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Your reference/letter of	Our reference/name	Tel. extension/E-mail	Fax extension	Date/Document	Page
	IS-CMS-MUC/CF Karin Wagner	+49 89 5791-1195 Karin.Wagner@tuev-sued.de	+49 89 5791-1553	2009-01-21	1 of 9

Request for Review

Please find below the response to the Request for Review for the CDM project "Dongshan Hydro Power Project in Guangdong Province China "(2091). In case you have any further inquiries please do not hesitate to contact us.

Yours sincerely,

Thomas Kleiser

Head of Certification Body "Climate and Energy"
Carbon Management Service

Enclosures:

- 1) Investment analysis Excel file with traceable formulas.

Headquarters: Munich
Trade Register: Munich HRB 96 869

Supervisory Board:
Dr.-Ing. Manfred Bayerlein (Chairman)
Board of Management:
Dr. Peter Langer (Spokesman)
Dipl.-Ing. (FH) Ferdinand Neuwieser

Telefon: +49 89 5791-3038
Telefax: +49 89 5791-2756
www.tuev-sued.de/is
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TÜV SÜD Industrie Service GmbH
Niederlassung München
Umwelt Service
Westendstrasse 199
80686 Munich
Germany

Responses to the CDM Executive Board

Request No. 1:

The DOE should clarify how it has validated suitability of the input values to the investment analysis in line with EB 38, para. 54, including the calculation of investment and O&M costs assumed. In particular the suitability of investment cost and O&M cost need further substantiation as investment costs is calculated at approximately 11.1 Mio RMB/MW, about 4.3 Mio RMB/MW higher than the average cost of 6.8 Mio RMB/MW; and O&M costs at 1.7% of the total investment costs, which is lower than the average ratio of 2.5% of similar projects (VR p12).

Response from TÜV SÜD:

TÜV SÜD carefully checked the applied input values including the total investment costs as well as the O&M costs following the three criteria indicated in EB38, §54 a-c as discussed below.

The data taken for the investment analysis in the PDD was derived from the values published in the feasibility study report (FSR) that was written by a qualified design institute which was further approved by Guangdong DRC. The results clearly indicate that the project lacks financial attractiveness, therefore the results of the FSR has clearly been the reason for the decision to proceed with the investment in the project with support from CDM. In addition, the time period between the finalization of the FSR and the investment decision is sufficiently short (four months). Therefore, TÜV SÜD confirms that it is highly unlikely that the input values materially changed given this short period. In summary, TÜV SÜD considers all criteria from part "a" of EB38 §54 are met.

Furthermore, TÜV SÜD confirms that all values, including investment costs and O&M costs were derived from the FSR and no inconsistencies occurred. As a result, TÜV SÜD considers the applied values as appropriate and the requirements from part "b" of EB38 §54 as fully met.

As mentioned in the validation report, the applied values for the investment costs and the O&M costs were compared with TÜV SÜD's internal statistical evaluation of 250 hydropower projects all over China. Based on this comparison, investment costs appear to be somewhat elevated. However, these elevated costs are due to the complicated construction work resulting from the difficult geological conditions.

Furthermore, as indicated by the project participants in their response to this request, a comparison of other hydropower projects in the same province (Guangdong) was provided and similar investment costs (i.e. investment / capacity) were observed (i.e. around 11 Mio RMB / MW). TÜV SÜD considers the comparison of investment costs of similar projects on a province level more appropriate than on a China wide level, because the conditions, requirements, etc. may significantly change between the provinces.

The project is still under construction, thus the final, overall investment costs can only be estimated based on how much money has been spent so far. However, about 80% of the construction and installation work has been finished up to now and about 750 Mio RMB were spent so far (IRL 32). This is about 44 Mio RMB more compared to 80% of the value applied for the IRR calculation (i.e. 80% of 882.2 Mio RMB = 705.7 Mio RMB). Furthermore, the costs for the raw material such as wood and steel significantly increased compared to the prices assumed in the FSR used for the estimate of the overall investment costs (IRL 30, 31).

