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Att: CDM Executive Board

Your ref.:
CDM Ref 0968

Our ref.:
MARRAT/MLEH

Date:
12 February 2008

Response to request for review Incomex Hydroelectric Project (0968)

Dear Members of the CDM Executive Board,

We refer to the requests for review raised by three Board members concerning DNV's request for issuance for project activity 0968 "Incomex Hydroelectric Project" and would like to provide the below initial response to these requests for review.

The monitoring report is not in accordance with the monitoring plan. The project participant is required to provide data on the gross electricity generated by the project and electricity consumed by the project in accordance with the monitoring plan.

DNV Response:

We acknowledge that the monitoring plan in the registered PDD suggests monitoring the "Gross Electricity generated by the project" and the "Electricity consumed by the project (new plant)". However, the relevant parameter for determining the emission reductions is the net electricity supplied by the project to the grid. In the case of the project, the net electricity is measured with calibrated meters for each hydropower plant included in the project. The meters are installed by the electricity concessionaire CERON in a configuration to directly measure the net electricity that is injected in the grid by Monte Belo, Rio Branco and Cabixi power plants. DNV has also verified (by physical inspection in the related power plants and meters) that the meters installed are two way meters that measure both the electricity supplied to the grid and the electricity consumed by the hydropower plants when the hydropower plants are not generating electricity (normally, all electricity consumed by the plants is locally generated and supplied by power transformers that are positioned before the CERON's electricity meters). As a result of that, there is no need to monitor gross electricity generated and electricity consumed by the project (in order to calculate the net exported electricity as the difference of these parameters).

Given that this parameter is also the basis for the sales of electricity, the direct measurement of the net electricity is considered more accurate than the calculation of the net electricity as the difference between the gross electricity and the electricity consumed by the project. The use of the net electricity generation is also in accordance with AMS-I.D which requires "metering the electricity generated by the renewable technology" and ACM0002, which can be considered best practise for renewable energy projects, and requires monitoring the "Electricity supplied by the project activity to the grid".

The project participant stated that the intended capacity of the Monte Belo plant has been changed from 4 MW to 4.8MW due to the ANEEL (the Brazilian national electricity agency) resolution. The monitoring report added that in 2007 the new capacity of 4.8 MW for this plant was confirmed by ANEEL, while the ANEEL resolution indicated that the intended capacity of the Monte Belo plant is 4.0MW at the time of development of the PDD. Further clarification is required on which is the capacity specified by the valid ANEEL resolution and furthermore which was the original capacity when “the plant started operating on 01 January 2001”.

DNV Response:

We refer to the timeline provided in the project participant’s initial response to the requests for review.

The plant started operating on January 2001, with the same equipment as today. The capacity installed in January 2001 was 4.8 MW. This capacity was confirmed in 2006 by ANEEL (ANEEL Resolution 589/2006) when the ANEEL for the first time audited the actual installed capacity of the Monte Belo hydropower plant.

The PDD and the validation report were based on the capacity stated in ANEEL Resolution 047/2000 which granted permission for the installation of 4.0 MW capacity at Monte Belo.

The difference was a result of a different final configuration of the turbine-generator sets during the installation phase of the project.

The nameplate capacity of the Monte Belo hydropower plant (turbine and generator nameplate capacities) were only verified on-site in May 2007 during the verification of the emission reductions reported for the period 1 February 2001 to 30 April 2007.

Further clarification is required on how the DOE verified the change in the capacity of the project activity and how it was verified that “The capacity of 4.0 MW for Monte Belo indicated in the PDD is thus an error and the capacity of the hydropower plant at Monte Belo has always been 4.8 MW” as stated in the Verification Report. In addition, the DOE is requested to explain which is the nature of the “correction of the total installed electricity generation capacity for the Monte Belo plant”, as stated in the Verification Report.

DNV Response:

There was no change in the capacity of the Monte Belo hydropower plant. The capacity installed was from the beginning 4.8 MW. The capacity stated in the PDD and the validation report was derived from the capacity stated in ANEEL Resolution 047/2000 which granted permission for the installation of 4.0 MW capacity at Monte Belo.

Based on interviews and analysis of other documentation (i.e. analysis of conducted hydrological study, communications between Grupo Cassol and the turbine & generator suppliers), DNV was also able to verify that along the project implementation phase the project participants realized that the installation of Francis turbine / generator sets with 2.4 MW each would be more suitable than the previously considered specification (Francis turbine and generator sets with 2.0 MW each). Thus, the decision of Grupo Cassol to install turbine-generator sets with higher power generation capacity was based on merely technical aspects: hydrological conditions of the Saldanha river vis-à-vis possible turbine and generator technical specifications.

The capacity of 4.8 MW was first confirmed in 2006 by ANEEL (ANEEL Resolution 589/2006) when the ANEEL for the first time audited the actual installed capacity of the Monte Belo hydropower plant, and the inconsistency in the official specification of Monte Belo hydropower

plant in ANNEL was corrected. Complementary to this resolution, DNV also received from the project participants a copy of a letter more recently issued by ANNEL (ANNEEL communication 1090/07 dated 28 June 2007) where the issues regarding the capacity of the Monte Belo hydropower plant is described in more detail.

