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Renens, September 15, 2011

**Concerne : Request for issuance for the CDM project activity 1986 Fuel Substitution by Hydro
Generation in Pasto Bueno
Comments to the requests for review**

Dear Sir,

You will find below our comments regarding the three requests for review received from members of the Board in relation with the CDM project activity 1986 Fuel Substitution by Hydro Generation in Pasto Bueno.

1) The PDD (Page 5) states that the PP will install 2 Pelton turbines with a capacity of 400 kW, however, the monitoring report (Page 2) states that the installed equipment consists of two Pelton turbines of 450 kW and 150 kW. According to VVM version 1.2 para 197, if the DOE identifies that the implementation or operation of the CDM project activity does not conform with the description contained in the registered PDD, the DOE shall conduct an assessment on the potential impacts and submit a notification or a request for approval of changes. However, the DOE did not submit a notification or a request for approval of changes prior to the conclusion of the verification / certification. Clarification is requested.

1) At the time of the preparation of the PDD, the objective of the project was to install a total of 800 kW (two Pelton turbines of 400 kW), thus producing a total of 6'657'600 kWh annually, as stated in the PDD (page 8).

During the project preparation and procurement phase, it appeared that the cost of two new 400 kW turbines was not compatible with the available financial means, due to an increase in market prices and overall project cost. As the Investors were unable to find additional funds to pay for the difference, the decision was then taken to use a second hand 150 kW turbine (which had been dismantled and replaced by another one in Switzerland as checked by the DOE) to lower the overall cost.

Due to similar technical and financial constraints, market conditions and equipment characteristics, it appeared that it was better to select a new 450 kW turbine instead of a 400 kW turbine, thus leading to a total installed capacity of 600 kW, which is less than the 800 kW indicated in the PDD.

The final cost of one new 450 kW turbine and one second hand 150 kW turbines was lower than having two new 400 kW turbines. However, the total production was obviously expected to be lower than

described in the PDD. Using the same formula as in the PDD page 8 but with 600 kW instead of 800 kW, the result would then be :

$$\Sigma Oi = 600 \text{ kW} * 365 \text{ days} * 24 \text{ hours} * 0.95 \text{ (load factor)} = 4'993'200 \text{ kWh.}$$

And thus

$$EB = 4'993'200 \text{ kWh} * 0.8 \text{ KgCO}_2 \text{ e/kWh} = 3'994.56 \text{ tCO}_2 \text{ e / year.}$$

The potential impact is therefore that the maximum theoretical annual energy production is 4'993'200 kWh instead of 6'657'600 kWh, and the equivalent emission baseline is therefore 3'994.56 tCO₂ e / year instead of 5'326 tCO₂ e / year

It is clear that the impact of this project modification would not lead to an increase of the emission baseline, but only to a decrease, which could have also been caused under normal circumstances by other natural factors, such as hydrology variations, breakdowns, etc.

It was therefore decided not to submit a notification or a request for approval of changes, as the change would not lead to an increase of the emission baseline, which would have had to be justified. See also point 2 below for the financial reasons.

2) The DOE (Verification Report, page 27) states that "Surplus power and power peaks over maximum Hydropower production which is needed on the mining complex is not any more generated by Diesel generators due to connection to public grid." At the same time, one of the applicability conditions of the AMS.I-A is that (Page 1) "The applicability is limited to households and users that do not have a grid connection (...)". Further clarification is requested regarding how the DOE confirmed that the monitoring plan and applied methodology have been properly implemented and followed, as per the VVM (version 1.2) para 205.a.

2) The Investors had to face extra costs during the project preparation and procurement phase, as the real prices on the market did not match the estimated project rehabilitation cost of 2.7 million USD for 800 kW mentioned in the PDD page 9. The actual construction cost finally reached about 3.5 million Swiss francs for an installed capacity of 600 kW only. As the financing was done in Euros and Swiss francs, the Investors had to face during construction a shortage of about 0.5 million USD. The only solution to complete the project was to purchase different equipment, and to modify the project accordingly. As mentioned under point 1 above, one of the modifications was to use a smaller turbine. This 150 kW second hand turbine was equipped with a less expensive asynchronous alternator, but this kind of alternator must be connected to the network, or requires expensive modifications such as the adjunction of a flywheel. The price of this solution, including a bridge to the national network, was finally estimated to be lower than the price of new equipment able to produce independently (in an isolated grid) .

In relation with the hydropower plant, the connection to the national network is only used for frequency and voltage control. With the proposed and implemented metering method, the CERs are only claimed for the production of the hydropower plant that is used by the mine: any amount of power imported from the grid is not included in CERs calculation. Similarly, in case the mine would not use the power produced by the hydropower plant, no CERs could be claimed, even partially. It was therefore considered that there was no need to modify the PDD.

This solution obviously also gave the possibility to the mine to purchase more power directly from the grid (provided it is available on the national network) in case of increased needs beyond the hydropower plant production, and thus to avoid additional CO₂ emission due to the use of extra diesel generators. There


are no claims for this additional benefit in terms of CO2 reduction, although this could have been proposed in a new and separate PDD, using a different methodology (grid connected).

Furthermore, it has to be noted that the option to prepare a new PDD for the modified project with a grid connection was indeed discussed. The cost of such a transaction, involving at least one mission in Peru for the Investors, the preparation of a new PDD; the services of a DOE, etc., was estimated to be an additional 100'000 USD, which could not be financed by the Investors due to the existing budgetary constraint, or would have caused the project to be cancelled before completion because of the lack of financial means thus resulting in a huge loss and no CO2 reduction. The result of the modification is anyway a smaller quantity of CERs, and there is no additional claim for CERs not directly linked with the hydropower plant as described in the original PDD.

NB: It has to be noted that the solution to build a transmission line only and no hydropower plant was not considered as a reasonable solution to replace the diesel generators at the mine as the Investors would then have to rely on the mine power payments only to pay for the transmission line with no other source of potential revenue. In case the mining activity would have stopped before the reimbursement of all project debts, for whatever economical or natural reason, the Investors would then have been left with a useless transmission line. The reason for such a lack of appetite from Investors for a transmission line project only was already mentioned in the PDD page 9, and it was discussed, checked and approved by the DOE in charge of the PDD validation.

Yours faithfully.

EMERGING POWER DEVELOPERS Ltd



A. Dubas
Chairman of the Board