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30 October 2008

Dear Members of the CDM Executive Board,

Subject: Answer to Request for review – Saldanha Small Hydroelectric Project (1526)

1. *Further clarification is required on how the DOE has validated the input values, the benchmark, and the sensitivity analysis (in particular, the unlikely increase in grid tariff). The investment analysis spreadsheet should also be provided.*

Further clarification is provided below:

Input values

The input values of the financial analysis presented in the PDD are supported either by third-party documents or official documents issued by governmental bodies, such as the National Electricity Agency - ANEEL. The parameters taken from the third-party documents reflect the actual economic situation of the project at the time of decision making; these documents were made available to the validator during the validation site visit. The parameters taken from official documents were also made available during the validation, see validation report section 3.4.

Table 1 - References for the main input values for the financial analysis

Hydro cash flow inputs	Reference
Investments and O&M Costs	SHP Saldanha Feasibility Study[1]
Subsidy	ANEEL Resolution 349/2004
Electricity Tariff	Cabixi II invoice from December 2003
Depreciation	ANEEL Resolution 002/1997 - item 27
Taxes	Default income taxes determined by the Brazilian government

Benchmark

The SELIC rate is the Banco Central do Brasil's overnight lending rate. The Brazilian Committee of National Monetary Politics (COPOM) stipulates the SELIC value based on national and international economic parameters. The SELIC rate has historically fluctuated over time, between a maximum annual value of 26.35% in March 2003 and a minimum

[1] The DOE could confirm that the parameters of the Study actually reflect the project situation at the time of the decision making.

annual value of 11.13% in April 2008[2], with fluctuations happening cyclically. The best estimate for the SELIC rate, at the time of the decision making, was the average SELIC value between January 2001 and December 2003. The SELIC value adopted for the benchmark was then further decreased by one standard deviation to ensure the benchmark was conservative (i.e. assuming that the SELIC rate follows a normal distribution, the benchmark value would be lower than the SELIC rate with a probability of more than 80%). The value used and the raw data to calculate the average were

Sensitivity analysis
The sensitivity analysis was done by calculating the variation necessary to key parameters to make the project feasible (i.e., the critical parameters were varied in order to make the project IRR equal to the benchmark; this variation is called "feasibility variation"). Then to assess if the variation was reasonable, "feasibility variation" values were compared to "most likely" variation scenarios to assess the likelihood of the benchmark being exceeded. The "most likely" variation scenarios are supported by documented evidences[3] that were made available to the validators. Specifically in reference to the grid tariff, it would be necessary for the tariff agreed in the PPA to increase by 110% to make the project feasible. However doubling of the tariff is not likely, the most likely variation is approximately 10%. This variation could be confirmed by the DOE as it is based on a study[3] which evaluates the electricity tariff in many parts of the Host Country. The variation was calculated as the difference between the tariffs applicable to the project region, North Region, and the highest tariff in the Host Country, in this case the tariff applicable to the Midwest Region. For more information about the "most likely" variation, please refer to the section B.5. of the PDD.

2. *The PP/DOE should provide evidence of action taken to secure CDM status before the start of the validation.*

Actions Timeline:
A timeline showing key dates in the project development is shown below.

1. **08/06/2000: Project 0968 CDM Consideration**

INCOMEX, Indústria, Comércio e Exportação Ltda. was the representative or intermediary for the Saldanha Small Hydroelectric Project. INCOMEX, Indústria, Comércio e Exportação Ltda. is also listed as a Project Participant in registered Project 0968 "Incomex Hydroelectric Project"[4]. The CDM consideration for Project 0968 was a consultancy proposal dated June 8th, 2000 for INCOMEX, Indústria, Comércio e Exportação Ltda to provide CDM services, including capturing CDM revenues for the project owners[5].

2. **11/12/2002 (updated in 05/10/2004): ANEEL Authorisation Saldanha Small Hydroelectric Project**

[2] http://www.bcb.gov.br/?SELICDIA
[3] Tolmasquim, M. T., 2004. Alternativas energéticas sustentáveis no Brasil. Rio de Janeiro: Relume Dumará: COPPE: CENERGIA, 2004;
Thomé, Alexandre Domingues, 2007. Avaliação dos Custos de Construção de Pequenas Centrais Hidrelétricas. PCH Noticias & SHP News nº35
[4] Note that the validator for Project 0968 and Project 1526 are the same company.
[5] Note that Incomex ultimately contracted with EcoSecurities for provision of CDM Project development services and sale of carbon credits for the bundle of 3 small hydro projects that comprise Project 0968.

