ICONTEC
INTERNATIONAL

Bogotá, December 21, 2010

CDM Registration Team
UNFCCC
Bonn
Germany

Dear Members of CDM Registration Team,

As response to your request for review to the "BOTE SMALL HYDROELECTRIC PLANT PROJECT" then we give response to the request:

1.The DOE is requested to validate the project starting date (1 November 2007), Prior consideration of the CDM and the benchmark. In doing so please refer to the VVM version 1.1 paragraphs 98, 111 and the CDM glossary of terms.

Response:

a) VALIDATION OF PROJECT STARTING DATE:

The Project starting date, as reported in the PDD is 01 November 2007 From Annex 5 *Additionality* of the PDD, it is clear that the decision to proceed with this investment by signing the loan contract was in December 2004. According to the chronology presented in Annex 7 *EVIDENCE OF EARLY IDENTIFICATION AS A CDM PROJECT*, validated by the DOE, this is the date on which the project participant has committed to expenditures related to the implementation of the project activity, such that, according to the CDM glossary of terms this can be considered as the Project starting date.

In order to validate the project starting date, the DOE verified the contract of loan No. CC 01-2-05 approved on December 2004 by the "Financiera Nicaraguense de Inversiones - FNI" (Nicaraguan Investment Finance) to Asociación de Trabajadores de Desarrollo Rural "Benjamin Linder" for US$1.21.000, El Bote project.

According to this, the PP has been requested by the DOE to correct the project starting date in the PDD. The Validation Report will be adjusted in the same sense.

ICONTEC INTERNATIONAL

b) VALIDATION OF PRIOR CONSIDERATION OF THE CDM:

The validation of the prior consideration, as already presented in the Validation Report, remains valid, due to the new "project starting date" is later than most issues in Annex 7, related to prior CDM consideration, as already validated.

c) VALIDATION OF THE BENCHMARK

As mentioned in the Validation report, Section 3.5 *Additionality – Step 2 Investment analysis* - the DOE agrees that, the alternative to construction of El Bote project is supplying electricity from the national grid, without direct investment from the proponents (ATDER-BL). On these bases, according to the *"Tool for the demonstration and assessment of additionality"*, benchmark analysis (Option III), using IRR as financial indicator, is the option to be used in the investment analysis of the step 2 of the tool, as PPS do. IRR is a suitable financial indicator, used generally to analyze energy investment projects, like this one.

Firstly, the DOE verified that the National Energy Commission (Comisión Nacional de Energía) recommends using 12% as discount rate to make finance analysis of energy projects of this type in Nicaragua, since it is the higher long term deposit interest rate in the finance system (Documents support were: "*Estudio del Potencial de Generación Hidroeléctrica a Pequeña Escala y Prefactibilidad Técnico-Financiera de 30 Sitios con Potencial Hidroeléctrico", "Documento General PNUD-NIC/00G42-CNE, Nicaragua, Abril 2002", "Nicaragua: Apoyo e implementación de Proyectos hidroeléctricos de 5 a 30 MW" and "Documento General PNUD-CNE10/0000/14043, Junio 2005").*

By the other hand, taking into account that the PP, ATDER-BL, is a NGO without profit aim, it is adequate to take the discount rate as IRR benchmark. So, the DOE validate the IRR benchmark of 12% assumed by the PP.

This statement was included in a reviewed version of the Validation Report

2. The DOE is requested to further validate the input values used in the investment analysis such as: a) the total investment; b) 20% of power losses of net electricity generated; c) the power sales price including details on the invoices used to crosscheck; e) the amount of electricity that is being sold to the grid and to the local consumers explaining how these amounts were defined. In doing so please refer to the VVM v1.1 paragraphs 110 and 112 (c) and include the figures of each input value used in the IRR calculation in the validation report Input values used in the investment analysis:

Response:

a) Investment costs:

Investment costs used in the IRR calculations are US$1.889.7983, as indicated in the excel spreadsheet "*El Bote-financial projection-with and without CERs Rev2"*. A more detailed cost discrimination, presented in the documentation of "El Bote MiniCentral Hydroelctric, Details of investment" ("EL BOTE – Mini-Central Hidroeléctrica (900 kW nominal) DETALLE DE LAS INVERSIONES") was reviewed by the DOE. The total investment from this table comes to the same total investment amount in the spreadsheet.

