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	IS-CMS-MUC/RZ Rachel Zhang	+49 89 5791-3038 rachel.zhang@tuev-sued.de	+49 89 5791-2756	2008-12-30	1 of 9

Dear Sirs,

Please find below the response to the review formulated for the CDM project with the title “Ninglang County Mudiqing Secondary Hydropower Plant” with the registration number 2044. In case you have any further inquiries please let us know as we kindly assist you.

Best regards

Rachel Zhang
Carbon Management Service

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Enclosures

Annex 1: Project Settlement Report issued by Dali State Manjiang Zhiyu Building Engineering Co., Ltd and Yunnan Lubuge Consulting Co., Ltd

Annex 2: View on Water Resources Demonstration Report of Ninglang County Mudiqing Secondar Hydropower Plant, issued by Lijiang Water Conservation Bureau (file no.: Lishuifu [2005]23)

Annex 3: The Approval of Bus-bar tariff Reform Scheme in Lijiang City in 2005 issued by Yunnan Development and Reform Commission.

Annex 4: Bulletin of Valid Hydropower Technical Standards issued by Water Resources of the People's Republic of China (file no.: 2006[5])

Annex 5: CDM Consulting Agreement signed between Lijiang Yongli Hydropower Development Center Mudiqing Secondary Power Plant and Beijing Changjiang River International Holding Co., Ltd

Annex 6: ERPA signed between Lijiang Yongli Hydropower Development Center Mudiqing Secondary Power Plant and Mitsubishi Corporation

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Response to the CDM Executive Board

Issue 1

Further clarification is required on how the DOE has validated: a) the input values for the investment analysis as per EB 38 paragraph 54 (c) guidance; and b) the suitability of the 10% benchmark (1995) when assessing the additionality with investment decision made in 2006.

Response from the Project Participant

a)

According to the EB 38 paragraph 54(c), it demonstrates that the input values from the FSR should be confirmed to be valid and applicable at the time of the investment decision by cross-checking or in other appropriate manners on the basic of its specific local and sectoral expertise. As for this project, in May 2005, its Preliminary Design Report of the Project was finished by Lijiang Water Resources and Hydropower Survey, Design and Research Institute, which is a qualified third party independent from the PP and has obtained a B grade certificate in water conservancy and electricity industry issued by the "Ministry of Construction" of the peoples' Republic of China[1].

The Preliminary Design Report (PDR) assessed by the experts was approved by Lijiang Development and Reform Commission on 15th June, 2006, thus indicating the authorization from the government of the data in PDR. To conclude, the PDR is an official document prepared by an independent third party and cross-checked and approved by the local government.

To comply with the EB 38 paragraph 54 (c) guidance, we would like to provide further explanation to those important input values adopted for IRR calculation in the PDD. All those input values are coming from the PDR except the bus-bar tariff. And DOE could cross-check those values using the actual data or referring to the available documents of other similar project activities as follows.

Table 1 the Applied Data in PDD and Actual Values

	Values adopted in PDD	Actual Value	Comment
Fixed Assets Investment	31.3873 million yuan	34.28 million yuan	The actual investment is about 9.22% higher than the designed total investment in PDD.
O&M Cost	1.53 million yuan	Refer to the below Detailed specifications term by term	The O&M cost in PDD are more conservative
Annual Operation hour	4715hours	Not available Now. Because the project is still in trial operation stage	Based on the analysis to the reliable historical data by the qualified

[1] Engineering Design Certificate of Yunnan Lijiang Water and Hydropower Survey & Research Institute with a grade B issued by the Ministry of Construction of PRC.

			independent third party
Bus-bar tariff	0.16yuan/kWh	0.15yuan/kWh	The bus-bar tariff in PDD is more conservative

As for the detailed descriptions, please refer to the following items:

[The input data of the Fixed Assets Investment]

