/ /48/ /49/), the second with the investment value according to the concession contract (ANEEL Contract) and the third is the investment value according to 10% reduction over ANEEL Contract.

The official source is the concession contract established by ANEEL, this is the mandatory document that the project activity must follow.

Each concession contract presents the description of the cost for engineering, materials, constructions and other events of the constructions of each transmission lines. The PP has signed an EPC contract, and all conditions of the contract are adjusted based on ANEEL values (like the construction costs). The EPC contract was crosschecked during audit on site but not included as reference due to the fact that parameters provided by ANEEL are the significant ones for the investment analysis.

The DOE crosschecked all evidence used in the investment analysis (spreadsheet parameters provided by ANEEL for the auction process against concession contract), which are properly referenced in the VR and PDD.

The DOE has determined that the level of investment cost assumed at the time of investment decision (2008) is reasonable and valid because all information used is from the same year (2008) and issued by official source (ANEEL, Brazilian government entity).

Noteworthy, as mentioned in Table 1 of Appendix A on the Validation Report, it is not applicable to use of Feasibility Study Report (FSR), due to all parameters and values were provided on bids first (decision making) and then established in the concession contracts (cross-check). Hence, the DOE complies with the paragraphs 120 and 123 (a) of the VVS version 02.0.

3. Issue 3 raised

The DOE is requested to include information on how it has validated sensitivity analysis of the investment analysis as per VVS version 2 paragraph 120 (e). In particular, how the DOE has determined that the reductions in the investment cost (i.e. decrease of 41% for LXTE, 36.8% for LMTE and 42.1% for MTE) required to cross the benchmark are unlikely to happen.

3.1. Requirements

3.1.1. Clean development mechanism validation and verification standard (VVS version 02.0)



11. Investment Analysis.

Paragraph 120. (a) Determine the suitability of the financial indicator selected by the project participants and conduct a thorough assessment of all parameters and assumptions used in calculating such financial indicators, and determine the accuracy and suitability of these parameters using available evidence and applying its expertise in relevant accounting practices; (b) Cross-check the parameters against third-party or publicly available sources, such as invoices or price indices; (c) Review, as appropriate, feasibility reports, public announcements and annual financial reports related to the proposed project activity and the project participants; (d) Assess the correctness of computations carried out and documented by the project participants; and (e) Assess, where applicable, the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions.

3.1.2. AM0104 "Interconnection of electricity grids in countries with economic merit order dispatch" (version 1.0.0)

The Investment Analysis has been assessed for compliance with the "Tool for the demonstration and assessment of additionality" (version 06.1.0) and the "Guidance on the Assessment of Investment Analysis" (version 05.0).

3.2. Related information in the submitted PDD (version 06.1)

Regarding to sensitivity analysis, on PDD (pages 16-17) it is stated: "As this project is very capital intensive during the construction phase, the sectorial charges and the operation expenses are not relevant if compared to the investment costs. Additionally, these parameters were fixed in ANEEL's model during the auction, where the only parameter to be adjusted by the PPs is the total investment costs. Also, the revenues are fixed in the concession contract. Hence, variations were carried reducing only the total investment costs.

Revenues related to the transmission lines operation in the original cash flow were calculated based on the assumptions of fixed annual maximum revenue (without considering penalties), according to Clause 6 of the concession contract:

Batch A, LXTE (Xingu): BRL 74,300,000.00

Batch B, LMTE (Macapá): BRL 71,880,000.00

Batch C, MTE: BRL 101,607,565.50

Revenues will remain fixed throughout the years, and will only be adjusted each 5 (five) years, according to Clause 7 of the concession contract."

3.3. Related information in the submitted Validation Report (version 03.1)

On section '3.5.3.2 Sensitivity analysis', pages 39-40 of the VR, it is stated: "If the investment cost decreases by 41% for LXTE, 36.8% for LMTE and 42.1% for MTE, the IRR reaches the benchmark (WACC). Model provided by ANEEL shows this value, and is considered valid, as the support of this value is an official source. In the description of parameters, all sources were described". The conclusion presented on Table 1 of Appendix 1 was "The sensitive analysis was shown to the audit team, and as the sector investor with those values (based on the ANEEL calculation model) is not attracted in projects with IRR lower than the benchmark in all considered scenarios. Moreover as stated by the PP, the consideration of CDM revenues helps the company to win the BID, due to the lower monthly fee that the government entity should pay to the concession. In the other hand as the partnership, has strictly schedules to start with the project, the CDM revenues will overcome any possible risk of delays, for the company. In case of this real



action occurs without the CDM revenues, the PP wouldn't continue with the bid".

