



Mr. Hans Jürgen Stehr  
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January 25<sup>th</sup>, 2007

**Re Request for review for request for registration of “1232 UHE Mascarenhas power upgrading project” (UNFCCC Ref. no. 1232).**

Dear Mr. Stehr,

SGS has been informed that the request for registration of the CDM project activity “1232 UHE Mascarenhas power upgrading project” (UNFCCC Ref. no. 1232) is under consideration for review because three requests for review have been received from members of the Board.

The requests for review are based on the reasons outlined below. SGS would like to provide an initial response to the issues raised by the request for review:

**Request for review 1:**

Further clarification is required as to why the IRR has been calculated on a post tax basis when the taxation rate is also reflected in the calculation of the WACC.

**Response SGS:**

The financial indicator used for this project type is the Internal Rate of Return (IRR).

The benchmark used by Energest in 2003 (when the decision was made to go ahead with the project) is of 14.74%. This is the WACC figure calculated as established by ANEEL (Agencia Nacional de Energia Eletrica). Both this value, and the IRR calculated for the purpose of the Project Activities (11.52%), are worked out on a post tax basis. Please refer to page 44 of the PDD for the calculations of the WACC, and pages 9-11 for the Project activity IRR calculations

**Request for review 2:**

The DOE should clarify why this project was submitted for registration as the validation report has determined that *“The decision to go on with the project activity in 2003 does not consider the carbon credit revenue.”*, the DOE should also clarify why if this is the case they have not raised a corrective action request regarding the project start date listed in the PDD.

**Response SGS:**

The phrase: “The decision to go on with the project activity in 2003 does not consider the carbon credit revenue” is part of a corrective action request and not a conclusion. This information should be analyzed in the context of the CAR 2 (see below) described in the validation report. This CAR 2 was satisfactorily answered and hence, closed out. During validation assessment it was concluded that the financial analysis used the correct benchmark, carbon credits represent an important revenue source for the project activity (in 2003).

Date: 28/08/2006

Raised by: Fabian Gonçalves

No.	Type	Issue	Ref
2	CAR	In the discussion of additionality, the project uses a benchmark analysis. The decision to go on with the project activity in 2003 does not consider the carbon credit revenue. To revise the IRR using the data available and that was used by Energest in the decision to install the 4 <sup>th</sup> generator at Mascarenhas.	3.2
Date: Documents to proof the additionality of the project activity was sent to SGS by mail. [Comments]			
Date: 21/11/2006 – Fabian Gonçalves. [Acceptance and close out] It was provided copy of the financial study. The project uses benchmark analysis as a tool to assess the potential generation project. The internal benchmark (Energest) for the year 2003 is 14.72% and the project used another value as reference, the National treasury notes (NTN-C), reference year 2003 = 18.42%. The NTN-C is an option for the project activity to invest in the Brazilian financial market which is the government bond rates. The NTN-C IRR is higher than the internal benchmark. The financial analysis demonstrates that the IRR without CDM revenue is 11.52% and with CDM revenue is 13.01% which is lower than internal benchmark or NTN-C. CAR 2 was closed out.			

### **Request for review 3:**

Version 3 of the Tool for the demonstration and assessment of additionality should be applied.

### **Response SGS:**

When starting the validation process and global stakeholder consultation from 06 July 2006 until 04 August 2006 the Tool used was version 2 was valid. Following the request for review version 3 of the Tool was applied. The only change introduced in the PDD is regarding steps 0 and 5 that were excluded (attached PDD).

### **Request for review 4:**

In addition, according to Annex 5 of the PDD, the BNDES has financed 70% of the investment in the 4th machine of the Mascarenhas hydro project in 2003. Further clarification and demonstration is required on the decision by the company to invest in this project activity.

### **Response SGS:**

The Project was financed by the BNDES (National Development Bank). The decision to invest in this project activity was made considering the possible CER revenue. Without CDM the project activity is not financially attractive. The CER revenue was seriously considered by the EDP holding group in 2003 for all the generation activities in Brazil to decrease projects risk and make projects feasible.