The fixed assets investment of 31.3873million yuan applied in PDD is based on the PDR. These values from PDR could be crossed-checked by the actual total cost derived from the "Project Settlement Report" of the project activity issued by the Dali Prefecture of Manhongzhiyu Construction Engineering Company and the independent party of Yunnan Lubuge Consulting Co., Ltd for its validity and applicability on 20th Oct., 2008. Expired by this time, the project total investment has been already completed, and the construction work has almost finished, but due to some of the main engineering project has not completed acceptance work, the Construction Completion Report has not been yet issued. This "Project Settlement Report" indicates that the total investment incurred amounts to 34.28million yuan which is 9.22% higher than the fixed assets investment in PDR[2].

We have also provided the contracts of Engineering project, Water diversion project, Penstock project, the scientific research survey & design project etc as well as the various invoices of turbine and generator equipment together with the invoices of material costs which have covered the actual total investment to the DOE for double-checking.

[The input data of Operations and Maintenance Cost (O&M Cost)]

The project is still in trial operation and is expected to be fully operational in the early of 2009. Therefore, it is impossible for cross-checking by the actual figure of the O&M cost.

Although the value of the O&M cost is an insensitive factor, it is calculated according to the data from the approved PDR thus strictly executed with the relevant national regulations. The O&M cost mainly include staff charges (wages, welfare, insurance and housing fund), material cost and other costs, water resources fee, repair cost, insurance for fixed assets. And the staff charges is a main component of the O&M cost which is easily influenced by the external factor such as the national development. According to the information published by the Bureau of Labor and Social Security of Yunnan Province, the actual average increase of enterprises' wage was 11% in 2006[3], and the increasing rate was 13%[4] in 2007. It could be drawn that the salary of the enterprise staff has been on the rising tendency. However, most of the other parts of O&M cost are comparatively stable. For example, the water resources fee of the project is 0.004yuan/kWh, which confirms to the Temporary Management Methods on Collection Standard of Water Resource fee of Yunnan Province[5], announcing that the water charge of hydropower station in Yunnan Province should be 0.001-0.01yuan/kWh. Therefore, we can find out that the actual O&M cost in operating phase of the project will be higher than the data in IRR calculation.

[2] The Project Settlement Report issued by the Dali Prefecture of Manhongzhiyu Construction Engineering Company and supervised by Yunnan Lubuge Consulting Co., Ltd on 20th Oct., 2008.
[3] http://www.ynl.gov.cn/ggfw/readinfo.aspx?B1=1179
[4] http://finance.sina.com.cn/roll/20070430/11363560544.shtml
[5] http://www.wcb.yn.gov.cn/end/index.jsp?Info_ID=85

In addition, the unitary operational cost 0.0453yuan/kWh of the project has been confirmed to be a reasonable value according to the range of 0.04-0.09yuan/kWh[6].

In conclusion, adopting the data from the PDR for IRR analysis is reasonable and more conservative if compared with the predicted actual values.

[The input data of Operation hour]
As the project will start fully operation in the early 2009, the actual data is not available now.

The annual operational hour of the proposed project is 4715 hours. This expected data is derived from scientific analysis on the 33 years' historical hydrological observation data during 1973 to 2005 provided by an independent third party Ninglang Zhuangfang Hydrologic Station. It also has been assessed by the experts and got approved by the Lijiang Water Conservation Bureau[7]. Therefore, the operation hour of 4715h is applicable to this project.

[The input data of Bus-bar tariff]
In Aug., 2005, an Approval of Bus-bar tariff Reform Scheme in Lijiang City was issued by Yunnan Development and Reform Commission[8]. Thus the project owner adopted this fixed bus-bar tariff 0.16 yuan/kWh (with VAT) as an input value in the financial analysis of the PDD. For the reason that this value was published and known by the project owner prior to the investment decision by means of the Board resolution, it is applicable for the financial analysis of the project.

