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Att: CDM Executive Board

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Your ref.:	Our ref.:	Date:
CDM Ref 2212	PETMO/	27 January 2009

Response to requests for review "Zhoujiayuan Hydropower Project in Hubei Province" (2212)

Dear Members of the CDM Executive Board,

We refer to the issues raised in the requests for review by three Board members regarding our request of registration of project activity 2212 "Zhoujiayuan Hydropower Project in Hubei Province" and would like to provide our initial response to the issues raised.

Comment 1: Further clarification is required on how the DOE has validated the prior consideration of the CDM as the PPs mention that the first CDM consultancy agreement was made in early 2006, while the DOE has validated it to be made in November 2005. The PP/DOE is requested to provide evidence that continuing and real actions were taken to secure CDM status (EB41, Annex 46, para 5 (b)).

DNV Response:
During validation, the project proponent provided DNV with a contract between the project entity and a consultant[1] regarding the development and financing of the project as a CDM project. This contract is dated November 2005 and signed 15 November 2005. This is the first evidence for the CDM consideration prior to the starting date of the project. On 24 November 2005, a new construction permit was issued from the Zhuxi County Government, stating that CDM revenues were necessary for the feasibility of the project. Due to the lack of progress from the CDM consultant contracted in November 2005, the project entity contracted a new consultant on 21 April 2007. In May 2007, a CDM manual was prepared by the project proponent, and the PDD was published for global stakeholder's consultation in October 2007. The contracts, construction permit and the CDM Manual were all provided by the project proponent to DNV for verification. DNV accepts, on the basis of the two CDM consultancy contracts, that the lack of progress from the

[1] The project proponent has asked to keep the name of the first consultant confidential.

initially contracted consultant resulted in a time gap in documentation between November 2005 and April 2007.
DNV can confirm that the PDD submitted for registration stated mistakenly the date of the first contract regarding CDM consultancy to be early 2006, while the date on the contract is November 2005.

Comment 2: Further clarification is required on how the DOE has validated the suitability of the input values to the investment analysis, as per the requirements of EB 38 paragraph 54(c) guidance.

DNV Response:
The input values to the investment analysis are taken from the Preliminary Design Report[2] (PDR), approved on 18 June 2004, except from the tariff which is taken from a notice by Hubei Provincial Price Bureau[3], dated 1 September 2003. DNV was able to confirm that the total investment from the PDR was also stated in the supervision contract of 30 November 2005, and the tariff was also confirmed from the *Notice about the Feed-in Tariff of the newly operational hydropower turbines* dated 22 November 2006. This shows that the parameters were unlikely to have materially changed at the time of the investment decision. In order to check the reasonability of the input parameters, DNV compared the data against data from similar projects validated by DNV. Ten other projects connected to the Central China power grid, all using the methodology ACM0002, were analysed and compared with the proposed project. When comparing the investment costs per installed capacity, the proposed project has a 15% lower value than the average of the projects in the analysis. Furthermore, when comparing the investment costs per produced electricity unit, the proposed project has a 20% lower value than the average. The operation and maintenance costs as a percentage of the total investment are similarly 16% lower than the average in the analysis, while the electricity tariff is very close to the average. In conclusion, by comparing the proposed project with similar projects connected to the Central China power grid, and using DNV's extensive experience with validating hydropower projects in China, DNV consider the input parameters to the investment analysis as reasonable and credible.

Comment 3: The DOE is requested to justify the suitability of the benchmark, in particular, appropriateness of a benchmark of 1995 when assessing the additionality of a project activity with investment decision made in 2005.

DNV Response:
The project proponent has compared the project financials against a benchmark of 10%. DNV has verified that the selected benchmark is in accordance with the document SL16-95 "*Economic evaluation code for small hydropower projects*", issued by the Ministry of Water Resources of China. Though this document was issued by the Chinese ministry in the year 1995, it is the only source till date which clearly defines the expected minimum returns from such type of hydropower projects. The benchmark of 10% is most commonly used in China for assessing the financial viability of such projects. This can also be seen from other similar hydropower projects in China, recently registered under CDM, such as Nansha Hydropower project in Yunnan Province (2133),

[2] The Preliminary Design Report (PDR) of Zhoujiayuan Hydropower Station in Zhuxi County of Hubei Province, by Water Resource and Hydropower Reconnaissance Design Institute in Shiyan City, dated April 2004 and approved by the Hubei Provincial Development and Reform Committee on 18 June 2004.
[3] Notice on the Feed-in Tariff of water source & hydropower projects in Huiwan River basin by Hubei Provincial Price bureau, dated 1 September 2003.

Shangri-La Langdu river 4TH level hydropower station (2057), Shangri-La Lantayong hydropower station (2059), Sichuan Chenjiaheba 20 MW Hydropower Project (1589), etc.

The applicability of the same benchmark for the proposed CDM project activity can further be demonstrated from the list of existing regulations for hydropower plants in China provided in the annexure of "*Notice on the current technical standard of water resources*" (2006, No.05), published by the division for construction and management, Ministry of Water Resources of China[4] and Chinese Hydraulic Engineering Society (CHES)'s website[5], which provides the complete list of regulations for the hydropower sector including expired regulations, regulations under amendment and existing regulations in China. As a conclusion, DNV is able to confirm benchmark of year 1995 is still valid when assessing the additionality with investment decision was made in November 2005. Furthermore, according to the "*Economic evaluation code for small hydropower projects*", the code of 10% is applicable to small scale hydropower projects with an installed capacity below 25 MW, and to small scale hydropower projects with an installed capacity below 50 MW in the rural hydropower region. DNV would like to indicate that it is appropriate to use a benchmark of 10%, considering the fact that the project activity has an installed capacity of 48 MW, and is located in a rural region of China.

Comment 4: The DOE is requested to confirm that the ex-ante emission factor of 0.97455 tCO2/MWh complies with the requirements of the methodology regarding the use of the most up-to-date data at the time of validation as the PDD for the global stakeholder process used a different emission factor (0.9636 tCO2/MWh). If not, the emission factor should be based on the latest available data at the time of commencing validation.

DNV Response:
The PDD published for global stakeholder consultation was dated 15 June 2007, and was published on DNV's website on 6 October 2007. This date is defined as the commencement of the validation. On 6 October 2007, the following sources for calculating the grid emission factor for the project were available and the most recent:

- China Electric Power Yearbook 2004 – 2006 (published December 2006)
- China Energy Statistical Yearbook 2004 – 2006 (published March 2007)
- 2006 IPCC guidelines (final version published end of 2006)
- Grid emission factor for Central China Power Grid by the Chinese DNA (published 9 August 2007)

As the PDD published on 6 October 2007 used data vintages up to the year 2004, whereas data vintages from 2005 were already available, DNV requested the project proponent to update the calculation to the most recent data. There is one known mistake in the grid emission factor published by the Chinese DNA; the weights of the fuels λ_{Gas} and λ_{Oil} where reversed. However, this was corrected in the PDD sent for registration. The PDD sent for registration was hence updated as per DNV's request, using the most recent data available at the time of the commencement of validation.

[4] http://www.mwr.gov.cn/tzgg/qt/20060926000000479251.aspx
5 www.ches.org.cn/jishubiaozhun/001.asp

We sincerely hope that the Board accepts our aforementioned explanations.

Yours faithfully
for DET NORSKE VERITAS CERTIFICATION AS

Michael Lehmann
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Climate Change Services