The Brazilian Electricity Agency (*Agência Nacional de Energia Elétrica* - ANEEL) authorisation is typically used as the starting point for project developers in Brazil to go out and secure, or close, financing for projects (i.e. ANEEL have granted permission for a project to be built, but the authorisation alone is no guarantee that a project will actually be built[6]). A very good example of this is the Espigão SHP (one of the two projects which comprise Project 1378 "Martinuv Espigão Hydroelectric Project"), which obtained its ANEEL authorisation in March 2004, but has not yet[7] obtained its Environmental Licence of Installation, and therefore can not commence construction. The Saldanha SHP received technical approval on 11 December 2002 (ANEEL Order no. 797), and it was updated on 5 October 2004 (ANEEL Resolution no. 349).

3. 26/02/2003: Proposal to Assist in Securing Carbon Revenue

INCOMEX, Indústria, Comércio e Exportação Ltda. subsequently entered into negotiations with Hidroluz Centrais Elétricas Ltda. (the owner of the Saldanha Small Hydroelectric Project) to provide CDM consultancy services and assist in securing carbon revenues for the project (as they had previously provided to Project 0968 "Incomex Hydroelectric Project"). Written communication between these two parties is referenced in Section 3.4 of the Validation Report.

4. 28/11/2003: Saldanha SHP Equipment Purchase

The EB clarified in July 2007[8] that the start date of a project is the earliest date at "which the implementation or construction or real action of the project activity begins". Given this context the 'start of real action' for the project would be defined as 28/11/2003 when equipment was purchased for the Saldanha SHP. Equipment receipts were used as reference for this date.

5. 23/06/2005: ERPA Signed for Project 0968

After negotiations between EcoSecurities and INCOMEX, Indústria, Comércio e Exportação Ltda. an ERPA is signed between the two parties for Project 0968 "Incomex Hydroelectric Project". Negotiations between EcoSecurities and other project owners represented by INCOMEX, Indústria, Comércio e Exportação Ltda. (e.g. Project 1378 "Martinuv Espigão Hydroelectric Project" and Project 1526 "Saldanha Small Hydroelectric Project") are ongoing.

6. 25/07/2005: Testing Commences on Saldanha SHP

This is the date that operational testing commences on the Saldanha SHP and started to supply the grid, hence started to displace thermal generation.

7. 01/09/2005: Saldanha SHP Commences Operation

September 2005 was the first month for which there were electricity sales to the grid operator (CERON), therefore in that month the commercial operation started.

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[6] Comment from Gerson Kelmam, Director of ANEEL: *"What happens is that we have many SHPs that had been object of authorization, but they are not materialised. In other words, the entrepreneur receives the authorization to build the plant and, in many cases, has the installation license, but does not build", …, "It is an authorization to use a public good that cannot be object of speculation. We are issuing 65 terms of summon to these [entrepreneurs] authorized to construct Small Hydroelectric Plants justify themselves, because we are starting a process of cancellation of these authorizations" – Translated from Agência Brasil (the public communication company), April 30th, 2007 (http://www.agenciabrasil.gov.br/noticias/2007/04/30/materia.2007-04-30.3841294612/view).*

[7] As of 4 November 2008.

[8] EB33 (25 – 27 July 2007), para 76.

8. 16/08/2006: Letter of Commitment Signed for Project 1526

EcoSecurities concludes negotiations with Hidroluz Centrais Elétricas Ltda. and their intermediary INCOMEX, Indústria, Comércio e Exportação Ltda. and a Letter of Commitment between the parties is signed.

9. 16/11/2006: ERPA Signed for Project 1526

Following on from the Letter of Commitment, a full ERPA is signed between EcoSecurities and Hidroluz Centrais Elétricas Ltda.

10. 10/02/2007: Start Validation of the Project Activity

The period for international stakeholder comments was open from February 10th, 2007 to March 11th, 2007. Project was republished on 28 February given the meth version used expired.[9]

11. 11/05/2007: Host Nation Approval Process Starts

This is the date when the documents necessary for the Host Country DNA approval were uploaded on the website of the DNA (date of the oldest document in the website). The process was restarted in June 2008 due to the revision of PDD and validation report related to a new methodology version[10].