In summary, TÜV SÜD confirms that the applied value for the investment costs in the investment analysis can be considered as applicable and realistic.

The O&M costs per capacity (0.21 Mio RMB / MW) were well within the range observed in Guangdong province (0.20 – 0.34 Mio RMB /MW) and also compared to TÜV SÜD internal statistics from 250 hydro-

power projects all over China (average 0.19 Mio RMB /MW). The reason for the quite low ratio between the O&M costs and the investment costs is likely due to the high investment costs, as already mentioned in the validation report.

Furthermore, the comparison of the estimated O&M costs in the PDD are well within the range given by the "Annual Report for Chinese Power Industry" (IRL 33). In summary, TÜV SÜD considers the applied value for the O&M costs as appropriate and realistic.

The tariff could be further confirmed by a notice of Guangdong Price Bureau in 2007 (IRL 34).

In summary, TÜV SÜD considers the applied values as valid and applicable at the time of the investment decision and confirms that the requirements of part "c" of EB38 §54 are also fully met.

REQUEST No.2:

The DOE is requested to clarify how the reported values of annual electricity generation and annual grid-connected electricity are appropriate in the context of the underlying project activity taking into account a difference of over 13%.

Response from TÜV SÜD:

The difference between the total amount of annual electricity generation and annual grid-connected electricity are based on three factors that were taken into account: electricity coefficient (90%), power consumption rate (3%) and line loss rate (1%).

The rationale behind these three factors is explained in detail in the response to this request provided by the project participants. TÜV SÜD confirms that the applied factors are appropriate and reasonable. In addition, the amount of effective electricity supply to the grid mentioned in the PDD is taken from the approved FSR. Third party evidences, such as a statement from the Guangdong Province Water Design Institute and the Grid Company (Meizhou City Power Supply Bureau of Guangdong Power Grid Company) further confirmed that the calculated grid-connected electricity based on total annual electricity generation is appropriate and realistic (IRL 35, 38).

Recently the meth panel was requested to elaborate the guidance on ACM0002, in particular how to arrive at an accurate plant load factor taking into account the variability of the wind parameters and gaps of data. Though this guidance was not yet discussed by the EB due to time constraints, and bearing in mind that this guideline is addressing wind power plants in particular, it is considered useful to assess effective power generation estimates also for hydro power. Among others, the following two recommendations were made (compare Meth panel report 35, para 37):

"After considering the case, the panel recommends the EB to consider the following options:

(a) The DOE should validate that the estimate in the CDM-PDD of the annual electricity generation is consistent with the estimate provided to banks and/or equity financiers while applying for project financing, or to the government while applying for implementation approval;

(b) The expected annual electricity generation of the project should be determined by a third party contracted by the project participants (e.g. an engineering company);"

Regarding recommendation (a) it can be confirmed by the DOE that the same net annual electricity generation was provided to the government while applying for the implementation approval, as could be evidenced by the approval of Feasibility study report by the design institute. Referring to recommendation (b) it can also be confirmed that the estimate was made by a third party which was contracted by the project participants, named Guangdong Province Water Design Institute, holding an "A level" of Engineering Survey Certificate and also an "A level" of Engineering Design Certificate and Certificate of Quality.

In summary, based on the points mentioned above, TÜV SÜD confirms that the method of calculation for power supplied to the grid is correct and transparent, and that the 13% difference between power generation and power supply to the power grid is reasonable in the context of the project activity and the characteristics of the local grid.




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REQUEST No.3:


A full interlinked spreadsheet of the investment analysis should be provided.

Response from TÜV SÜD:


The full interlinked spreadsheet of the investment analysis is submitted together with the responses to this request for review (IRL 37).

