Mr. Jürgen Stehr
Chair, CDM Executive Board
UNFCCC Secretariat
CDMinfo@unfccc.int

27th March 2007

Ref.: Request for review of the request for registration for the CDM project activity "Garganta da Jararaca Small Hydroelectric Power Plant (SHP) - 0809".

Dear Mr. Stehr,

SGS has been informed that the request for registration for the CDM project activity "Garganta da Jararaca Small Hydroelectric Power Plant (SHP)" (Ref. no. 0809), is under consideration for review because seven requests for review have been received from members of the Board.

Through this letter we would like to comment on the reasons for review and provide additional information. The requests for review read as follows:

Request for review 1 – question 1:
"The project cannot convincingly prove the existence of an investment barrier. Its IRR of over 20% is clearly higher than the one-day floating bond rate prior to project (see figure 8 of PDD); that the bond rate rose above 20% for a short period in late 2005 is no proof that all long-term investments with IRRs below that rate were suddenly stopped. It is not appropriate to apply a one-day bond rate to an investment with a time horizon of several decades (and a crediting period of 21 years).Moreover, the developers managed to get a bank loan at 12% (9% + 3% risk premium) which shows that long-term financing is not determined by the one-day floating bond rate. This is confirmed by the validator (p. 10 of the validation report: "It was verified that the investment barrier is not the most important barrier, once the project received subsidised funds from BDNES (with interest rate lower than the rate of the market"). CDM project activity registration review form (F-CDM-RR) (By submitting this form, a Party involved (through the designated national authority) or an Executive Board member may request that a review is undertaken)"

Clarification by SGS:
The additionality analysis is based on step 3 of the "Tool for demonstration and assessment of additionality" (barrier analysis).
The additionality tool does not necessarily demand a single prohibitive explanation on the Barrier Analysis. The step is used to "determine whether the proposed project activity faces barriers that: a) prevent the implementation of this type of proposed project activity; and b) do not prevent the implementation of at least one of the alternatives."

The information presented in the investment barrier was used as an explanation of the investment risk faced by the project participants of the Garganta da Jararaca project. During the validation assessment

it was not possible to conclude that the project activity is additional based only on this investment barrier. Other barriers as described in the in the PDD were reviewed and considered for additionality. During the validation assessment and the on-site visit it became evident that this infrastructural barrier, institutional barrier and common practice barrier substantiate the additionality of the project. As a result the assessment team accepted the proof of additionality as a combination of different barriers.

Request for review 1 – question 2:
"The IRR calculation uses a load factor of 75% while the PDD lists 82%, making the IRR calculation very conservative. Using a load factor of 82%, project IRR rises by 3.3% and reaches 23.4%, making the project a clearly attractive investment. Equity IRR is even higher, at 45% resp. 60%."

Clarification by SGS:
Historical data of the river flow shows the indicated load factor of 75% as a feasible one. This figure was used to estimate the project IRR, design and plan the power plant. The investment analysis phase took place long before the test phase of the project. It was observed that during the last 5 years, the average rainfall was significantly higher than the historical figures and therefore a load factor of 82%, achieved in the test phase was used to estimate the electricity generation. Please note that this is only an estimation of the amount of electricity that may be generated. Verification will provide exact load factors and generated electricity.

Although the project IRR could rise using the load factor of 82%, at project analysis the load factor used was the indicated by the long-term trend, namely 75%.
Further documented evidence, being a report issued by ANEEL showed a load factor defined by SIH (Superintendência de Estudos Hidrológicos) of 62,73%. It has been concluded that 75% is a conservative value for the IRR analysis.

Request for review 1 – question 3:
"The validator argues that lack of infrastructure in the region of the project activity, such as roads, reliable electricity supply, communication and transports, was a "significant" barrier. Significant does not mean "prohibitive" (which should have been checked). Moreover, in the PDD it is mentioned that another small hydro plant is operational 10 km from the project site, so the infrastructure barrier is certainly not prohibitive."

Clarification by SGS:
During the on-site visit it has been verified that the lack of infrastructure is a significant barrier but not a prohibitive barrier.
The lack of infrastructure made the project activity more expensive and its construction time longer than e.g. a similar project developed in a different region with better infrastructure. There is indeed another CDM project close-by, but regardless of the small distance between those projects, both power plants had to develop their own infrastructure.
We would like to emphasise the fact that that we are not aware of a single new small power plant without the CDM incentive.

The project is located in a under-developed region of the State of Mato Grosso; 7 hours by car from Cuiabá (State Capital) to the nearest city Campo Novo dos Parecís, and from Campo Novo more than 50 km by car to access the hydro plant.
The project is located in an isolated system and part of the generated electricity is supplied to this isolated system. A new transmission line was built to supply the other part of the electricity to the interconnected system.

Mato Grosso state is a large state with larger dimensions than developed states in Brazil. "Garganta da Jararaca (13º23' S , 57º37' W) is located in Campo Novo do Parecis and Nova Maringá, state of Mato Grosso (MT), midwest of Brazil. The towns are located in the western part of the state (Figure 1 below)".