12. 18/06/2008: Host Nation Approval Process Completed

The Host Nation Approval for the Project is dated of June 18th, 2008. A copy of the Letter of Approval is uploaded in the UNFCCC website.

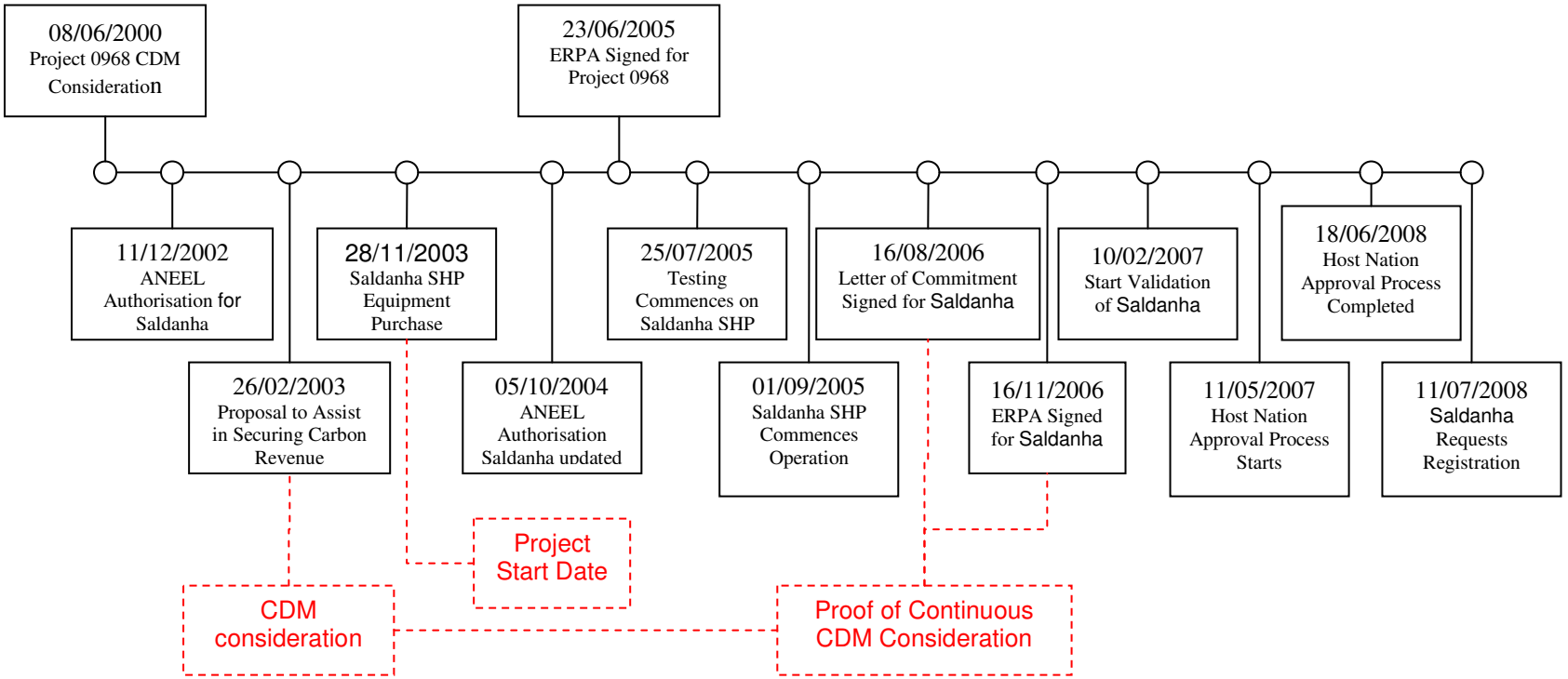
13. 11/07/2008: Project 1526 Requests Registration

This is the date of submission of all documentation to registration the registration process (DOE e-mail).

We hope the timeline provided above sufficiently demonstrates the development of the proposed project activity and therefore adequately clarifies the reasons for the review.

[9] See http://cdm.unfccc.int/Projects/Validation/DB/28ARZ4DLEUES7XMVCG27S7RV3XQ3A9/view.html and http://cdm.unfccc.int/Projects/Validation/DB/GQC8ZUQX6I4UZCW1XUUKQPIK1I1JSL/view.html for more details.