The project activity is expected to be fully operational at the beginning of 2009. And according to the Grid-Connecting Contract signed between the project owner and the Grid Company, the actual bus-bar tariff for the project is 0.15 Yuan/kWh (with VAT)[9], which is even lower than the guiding price of 0.16 Yuan/kWh issued by the government because the Grid company forced down the price due to the reason that they faced the difficulties in the project transmission-lines' erection causing by the local complex geographical factor. This comparison confirms that the value in the PDD is applicable.

As shown above, it can be clearly concluded that the input values of the investment analysis, which were known before the investment decision, are suitable and appropriate through the cross check with other credible and reliable data sources and which is consistent with the EB 38 guidance, paragraph 54(c) guidance.

b)
The benchmark of 10% is adopted from the "Economic Evaluation Code for Small Hydropower Projects (SL16-95)[10]". This code was issued by the Ministry of Water Resources of the People's Republic of China (MWR) and became officially effective on 01/07/1995. In this document, the small hydropower project is defined as the installed capacity lower than 25MW. The installed capacity of the proposed project activity is 8MW. The code is thus appropriate for the proposed project.

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[6] http://news.xinhuanet.com/stock/2004-12/03/content_2290984.htm
[7] The Document of View on Water Resources Document Report of Ninglang County Mudiqing Secondary Hydropower Plant issued by the Lijiang Water Conservation Bureau on 16th Nov., 2005.
[8] The Approval of Bus-bar tariff Reform Scheme in Lijiang City in 2005 issued by Yunnan Development and Reform Commission on 12th Aug., 2005.
[9] Grid-Connecting Contract signed between the project owner and the Grid Company on 6th Jun., 2006.
[10] http://www.cws.net.cn/guifan/bz%5CSL16-95

In 2002, the MWR issued the "Bulletin of Valid Hydropower Technical Standard" (document No[2002]07)[11]. In accordance with it, the SL16-95 code is still valid and enforceable. Moreover, on 09/09/2006, the MWR announced that this regulation was still effective[12]. No new regulation has taken over the effectiveness of this code since then. This shows that the 10% benchmark was applicable at the time of the decision making in 2006 (and still remains in effect today). Since 1995, hydropower design institutes in China have widely applied this code and the 10% benchmark when developing Feasibility Study Report (FSR) and Preliminary Design Reports (PDR) for small-scale hydropower projects. The 10% benchmark given in this code is the most specific benchmark for small hydropower projects and represents common practice for Chinese investment decision processes.

To conclude, we consider a 10% benchmark is suitable for our project benchmark chosen given the fact it comes from an officially published guidance for small scale hydropower projects which is effective at the time of investment decision and thus is in accordance with EB requirements.

Response by TÜV SÜD

a)

All input data except the tariff in the investment analysis are taken from Preliminary Design Report (PDR, equal to FSR), which was completed in May, 2005(IRL 7 of the validation report). The project owner got the confirmation regarding the tariff from Yunnan Development and Reform Committee on August 12th, 2005 (IRL16 of the validation report). Lower tariff than that expected in PDR leads to a low IRR without financial attraction. After seriously considering CDM benefits, the project owner made the investment decision of the proposed project at the Board Meeting on May 29th, 2006 (IRL 20 of the validation report). Based on documented evidences and on-site interviews and assessment, TÜV SÜD can confirm that the input values of the investment analysis are valid and applicable at the time of investment decision.

To confirm and verify the appropriateness and validity of the input values used for the performance of the investment analysis, TÜV SÜD has reviewed each relevant figure which essentially could affect these financial calculations and crosschecked the values where possible with actual contracts and invoices:

Total Static Investment

Total static investment is presumed to be 31.38 Mio RMB in the PDR. The investment per MW was calculated at 3.9 Mio RMB/MW, which is lower than the average cost of 6.7 Mio RMB/MW based on TÜV SÜD's internal statistics and is considered to be conservative. Furthermore according to the Project Settlement Report issued by the construction company (Dali State Manjiang Zhiyu Building Engineering Co., Ltd) and the supervision organization (Yunnan Lubuge Consulting Co., Ltd) dated October 20th, 2008 and relevant contracts and invoices, the actual investment of the proposed project is 34.28 Mio RMB, approx. 9.2% higher than the PDR estimate of May 2005. It further demonstrates the conservativeness of the financial analysis approach.