3.4. TÜV Rheinland's response

The DOE cross-checked the values presented in the IRR and WACC calculations provided by ANEEL, which were considered valid, as the WACC value was provided by an official source (references in validation report: /20/, /21/, /22/, /47/, /48/ and /49/).

The IRR calculation and the percentage reductions were reviewed and validated from the spreadsheet provided by ANEEL. The DOE verified that LMTE's investment cost would have to be decreased by 36.8%, LXTE's investment cost decreased by 41% and, MTE's by 42.1% to reach the 8.44% WACC provided by ANEEL.

These significant decreases are not possible by contract clauses, as mentioned on section '3.5.3 Investment Analysis' of the VR, because the investment cost is based on concession contract awarded by ANEEL and all conditions of the EPC contract are adjusted as established by ANEEL.

The EPC contract was considered during audit on site but not included as reference due to fact that the parameters provided by ANEEL are the applicable ones for the analysis. Hence, the DOE complies with the paragraph 120 (e) of the VVS version 02.0.

4. Issue 4 raised

The DOE is requested to describe how it has validated the suitability of the benchmark as per VVS version 2 paragraphs 121 and 123 (b). Considering that the PDD (page 15) and calculation spreadsheet show that the applied benchmark is pre-tax benchmark, whereas the IRR calculated is post-tax project (VR, page 39). Please clarify.

4.1. Requirements

4.1.1. Clean development mechanism validation and verification standard (version 02.0)

11. Investment Analysis.

Paragraph 121: To confirm the suitability of any benchmark applied in the investment analysis, the DOE shall:

(a) Determine whether the type of benchmark applied is suitable for the type of financial indicator presented;

(b) Ensure that any risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity;

(c) Determine whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark.

Paragraph 123. The DOE shall: (a) Describe in detail how the parameters used in any financial calculations, including those taken from the FSR, if applicable, have been validated; (b) Describe how the suitability of any benchmark applied has been assessed; (c) Confirm whether the underlying assumptions are appropriate and the financial calculations are correct.

4.1.2. AM0104 "Interconnection of electricity grids in countries with economic merit order dispatch" (version 1.0.0)



The Investment Analysis has been assessed for compliance with the "Tool for the demonstration and assessment of additionality" (version 06.1.0) and the "Guidance on the Assessment of Investment Analysis" (version 05.0).

4.2. Related information in the submitted PDD (version 06.1):

On PDD (page 15) it is stated: "The WACC of the sector as of the project's financial analysis decision date is the one calculated and supplied by the Brazilian Federal Electricity Regulatory Agency (ANEEL, from the Portuguese "Agência Nacional de Energia Elétrica"), before the concession auction (27/06/2008). The benchmark provided by ANEEL is pre-tax".

4.3. Related information in the submitted Validation Report (version 03.1):

On section '3.5.3.1 Choice of approach' (page 39) of the VR, it is stated: "The financial analysis is in accordance with the "Tool for demonstration and assessment of additionality" version 6.1.0" and the "Guidelines on the assessment of investment analysis" version 05.0. All input parameters used in the IRR calculation were valid at the time of investment decision making. The validation team confirms that the project IRR post tax without any CDM revenue works out to be 3.5% (LXTE Line Xingu), 4.1% (LMTE Line Macapá) and 3.3% (MTE Line Manaus) which are below the benchmark of 8.44%. It is clearly demonstrated that the proposed project activity without CER revenues is financially unattractive. The validation took cognizance of § 119 of VVS (version 02.0)".