[10] See http://www.mct.gov.br/index.php/content/view/60837.html.


08/06/2000
Project 0968 CDM Consideration
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Saldanha SHP Equipment Purchase
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Testing Commences on Saldanha SHP
16/08/2006
Letter of Commitment Signed for Saldanha
10/02/2007
Start Validation of Saldanha
18/06/2008
Host Nation Approval Process Completed
26/02/2003
Proposal to Assist in Securing Carbon Revenue
05/10/2004
ANEEL Authorisation Saldanha updated
01/09/2005
Saldanha SHP Commences Operation
16/11/2006
ERPA Signed for Saldanha
11/05/2007
Host Nation Approval Process Starts
11/07/2008
Saldanha Requests Registration
Project Start Date
CDM consideration
Proof of Continuous CDM Consideration

3. The PP/DOE should clarify the share of the low-cost/ must-run resources of the grid.

The Brazilian system of production and transmission of electricity, the National Interconnected System (SIN – from the Portuguese *Sistema Interligado Nacional*), is formed by companies located in the South, Southeast, Center-West, Northeast regions and part of the North region, and is predominantly hydro. Only 3.4% of the electricity production capacity of the country is outside of the SIN, in isolated systems, the Brazilian Isolated Systems, located mainly in the Amazon region, and North region of Brazil. Electricity production in these Isolated Systems is characterized by a large number of small diesel-fuelled generating units (i.e. predominantly thermal generation). The Project is supplying electricity to one of these isolated systems, the Rondonia-Acre system.

Eletrobrás – *Centrais Elétricas Brasileiras*, a major Brazilian power utility, mainly owned by the Brazilian Federal Government, is responsible for reporting the operation of the Isolated Systems. Information provided in the PDD is from Eletrobrás reports.

To support the argument of thermal predominance in the region, the following tables show the current configuration of all Isolated Systems. Detailed information of the Project grid can be found in the Annex 3 of the PDD.

Table 2 - Current fossil fuel consumption in Isolated Systems (GRUPO TÉCNICO OPERACIONAL DA REGIÃO NORTE – GTON, Plano de Operação 2008 Sistemas Isolados - http://www.eletrobras.gov.br/elb/portal/data/Pages/LUMISB4C86407PTBRIE.htm)

Fuel Consumption		
Type	**Verified in 2007**	**Planned for 2008**
DIESEL OIL (10^6 liters)	641.2	826.5
OIL PTE (10^6 liters)	663	854.7
FUEL OIL (10^3 ton)	688.6	730.7
OIL PGE (10^3 ton)	207.4	225.6

Table 3 - Current fossil fuelled generation (GRUPO TÉCNICO OPERACIONAL DA REGIÃO NORTE – GTON, Plano de Operação 2008 Sistemas Isolados - http://www.eletrobras.gov.br/elb/portal/data/Pages/LUMISB4C86407PTBRIE.htm)

Thermal Generation ($MW_{average}$)		
Fuel Type	**Verified in 2007**	**Planned for 2008**
DIESEL OIL (10^6 liters)	254.9	334.1
OIL PTE (10^6 liters)	217.2	278.4
FUEL OIL (10^3 ton)	348.1	368.5
OIL PGE (10^3 ton)	116	126
Total Thermal Generation	**936.2**	**1107.0**

Table 4 - Current Hydroelectric Generation in Isolated Systems (GRUPO TÉCNICO OPERACIONAL DA REGIÃO NORTE – GTON, Plano de Operação 2008 Sistemas Isolados - http://www.eletrobras.gov.br/elb/portal/data/Pages/LUMISB4C86407PTBRIE.htm)

Hydroelectric Generation ($MW_{average}$)		
Type	**Verified in 2007**	**Planned for 2008**
Total Big Hydro	256.4	243.2

Total Small Hydro	46.8	55.9
TOTAL	**303.2**	**299.1**

Tables 1, 2 and 3 justify the small share of Low-Cost/Must-Run resources in the Project grid and also support the information provided in sections B.4. and B.5. of the PDD.

Therefore, even though Brazil as a whole has a large share of hydroelectricity in its electricity matrix, there are still some remote areas where electricity supply comes mainly from fossil fuelled generation. The existence of the Isolated Systems explains why the share of Low-cost/Must-run resources is very low in the Grid to which the Project is supplying renewable electricity, displacing fossil fuelled electricity and thus reducing GHG emissions.