(The Project Settlement Report, please see Annex 1 of this response)

[11] Bulletin of Valid Hydropower Technical Standard issued by Ministry of Water Resources of PRC on 12th Jun., 2002.

[12] Announcement on the Current Effective Technical Standard issued by Ministry of Water Resources on 9th Sep., 2006.

Annual O&M costs
The annual O&M costs are 1.53 Mio RMB in the PDR. Its calculation parameters match with the local policies and regulations (in terms of staff costs, water charge, maintenance costs and other costs) and with the situation as evidenced during the on-site audit. Furthermore the unitary operational cost of 0.045 Yuan/kWh is on the low limit of the range of 0.04-0.09 Yuan/kWh documented by a thesis "Upcoming System Reform on Hydropower Industry" issued on 2006 (http://www.66wen.com/06gx/shuili/shuiwen/20061024/23163.html). Additionally, the annual O&M is an insensitive factor to IRR result, IRR of the proposed project will exceed the benchmark only when the O&M costs decrease 40%. However, this scenario is not realistic and will not happen since Yunnan has been experiencing rising labour and material costs based on Financial Report of 2007 issued by the Peoples' Bank of China (http://www.pbc.gov.cn/detail.asp?col=473&ID=2155). Therefore, TÜV SÜD confirms that, according to above considerations, the annual O&M costs as stated by the PPs in the investment analysis are reasonable and acceptable during the assessment.

Operational Hours
A value of 4,715 hours has been assumed in the PDD according to the value as reported in the PDR. The applied value is higher than the average annual utilization hours based on TÜV SÜD's internal statistics and is considered to be conservative. Furthermore, this value was calculated by Yunnan Lijiang Water and Hydropower Survey & Research Institute based on 33-year historical flow data and approved by Lijiang Water Conservation Bureau (Annex 2 of this response). The long term hydrological data, the 3rd party projection organization and approval from the local government department have been considered to be reliable sources for the power projection. TÜV SÜD deems that the operational hours of the proposed project have been estimated with reason and that no significant changes will occur in this parameter.

Bus-bar Tariff
The applied tariff for the IRR calculations is 0.16 RMB/kWh (with VAT), demonstrated by an approval of tariff from Yunnan Development and Reform Commission. On August 12th, 2005, Yunnan Development and Reform Commission issued an approval of electricity price reform and adjustment scheme and set the tariff of hydropower plants uniformly as 0.16 RMB/kWh (with VAT) (Annex 3 of this response). This is the most reliable information available by the project owner at the time of investment decision. Therefore the applied tariff is considered by TÜV SÜD as plausible and applicable in the CDM context.

b)
The benchmark of 10% which has been applied in the Preliminary Design Report (PDR) and accordingly applied in the investment analysis of the proposed project activity refers to the "Economic Evaluation Code for Small Hydropower Projects (No. SL16-95)". SL16-95 is a valid, official industry standard in China and applicable as benchmark reference to the proposed project, which can be proofed by the following facts:

1) SL 16-95 was issued by the Ministry of Water Resources of the People's Republic of China(MWR) on June 2nd, 1995 and went into effect on July 1st, 1995. The benchmark of hydropower projects with a capacity below 25MW is set as 10% in SL 16-95.

2) MWR issued a bulletin of valid hydropower technical standards respectively in 2002 (http://www.ches.com.cn/jishubiaozhun/001.htm) and in 2006 (http://www.mwr.gov.cn/tzgg/qt/20060926000000479251.aspx, annex 4 of this response) and confirmed the applicability and validity of SL 16-95.