DNV verified the nameplate capacity of the Monte Belo hydropower plant (turbine and generator nameplate capacities) during the site visit in May 2007. DNV was also able to verify (based on available documentation, interviews and visual inspections) that since 01 January 2001 (date when the plant started operating) the Monte Belo power plant has installed two turbine/generator sets with 2.4 MW capacity each. Moreover, there is indirect evidence that the capacity has always been 4.8 MW as the electricity generation reported and verified by DNV for the period 1 February 2001 to 30 April 2007 can only be explained with a capacity of 4.8 MW (if capacity had been 4.0 MW reported electricity generation would for many months be above the theoretical generation capacity, even in months were this could not be explained with high water levels).

The capacity indicated in ANEEL Resolution 047/2000, which was the basis for the PDD and the validation report, was not based on an actual audit of the capacity, but represents the capacity that ANEEL initially granted for the Monte Belo hydropower plant prior to project implementation.

The DOE shall further clarify and substantiate the statement that “PDD states that the generation capacity of the Monte Belo small hydro power unit is 4.0 MW, while it was verified that at this plant each of the two turbine-generator set has electricity generation capacity of 2.4 MW as confirmed by ANEEL’s Resolution 589/2006 and also by the letter 1090/07 /11/ issued by ANEEL on 28 June 2007”. The increase in capacity is 20% and the statement only refers to the verification of the installed capacity when starting operation, but not to the discrepancy with the PDD, which is merely considered an error by the DOE. In the case of the Monte Belo plant the registered project activity as per the PDD has a capacity of 4.0 MW and the DOE shall further explain their acceptance of the validity of this increase when verification was performed.

DNV Response:

As stated above, there was no change in the capacity of the Monte Belo hydropower plant. The capacity installed was from the beginning 4.8 MW. The capacity stated in the PDD and the validation report was derived from the capacity stated in ANEEL Resolution 047/2000 which granted permission for the installation of 4.0 MW capacity at Monte Belo.

The PDD thus incorrectly states 4.0 MW as the installed capacity for Monte Belo hydropower plant although at the time the PDD was written the Monte Belo hydropower plant was already implemented with a capacity of 4.8 MW. We acknowledge that the project is thus not implemented in accordance with the PDD in terms of declared installed capacity for electricity generation at the Monte Belo hydropower station. However, this deviation does not significantly affect any project design aspect of the project activity as described in the PDD, including the additionality of the project. Moreover, even with an installed capacity of 4.8 MW at Monte Belo, the “Incomex Hydroelectric Project” still meets all the applicability conditions of the small-scale methodology AMS-I.D. (as discussed in Annex A of the monitoring report, version 2 dated of 10 December 2007).

The DOE states in the Verification Report that “In first version of the monitoring report, the amount of electricity exported to the grid by Incomex/Cassol - Rio Branco wrongly included 7 443 MWh of electricity generated by the Saldanha small hydro power plant, which is another power plant operated by Grupo Cassol and it is located near Rio Branco power plant and along the Saldanha River. During its operational test phase (from August 2005 to March 2006), all

electricity generated by the Saldanha small hydro power plant was temporarily injected to the Rondônia-Acre grid via the transmission lines of Rio Branco power plant. This procedure was authorized by ANEEL's Resolution 727/2002 and letter CT/DT/200/2005 of CERON. As the Saldanha small hydro power unit is not part of the registered CDM project activity, the net electricity generation for the Rio Branco power plant was recalculated by deducting the amount of net electricity generated by the Saldanha small hydro power plant (which was temporarily injected in the transmission lines of Rio Branco power plant)." The DOE is required to clarify if there is no substantive change in the application of the methodology and monitoring plan by performing the said deduction and how the issue has been addressed in a systematic manner to avoid further recurrence.

DNV Response:

The electricity generated by the Saldanha hydropower plant was only during a test phase from August 2005 to March 2006 supplied to the grid through the transmission lines of the Rio Branco hydropower plant. As a result, the electricity generated by the Saldanha hydropower plant also passed the meter measuring the electricity supplied to the grid at the Rio Branco hydropower plant. However, also the net electricity generated by the Saldanha hydropower plant was measured at the Saldanha hydropower plant, and DNV cross checked the reported values of net electricity supplied by the Saldanha hydropower plant with electricity sales receipts issued by Saldanha. Therefore, the electricity generation by the Rio Branco hydropower plant during August 2005 to March 2006 could be calculated as the difference of the total net electricity supplied to the grid measured at the Rio Branco hydropower plant and the net electricity generated by the Saldanha hydropower plant.

Since both the total electricity supplied to the grid and the electricity generation by the Saldanha hydropower plant were measured, calculating the difference of these two measurements to determine the net electricity generation of the Rio Branco hydropower plant does in our opinion not represent a substantive change in the application of AMS-I.D and the monitoring plan in the PDD.

We sincerely hope that the Board accepts our aforementioned explanations.

Yours faithfully
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Michael Lehmann
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