The share of Low-cost/Must-run resources was considered to calculate the grid emission factor, that is in accordance with the approved methodology AMS I.D, version 13, valid from December 14th, 2007, onwards.

4. The PP/DOE should provide details on the monitoring plan.

The following text has been added to the Annex 4 of the PDD . The additions to the PDD are related to the operational and management structure, and also to roles and responsibilities with regards to the monitoring system.

Project developer personnel are responsible for reading electricity generation, on the equipment panel and in the revenue meter, on an hourly basis. On a monthly basis, the grid operator (the electricity buyer) reads the net electricity generation from the revenue meter. Both entities involved, project developer and grid operator, are required to check and approve the amount of electricity related to each monthly reading. After the approval, the Project Developer issues a receipt, which is the basis for emission reductions calculation. The organization chart below illustrates the operational and management structure, and responsibilities for data collection.

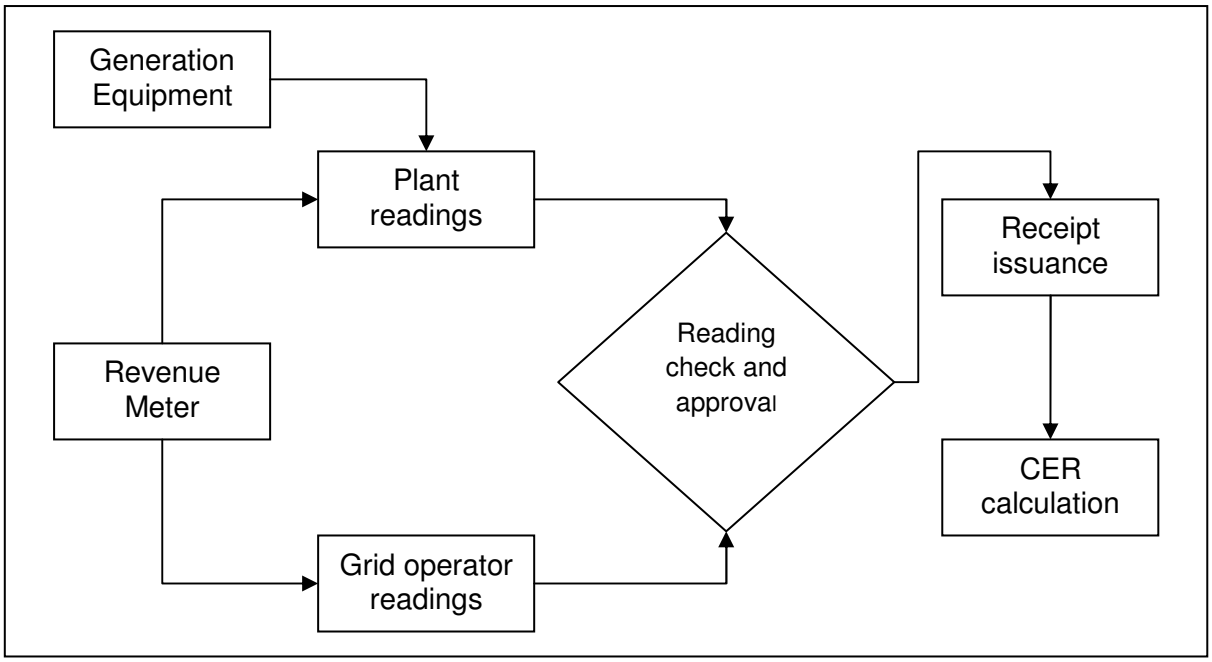

Figure 1 - Organization chart

Roles and responsibilities for all involved people in the Project Activity have been implemented and continually improved, in order to ensure the effectiveness of this project and evidence of the commitment Management. Thus, the Top Management has provided training or took other actions to satisfy these needs (if needed), and ensured that its personnel are aware of the relevance and importance of their activities and how they have contributed to the achievement of the Monitoring Process objectives. Management has maintained appropriate records of training and other actions, if necessary.

At any time of the crediting period the monitoring organization and responsibilities may change. The verifier will be able to confirm, during a verification event, that any changes to this process, if they have occurred, will not have compromised quality control or the quality assurance of the data collected.

We hope the information provided above adequately clarifies the reasons for the review.

Yours Sincerely,

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