Ref 16 of the validation report was the document sent by the EDP group as evidence of the above. This document, which is only available in Portuguese, is a presentation (dated May 2003) which looks at the background of CDM, its financial mechanisms as well as at the advantages of the CDM projects for the group EDP. Slide 9 of the presentation states that the group EDS Brasil was studying the viability of the installation of a fourth generation unit in Mascarenhas as a CDM project. The presentation also goes on to analyse the opportunities and attractiveness (i.e. competitive advantages) of CER revenues.

The registration as a CDM project will provide incentives to similar project activities that do not present a feasible financial scenario.

**Request for review 5:**

The DOE should also clarify why, if that is the case, they have not raised a corrective action request regarding the project start date listed in the PDD.

**Response SGS:**

The project starting date listed in the PDD was not considered a corrective action request during the validation assessment because the date that the actual construction phase commenced, evident in the authorisation given for the installation of the 4<sup>th</sup> engine in Mascarenhas plant issued by ANEEL (National Agency of Energy), Resolution N° 434 of 30 January 2006, was perceived by the client as an appropriate starting date for the project. The DOE accepted that view.

The financial analysis of the project was done with 2003 as the base year.

**Request for review 6:**

The DOE shall further clarify how the validity and appropriateness of the benchmark applied was assessed and validated.

**Response SGS:**

The benchmark adopted is the internal benchmark or WACC defined for the company. The benchmark used by Energest at the year 2003 is set on 14.72%, when the decision to go on with the project activity was taken. The WACC benchmark was confirmed through the analysis of an internal document from EDP group - INVESTIMENTOS EM GERAÇÃO DA ESCELSA x FINANCIAMENTO BNDES.

The document provided is a viability study to invest in the 4<sup>th</sup> machine of Mascarenhas plant. The study included the source of investment (from the BNDES) and mentions the benchmark used. The WACC applied was defined by the board. The WACC for the project activity represents a value used by Energest to represent the minimum standard internal return.

**Request for review 7:**

The DOE shall further clarify how they have validated the sensitivity analysis.

**Response SGS:**

The DOE checked the sensitivity analysis presented in the PDD. The sensitivity analysis was simulated to obtain the values presented in the PDD. The same cash flow spreadsheet was used, but changing the energy tariff, investment cost directly into the spreadsheet.

In all scenarios presented the value of the IRR is always lower than the WACC (benchmark). An increase of energy tariff or variation in the investment does not make the project financially attractive.

The variables used are realistic because the energy tariff represents the main revenue of this project and a variation impact directly in the IRR, and the investment cost is another variable that impact directly in the IRR of the project activity. The same approach used in the sensitivity analysis was used in other CDM proposed project from Energest (São João Hydro power project and Santa Fé hydro power project).

The sensitivity analysis confirms the decision that the project activity is additional and not attractive without CER revenue.

**Request for review 8:**

When describing the common practice in the region the PDD states that .There are other power generation plants, which were identified in the proposed project activity.s region/state operating under similar characteristics (similar age, installed power, power density, and technology) and taking place under similar market conditions (here understood as the regional grid). However, none of these power generation plants

were able to carry on activities such as the proposed project activity. Further clarification is required as the footnote indicates that similar projects are not considered as being part of CDM project activities.

**Response SGS:**

The footnote presented in the PDD “*There are other existing similar projects that are not here considered as being part of CDM project activities, i.e., Repowering Small Hydro Plants in the State of Sao Paulo, Brazil. CPLF Energia, July 2005*” is not well formulated and we understand that this is the source of the misunderstanding. The Project proponent has revised the PDD to reflect the correct interpretation of the text.

It was checked that there are no similar projects in the region implemented without CDM Funding for example the Repowering Small Hydro Plants in the State of Sao Paulo, Brazil (CDM registered project).

With the explanation provided above, we hope that all concerns of the EB have been addressed. We do however apologize if this was not sufficiently clear from the validation report.

Fabian Goncalves (+55 11 5504-8887) will be the contact person for the review process and is available to address questions from the Board during the consideration of the review in case the Executive Board wishes.

Yours sincerely,

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**Annexes to the response:**

- 1- Revised PDD.
- 2- Financial spreadsheets.