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Reference No.	Document or Type of Information																																																		
1.	Project Design Document for CDM project “Dongshan Hydro Power Project in Guangdong Province China.”, version 1.0, submitted June 22, 2007, latest PDD version 2, 22/04/2008; version 3, 06/08/2008.																																																		
2.	Consolidated baseline methodology for grid-connected electricity generation from renewable sources, ACM0002, version 06																																																		
3.	Tool for the demonstration and assessment of additionality, version 04																																																		
4.	Participant list of on-site interview, signed on August 22, 2007																																																		
5.	<p>On-site interviews at the project site in on Han River Fengshun County Meizhou City, Guangdong Province, conducted on August 22-23, 2007 by auditing team of TÜV SÜD:</p> <p>Validation team: Mr. Carl Zhou CDM Auditor, Jiangsu TÜV Product Service Ltd., Shenzhen Branch</p> <p>Interviewed persons:</p> <table><tr><td>Mr. Huang Kangbiao</td><td>Fengshun County Han River Hydro Power Co. Ltd,</td><td>General manager</td></tr><tr><td>Mr. Chen Yuanwei</td><td>Fengshun County Han River Hydro Power Co. Ltd,</td><td>financial dept.</td></tr><tr><td>Mr. Hu Tao</td><td>Fengshun County Han River Hydro Power Co. Ltd,</td><td>financial dept.</td></tr><tr><td>Ms. Ma Hongxia</td><td>Fengshun County Han River Hydro Power Co. Ltd,</td><td>ADM</td></tr><tr><td>Mr. Liu Futing</td><td>Fengshun County Han River Hydro Power Co. Ltd,</td><td>CDM coordinator</td></tr><tr><td>Mr. Feng Shaozheng</td><td>Fengshun County Han River Hydro Power Co. Ltd,</td><td>technical dept.</td></tr><tr><td>Mr. Liu Xiangjun</td><td>Wuhua Fulong Hydro power Co. Ltd.</td><td>general supervisor</td></tr><tr><td>Mr. Deng Mingqiang</td><td>Fengshun County hydro power bureau</td><td>vice leader</td></tr><tr><td>Mr. Wu Jianzhong</td><td>Fengshun County hydro power bureau</td><td>leader of dept.</td></tr><tr><td>Mr. Xu Zhengrong</td><td>Fengshun County land resources bureau</td><td>vice leader</td></tr><tr><td>Mr. Xu Huasheng</td><td>Fengshun County land resources bureau</td><td>leader of dept.</td></tr><tr><td>Mr. Chen Xiuxiang</td><td>Fengshun County people government</td><td>consultant</td></tr><tr><td>Mr. Zhu Zhengzhong</td><td>Fengshun County people government office</td><td>vice leader</td></tr><tr><td>Mr. Du Jianwu</td><td>Fengshun County EPB</td><td>vice leader</td></tr><tr><td>Mr. Li Xiangkui</td><td>Fengshun County support poverty office</td><td>vice leader</td></tr><tr><td>Mr. Liu Junhui</td><td>Beijing Haohua Rivers International Water Engineering Consulting Co. Ltd</td><td>General engineer</td></tr></table>			Mr. Huang Kangbiao	Fengshun County Han River Hydro Power Co. Ltd,	General manager	Mr. Chen Yuanwei	Fengshun County Han River Hydro Power Co. Ltd,	financial dept.	Mr. Hu Tao	Fengshun County Han River Hydro Power Co. Ltd,	financial dept.	Ms. Ma Hongxia	Fengshun County Han River Hydro Power Co. Ltd,	ADM	Mr. Liu Futing	Fengshun County Han River Hydro Power Co. Ltd,	CDM coordinator	Mr. Feng Shaozheng	Fengshun County Han River Hydro Power Co. Ltd,	technical dept.	Mr. Liu Xiangjun	Wuhua Fulong Hydro power Co. Ltd.	general supervisor	Mr. Deng Mingqiang	Fengshun County hydro power bureau	vice leader	Mr. Wu Jianzhong	Fengshun County hydro power bureau	leader of dept.	Mr. Xu Zhengrong	Fengshun County land resources bureau	vice leader	Mr. Xu Huasheng	Fengshun County land resources bureau	leader of dept.	Mr. Chen Xiuxiang	Fengshun County people government	consultant	Mr. Zhu Zhengzhong	Fengshun County people government office	vice leader	Mr. Du Jianwu	Fengshun County EPB	vice leader	Mr. Li Xiangkui	Fengshun County support poverty office	vice leader	Mr. Liu Junhui	Beijing Haohua Rivers International Water Engineering Consulting Co. Ltd	General engineer
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Reference No.	Document or Type of Information
6.	Organization chart and Company license
7.	The time schedule of the proposal project, including the evidence of starting construction, the starting date of construction was on Sept. 1 2006.
8.	The Notification of Adjusting the Tariff of the power generation projects, the People's Government of Fengshun County Fengfu[2003]11, February 9, 2003.
9.	Legal approval (authorization) of the project activity, such as project identification approval, dated on May 11 2004, Guangdong province DRC, confirmation letter of the project by Guangdong province DRC, dated on June 6 of 2005 need the initial material.
10.	Approval of feasibility study report, dated on April 28 2005, Guangdong province water power department
11.	Preliminary design report, dated on Sept. 2005, Guangdong province water power survey and design institute
12.	EIA and its approval: EIA, dated on Dec. 2004, Zhujiang water resources protection science institute, approved on April 29 2005, Guangdong province EPB.
13.	The contract for renting lands with the villagers committee of Shijiu village, dated on Oct. 10 2005
14.	The report for lands occupied and resettlement in preliminary design report, dated on Sept. 2005, Guangdong province water power survey design institute
15.	Feasibility Study Report, Guangdong Province Water Design Institute, July 2004.
16.	Approval of water and soil preservation, dated on April 13 2005, Guangdong province water power department
17.	Evidence of capital sources, the loan contract with China construction bank, dated on July 12 2006, 530,000,000RMB
18.	Approval of connection to the grid, Guangdong province grid company Meizhou supply power bureau, dated on July 19 2005.
19.	Minutes of Board Meeting of Fengshun county Han River Hydropower Co., Ltd.; October 18, 2005.
20.	CDM consultation agreement, 28 October 2005.
21.	Contract of devices purchasing (generation units and main transformer), contract No. FSDSSN-01 with Tonglu Fuchun generation devices Co. Ltd. dated on June 27, 2006.
22.	Training material
23.	Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects, 2003.
24.	China Water Resource Yearbook, 2006.
25.	Classification & design safety standard of hydropower projects (DL5180-2003) issued by State Economic and Trade Commission of People's Republic of China, 2003.
26.	Approval of FSR by Guangdong Province Development and Reform Commission, June 6, 2005.