Specific main items on investment costs were validated as follow:

- Civil works: Values of civil works are registered in the Registry of Properties of the province of Jinotega, Nicaragua, through the Notarized Public Document (Escritura pública) No. 1.518, August 27th, 2008.

- Generating equipment, control and protection equipment, and substation equipment: Values of these main investment components were verified by the assessment firm TECNITASA (Técnicos de Tasación de Centro América S.A), through the *"Expediente (Legal file) No. 00-505-0092-04/019-0000"*, in which turbines and generators, electric control systems, hydraulic equipment, transformers and switchgear equipment costs are certified by this Firm, from suppliers invoices.

From the knowledge and experience of the DOE, items included are appropriate and values assigned are representative of this type of project.

b) 20% of power losses of net electricity generated

Annual electricity to be sold to the national grid is estimated by subtracting from the plant generation 20% to account for power losses. So, electricity to be sold to the national grid, corresponding to projected generation of 5,800 MWh/year is 4,640 MWh/year.

As explained by the PP when responding the CAR 3, *"…the circuit of the national electric grid (circuit ETM-4030 from the El Tuma substation as seen on the single-line diagram) is not a very reliable circuit. There are a lot of interruptions and blackouts on this circuit. Hence El Bote cannot generate all the energy that is theoretically available, because we cannot inject energy into the national grid when the circuit ETM-4030 is down (deenergized); to inject energy through the intertie point (where the SIMEC meters are located on the single-line diagram) and sell to DISNORTE (the neighboring distribution company) the El Bote generators must sincronize with the national grid, and this is not possible when circuit ETM-4030 is in a blackout. This is a very serious problem for this particular renewable energy project, and the reduction in energy generation for this reason is 20% per year. Hence we deduct 20% from the theoretically available generation of 5,800 MWH/year, giving us 4,640 MWH/year of real energy generation output from the El Bote hydro plant."*

In order to validate this statement, reports of real state of this neighbor network demonstrate that the bad situation of the circuits used to export energy is a barrier that prevents energy being fully sold to the national grid. Operational statistics for October 2007 - October 2008 shows that 16% of the time this circuit is not

available to transport energy to the national grid. The evidence of this validation was revised in the document “El Bote operational shut down and black out”.

From the above analysis, the DOE consider that 20% is a suitable estimation, as a conservative criterion.

c) The power sales price including details on the invoices used to crosscheck

Evidences of electricity tariffs used in Financial Projection were obtained by sampling invoices:

Electricity sold by El Bote to the national grid (distributor DISNORTE), shows sale price of US$ 68/MWh as indicated in the Financial Projection; Electricity bills to local customers, shows average tariff of US$ 200/MWh as indicated in the Financial Projection. (The exchange rate of the local currency, Nicaraguan Córdobas - C$, to the US dollar varies daily and in the latter half of 2009 was approximately C$ 20.70 = US$ 1.00).

The evidence of this validation was review in sample invoices of national grid and electricity bills to local costumers are showed.

According to the PDD Description of the monitoring plan: “*Energy generation of the plant will be cross-checked with the records of sold electricity*”

d) The amount of electricity that is being sold to the grid and to the local consumers explaining how these amounts were defined

The amount of electricity to be sold to the national grid is estimated by subtracting from the plant generation 20% to account for power losses. So, electricity to be sold to the national grid, corresponding to projected generation of 5,800 MWh/year is 4,640 MWh/year. This parameter has been validated as described in b) above.

In respect to local supply of electricity, as explained by the PP when responding the CAR 3, sales in the local grid are estimated from an “average consumption” of 48.0 kwh/month, times number of domestic consumers (1,100 at the end of 2008), projected on population growth bases (3%).

Consumption statistics of local type of consumers, as well as census information of the national statistics office of the Nicaraguan government, as described in the PP response to CAR 3, were reviewed by the DOE in order to close the CAR.

Conclusive statements shall be included in a reviewed version of the Validation Report

3. The DOE is requested to validate the emission factor of the grid by providing the details of the data used such as the dates that the data has been published in line with the VVM v1.1 paragraph 173 (b).

Response:

Validation of the emission factor of the grid is described in the Section 3.4 "*Baseline determination*" of the Validation report. In doing that CLA 1, CLA 2, CAR 6 and CAR 7 were raised by the DOE and were suitably responded by the PP, as registered in the "V*alidation protocol Table 3: Resolution of corrective action and request for clarification"* of the validation report.