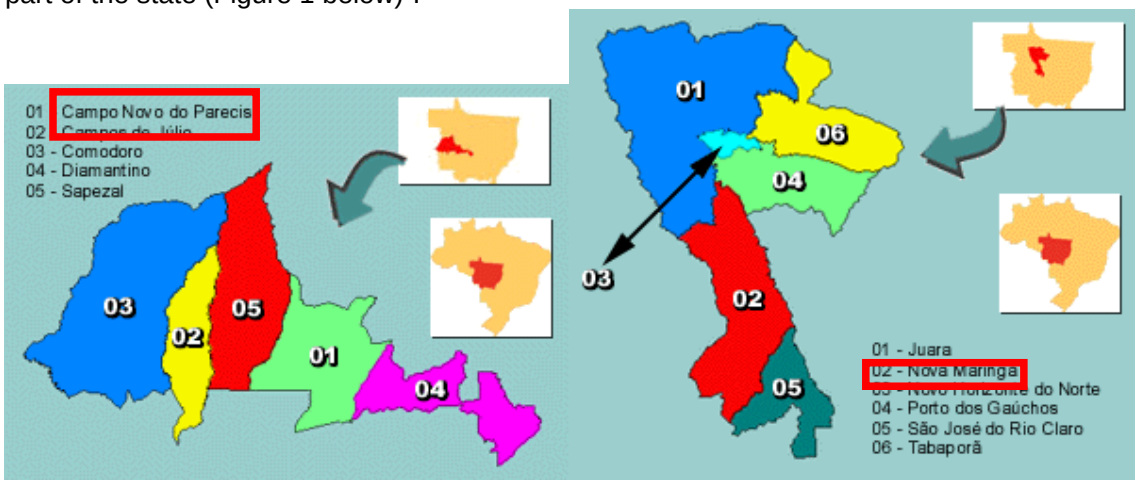

Figure 1: Project location – Garganta da Jararaca.

Request for review 1 – question 4:
"The validator argues "that the project would not be the most attractive scenario. …. As an alternative for the group company is the investment in other opportunities, like the financial market or in other traditional industrial areas of the group" (p. 10 validation report). This is not a proof that there were prohibitive barriers to the project. The validator's statement would only have been appropriate if the project developer had done an investment test for these alternatives and shown that investment in the financial market or other traditional industries would have yielded a higher IRR than the project. I think it is extremely unlikely to find alternatives with IRRs above 45%/60%"

Clarification by SGS:
The alternatives for the barriers presented do not prevent the investment in the financial market. Investing in the financial market will prevent the project from facing barriers like presented in the PDD and confirmed in the validation report.
It is important to stress that the small hydro plants in Brazil are not common practice, and new hydro plants are taking advantage of the CDM to overcome the institutional barrier.
The IRR presented is around 21% and not 45%/60%.

Request for review 2-7 question 1:
"The PDD contains abundant on information on the barrier analysis, finally resulting in a confusing and inconsistent claim for an investment barrier. It is not clear why an IRR (not including CER revenues) of 20,13% would consist an investment barrier while the IRR including CER revenues of 21,89% would not consist such barrier"

Clarification by SGS:
The additionality analysis is based on step 3 of the "Tool for demonstration and assessment of additionality" (barrier analysis).

The additionality tool does not necessarily demand a single prohibitive explanation on the Barrier Analysis. The step is used to "determine whether the proposed project activity faces barriers that: a) Prevent the implementation of this type of proposed project activity; and b) Do not prevent the implementation of at least one of the alternatives."

The information presented in the investment barrier was used as an explanation of the investment risk faced by the project participants of the Garganta da Jararaca project. During the validation assessment it was not possible to conclude that the project activity is additional based only on this investment barrier. Other barriers as described in the PDD were reviewed and considered for additionality. During the validation assessment and the on-site visit it became evident that this infrastructural barrier, institutional barrier and common practice barrier substantiate the additionality of the project. As a result the assessment team accepted the proof of additionality as a combination of different barriers.

Request for review 2-7 question 2:
"It is not clear how the financial barrier related to the PPA would be specific for a small hydro plant only"

Clarification by SGS:
The information about PPA was used in the discussion of additionality in order to explain the context considered, but it was not used as a barrier in the validation process.
As the project activity is a small project, compared with other Brazilian hydro plants, those issues related to the PPA and other bureaucratic process assume larger proportions.

Once the Power Purchase Agreements is signed, the project activity is immediately exposed to the utility's long term credit risk. At the time of project commissioning and completion, none of the local utilities of Brazil were rated above the sovereign ceiling of BB (double B) and thus, at least, two notches below the BBB+ (triple B plus) investment grade rating.

Beside this, utility companies prefer to buy electricity from large power plants than small hydro projects like Garganta da Jararaca.
Small hydro power projects have the possibility to participate in the Proinfa Federal Government Program. Although some projects started construction independently from Proinfa, the program is considered one of the more viable financing alternatives for this project, which will provide a long-term Power Purchase Agreement. The project activity is not participating in the Program, because it was not able to get the construction licenses in appropriate time due to the cumbersome process.

Request for review 2-7 question 2:
"It is not clear how the institutional barrier of changing government electricity market policies would be specific for a small hydro plant only"

Clarification by SGS:
The institutional barrier is not specific for small hydro projects. As analyzed above and described in the PDD, it affects all infrastructure projects.

The volatility of the electricity prices in Brazil put the project development at risk.
According to ANEEL (National Electricity Agency), small hydro power plants represent less than 1.5% of the total electricity generated in the country today. The majority of the authorization issued from the Brazilian government over the past years (since 2003) is for thermoelectric plants.

Request for review 2-7 question 3:
"In sub-step 3b the wrong comparison is made. The PP is supposed to compare the project activity to similar alternatives, i.c. other types of power plants which could also yield approximately 30 MW power; investments in other markets are no comparable alternative"

Clarification by SGS:
The reviewer is correct: the comparison in sub-step 3b was wrongly initiated.

If you require further information, Fabian Goncalves (+55 11 5504 8887 or fabian.goncalves@sgs.com) 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,

Robert Dornau
Director, Climate Change Program
Robert.dornau@sgs.com
T: +41 22 739 92 54
M: +41 79 689 22 42

Marco van der Linden
CDM Technical Manager
Marco.vanderlinden@sgs.com
T: +31 181 693293
M: +31 651 345590