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Reference No.	Document or Type of Information
27.	NDRC statement on price of raw material, July 30, 2008.
28.	Concerning about Fengshun County Han River Dongshan Hydropower project applying for CDM; Fengshun County Han River Hydropower Co.,Ltd; April 2, 2005.
29.	Purchase transfer list, May 20, 2008.
30.	List of deal clearing of Dongshan Hydropower Station; The demander: Fengshun County Han River Hydro Power Co.Ltd.; The supplier: Shenzhen City Jibaijing Industrial Development Co.Ltd.; May 20, 2008.
31.	Wood Invoice, Invoice No. 6000861,
32.	Clarification of the Real Investment Increase during the actual construction of Dongshan Hydropower Project on Hanjiang River; issued by Guangdong Yueyuan Water Resource Engineering Consultation Co.Ltd. Fengshun county Hanjiang River Dongshan Hydropower Project Construction Supervision Department; 15th Jan, 2009
33.	Annual Report for Chinese Power Industry, 2005.
34.	"Notice of Guangdong Price Bureau on Regulate Grid-in Tariff Of Hydropower Electricity" issued by Guangdong Province Price Bureau; [2007]147.
35.	Statement on the effective electricity rate, power consumption rate, line loss rate of Dongshan Hydropower Project; Guangdong Province Water Design Institute 15/01/2009
36.	The Relationship between House Service System and Power Generation Output in Hydraulic Power Plant; Northeast Electric Power Technology (Authoritative Power Periodical); 132108.
37.	Full interlinked spreadsheet with IRR calculations; 19.01.2009.
38.	Statement on the Effective Electricity Rate for Hydropower Stations in Meizhou City Guangdong Province; Meizhou City Power Supply Bureau of Guangdong Power Grid Company; 22/01/2009