The clarification statement according with this response was included in a reviewed version of the Validation Report:

Data used by the PP, as described in the Sections B.6.1 and B.6.2, and in the Annex 3 of the PDD were validated by the DOE. Annual plants generation, as well as fuel type and consumptions in the National Interconnected System, for the years 2005, 2006, 2007 were verified in http://ine.gob.ni/, link "Estadísticas - Sector eléctrico" (Statistics – electric sector), where historic series (Serie Histórica) 1991-2009 can be consulted in any moment.

4. The DOE is requested to report how it has validated that the monitoring plan does not include the electricity imported from the grid. In doing so please refer to VVM v1.1 paragraph 123.

Response:

In the Section 3.6 *MONITORING PLAN* of the Validation report it can be seen that the Monitoring plan presented in the PDD, Section B.7.2 *Description of the monitoring plan,* is in compliance with the requirements of the methodology **AMS-I.D "Grid-connected renewable electricity generation".**

In the section B.7.2 and the Annex 4 of the PDD (version 12) there is a detailed explanation about the Monitoring Information, regarding:

- Basic assumptions
- Equipment to be installed
- Reading, storing and contrasting
- Adjustment and calibration of the energy meters
- Responsibility for data gathering and reporting

So, the DOE is confident that the PP will be able to carry out in a suitable way the monitoring plan.

This statement was included in a reviewed version of the Validation Report.

For any other clarification, please do not hesitate to contact us.

ICONTEC
INTERNATIONAL

Best Regards,

Juan Alberto Gracia
CDM Coordinator Service
ICONTEC

MIEMBRO DE LA RED IQNet
THE INTERNATIONAL CERTIFICATION NETWORK

NIT 860.012.336-1

BOGOTÁ
Carrera 37 No. 52 - 95
Teléfono: (1) 607 8888
Fax: (1) 222 1435
bogota@icontec.org.co

CALI
Avenida 4A Norte No. 45N-30
Teléfono: (2)664 0121
Fax: (2) 664 1554
cali@icontec.org.co

BARRANQUILLA
Carrera 54 No. 74 - 68
Teléfono: (5) 360 6698
Fax: (5) 360 6698
barranquilla@icontec.org.co

BUCARAMANGA
Calle 42 No. 28 -19
Teléfono: (7) 632 9828
Fax: (7) 632 3884/6329828/6322878
bucaramanga@icontec.org.co

CARTAGENA
Andi, Vía Mamonal Km 5
sector Puerta de Hierro.
Teléfono: (5) 668 5438 Ext 137
Fax: (5) 668 6357
cartagena@icontec.org.co

IBAGUÉ
Carrera 2 No. 42-47 B.
Casa club-Ibagué, Tolima
Teléfono: (57) (8) 265 5453
Fax: (57) (8) 266 7770
ibague@icontec.org.co

MEDELLÍN
Transversal 5D No. 39-191
Teléfono: (4) 312 06 00
Fax: (4) 314 0378
medellin@icontec.org.co

MANIZALES
Carrera 23 No. 25 - 61
Edificio Don Pedro, Oficina 1004
Teléfono: (6) 884 5172
Fax: (6) 884 5172
manizales@icontec.org.co

NEIVA
Carrera 5 No. 10 - 38 Piso 3
Teléfono: (8) 871 3666 Ext. 160
neiva@icontec.org.co

CHILE: Teléfono: (562) 2333424 /3331090 chile@icontec.org.co ECUADOR Teléfono: (593-2) 2277686 ecuador@icontec.org.co GUATEMALA Teléfono: (502) 24708500 guatemala@icontec.org.co PERÚ Teléfono: (511) 4401169 peru@icontec.org.co
HONDURAS Teléfono: (504) 969 3942 honduras@icontec.org.co EL SALVADOR Teléfono: (503) 22895712 / 22895709 elsalvador@icontec.org.coPANAMÁ Teléfono: (507) 269-7330 panama@icontec.org.co REPÚBLICA DOMINICANA Teléfono: (1 809) 5654309 republicadominicana@icontec.org.co
COSTA RICA Teléfono: (506) 2969921 costarica@icontec.org.co NICARAGUA Teléfono: (505) 2662309 nicaragua@icontec.org.co