4.4. Project Proponent response:

Taking into account that all investment analysis parameters and calculations were provided by the ANEEL, the governmental Brazilian Federal Electricity Regulatory Agency (the submitted spreadsheets are the original/official publicly available ones received by the PPs, translated into English, with exception of the first worksheet where the sensitivity analysis is carried out), it is clear ANEEL calculates the NPV/IRR using after tax cash flow. As already explained above, PPs have to use ANEEL's parameters given for the auction, i.e., the given benchmark cannot be change and has to be compared against the post-tax IRR and NPV calculations. Therefore, the benchmark determined by ANEEL as well as all investment scenarios are post-tax. The text in the PDD (page 15) is indeed inaccurate (one should read "the benchmark provided by ANEEL is post-tax") and a minor editorial revision may be necessary.

4.5. TÜV Rheinland's response

The DOE cross-checked the information presented and explained on the spreadsheets regarding financial calculation, benchmark (WACC) and NPV/IRR (calculated post taxes), it is clear that the benchmark applied is post-tax, as it is defined in the conditions of the NPV/IRR calculations provided by ANEEL. In the Validation Report as conclusion of the financial calculations it is mentioned that the project NPV/IRR is post-tax, (see previous section "4.3 Related information in the submitted Validation Report (version 03.1)" therefore the statement on page 15 of the PDD is only an editorial error.



Ref no.	Reference Document (as stated on the validation report)
/20/	Concession contract for providing service to public transmission of electric power N° 009/2008 – ANEEL of Linhas de Macapá Transmissora de Energia S.A. (LMTE): - [LMTE_09-2008_CC6476_1oAditivo.pdf]. Dated 23/02/2010 - [LMTE_09-2008_CC6476_C_1.pdf]. Dated 16/10/2008
/21/	Concession contract for providing service to public transmission of electric power N° 008/2008 – ANEEL of Linhas de Xingu Transmissora de Energia S.A. (LXTE): - [LXTE_08-2008_CC6475_1oAditivo.pdf]. Dated 23/02/2010 - [LXTE_08-2008_CC6475_C_1]. Dated 16/10/2008
/22/	Concession contract for providing service to public transmission of electric power N° 010/2008 – ANEEL of Manaus Transmissora de Energia S.A. (MTE): - [MTE_010-2008_CC6477_1oAditivo.pdf]. Dated 30/12/2009 - [MTE_010-2008_CC6477_C_1.pdf]. Dated 16/10/2008
/44/	History of the Energy in Brazil, available in http://www.redenergia.com/sobre-a-rede-energia/historia/
/47/	2012 10 17_PLANILHA_REVISAO_LT_2008 LMTE_EN-ver01
/48/	2012 10 17_PLANILHA_REVISAO_LT_2008 LXTE_EN-ver01
/49/	2012 10 17_PLANILHA_REVISAO_LT_2008 MTE_EN-ver01
/60/	ReferencefortaxandlawfromBrazil(2012)http://www.worldwide-tax.com/brazil/brazil_taxes.asphttp://www.aneel.gov.br/arquivos/PDF/SCT_RESULTADO_LEILÃO_INTERNET_06jun2012.pdf

Reference Document (as stated on the PDD)							
Footnote 5 (page 3): ELETROBRÁS, 2007. Electric Power Market Analysis - Isolated Systems							
2006-2016 Planning Period. Grupo Técnico Operacional da Região Norte. ELETROBRÁS, 2008.							
Eletric Power Market Analysis, Isolated Systems 2007-2017 Planning Period. Grupo Técnico						ico	
Operacional da Região Norte							
Footnote 10	(page	17):	MTE	Concession	Agreement	-	
http://www.aneel.gov.br/aplicacoes/siget/arq.cfm?arquivo=612							
1st amendment - http://www.aneel.gov.br/aplicacoes/siget/arg.cfm?arguivo=2928							
LMTE Concession Agreement - http://www.aneel.gov.br/aplicacoes/siget/arq.cfm?arquivo=611							
1st amendment - http://www.aneel.gov.br/aplicacoes/siget/arq.cfm?arquivo=2555							
LXTE Concession Agreement - http://www.aneel.gov.br/aplicacoes/siget/arq.cfm?arquivo=610							
1st amendment - http://www.aneel.gov.br/aplicacoes/siget/arq.cfm?arquivo=2554							