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Att: CDM Executive Board

Your ref.:  
CDM Ref 1499

Our ref.:  
MLEH

Date:  
30 May 2008

## **Response to request for review Chongqing Menkantan Hydroelectric Project (1499)**

Dear Members of the CDM Executive Board:

We refer to the requests for review raised by three Board members concerning DNV's request for registration of project activity 1499 "Chongqing Menkantan Hydroelectric Project" and would like to provide the below initial response to the issues raised in the requests.

*1. The DOE should provide a clear validation opinion that the input values used in the investment analysis are appropriate in the context of the project activity according to the guidance from EB 38, paragraph 54.*

### **DNV response:**

In assessing the input values used in the investment and sensitivity analyses, DNV has followed a 4-step approach:

#### **Step 1: Assessment of the sources of the input parameters used in the investment and sensitivity analyses:**

- a) All the input parameters used in the financial analysis except for the power tariff mentioned in the following paragraph b) are taken from the feasibility study report (FSR) developed by the Chongqing Three Gorges Hydropower Investigation Institute in March 2005 and the approval letter by Chongqing Development and Reform Commission on 9 October 2005. The input parameters used in the financial analysis can thus be considered information provided by an independent and recognized source.
- b) The electricity tariff was taken from the Power Purchase Agreement (PPA) signed between the Chongqing Three Gorges Water Conservancy and Electric Power Co., Ltd and Yunyang Water Conservancy and Hydropower Industry Development Co., Ltd. on 10 May 2005. The electricity tariff was taken from this document as it contained the most current and pertinent value available.
- c) The start date for the project activity has been defined as 2 February 2006, which was the date of signature of the construction contract. All the above input parameters were thus available at the time when the decision to proceed with the project was made and were thus likely to be considered in the decision.

Step 2: Confirmation of the values used in the PDD and investment analysis are fully consistent with the FSR and the PPA:

DNV compared the input parameters for the financial analysis included in the PDD and investment analysis with the parameters stated in the FSR and PPA and was able to confirm that the values applied are consistent with the values stated in the underlying documentation.

The PPA specifies that the electricity price shall be settled according to time sections based on water flow and electricity demand. The tariff value applied in the investment analysis is for the normal flow and normal demand situation. A sensitivity analysis provided by the project participants to DNV showed that the average electricity tariff would have to increase by 35% to about 0,340 RMB/kWh in order for the IRR to reach the benchmark of 8%. According to the price scheme of the PPA, the tariff would reach such a level only in peak, low flow conditions.

DNV finds it unlikely that the tariff averaged over the whole year would reach such a level, and therefore considers the assumed tariff a reasonable estimate for the average tariff for the proposed project activity.

Step 3: Assessment of the period of time between the finalization of the FSR, PPA the Water Purchase Contract and the investment decision:

- a) The PPA was signed on 10 May 2005, and was thus available at the time of the decision to go ahead with the project, defined as the project start date, i.e. the signature of the construction contract on 2 February 2006. The PPA is a legally binding contract and thus needs to be followed also when calculating the IRR of the project.
- b) The FSR was approved on 9 October 2005, thus only four months prior to the investment decision. Hence in DNV's opinion it is justified that the values were still valid at the time of the investment decision, and that they were likely to inform the decision.

Step 4: Cross-check of the parameters used in the financial analysis with the parameters used by other similar projects

The input parameters used in the financial analyses were compared with the data reported for other similar proposed CDM projects in the region, i.e. four other hydropower projects in the Sichuan province, by comparing investment costs per MW, electricity tariff, percentage of O&M costs relative to total investment costs. The values were found to be well within the range shown for the comparable projects. The tariff was the highest of those compared, while the investment per MW installed was the lowest of those compared. By additionally applying our sectoral competence, DNV was able to confirm that the input parameters used in the financial analysis are reasonable and adequately represent the economic situation of the project.

We sincerely hope that the Board accepts our aforementioned explanations.

Yours faithfully

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