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3) Till now, SL 16-95 has not been revised and is still applicable in China.

4) The project owner made investment decision on May 29th 2006, within the period of benchmark validity.

Therefore TÜV SÜD is confident that the benchmark of 10% and its reference are appropriately applied.

Issue 2
The DOE should provide further evidence of serious actions taken to secure CDM status, in line with the guidance of EB 41 Annex 46 paragraph 5 (b).

Response from the Project Participant

According to EB 41, Annex 46, Paragraph 5.b, the descriptions of serious CDM consideration has been mentioned in the PDD and detail descriptions and evidences are listed as below:

Table 2: Key milestone of the Project

Time	Milestone
May, 2005	PDR completion
12th Aug., 2005	A limited bus-bar tariff was approved by Yunnan DRC
26th May, 2006	Instructions of CDM development of Ninglang County Mudiqing Secondary Hydropower Plant, issued by DRC of Lijiang City
29th May, 2006	Board meeting resolution to research on CDM and consider the Project CDM developing
18th Jun., 2006	Main Equipment Contracts(Generator and Turbine)
24th Aug., 2006	Construction Start Approval issued by Water Conservation Bureau of Lijiang City
25th Sept., 2006	The Water Diversion Key Project Started
5th Apr., 2007	CDM Consulting Agreement signed between the project owner and CRIH
4th Aug., 2007	ERPA signed between the project owner and the buyer
1st Sept., 2007	The Powerhouse Construction Project started
6th Sep., 2007	Order signed with TUV SUD for validation services
21st Sep., 2007	Starting date of GSP of the CDM-PDD on UNFCCC
22nd Oct., 2007	On-site interview by TUV SUD
20th Dec., 2007	LOA of Chinese DNA received

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27th Dec., 2007	LOA of Japan Government received
25th Jun., 2008	The Water Diversion Key Project completed
8th Sept., 2008	The Powerhouse Construction Project finished

In May 2005, the PDR of the Project was finished by Lijiang Water Resources and Hydropower Survey, Design and Research Institute. However, a limited new bus-bar tariff of 0.16 yuan/kWh (with VAT) was approved by Yunnan DRC on 12th Aug., 2005, this lower price induced the project owner reluctantly to go on carrying out the development plan. Afterward on 26th May, 2006, the Instructions was issued by Lijiang DRC, stated that CDM activity had been working in accordance with Kyoto Protocol and also has mentioned the poor return of the Project based on local applicable bus-bar tariff, advising the Project to develop as CDM activity.

On 29th May, 2006, the project owner immediately held a Board meeting resolution to research on CDM as well as to consider applying for CDM project to improve the financial index and reduce investment risk. The Generator and Turbine Equipment Contract signed on 18th Jun., 2006, and the Approval of Construction Starting issued by Yunnan Lubuge Consulting Co., Ltd on 24th Aug., 2006.

Since then, the project owner took real actions to secure the successful CDM development of the Project. After learning some basic knowledge of the CDM, the project owner believed a professional consulting entity should be employed. Hence, in the subsequent months, the project owner sought the appropriate consulting agency and the potential CER buyers. And after detailed negotiation with Beijing Changjiang River International Holding, formal CDM consulting agreement was signed between the project owner and the CDM Project Entity, Beijing Changjiang River International Holding in 5th Apr., 2007[13]. And then, the project owner delegated this entity to collect relevant evidences, write the PIN and seek a buyer. In addition, on 4th Aug., 2007, ERPA was signed between the project owner and the buyer[14]. Later on 6th Sep., 2007, the Order for Validation Services was signed with DOE TUV-SUD.

After the serious due diligence, the Project started one month GSP of CDM-PDD on UNFCCC on 21st Sep., 2007. And soon on 22nd Oct., 2007, TUV-SUD performed on site validation. And on 20th Dec., 2007, the Project received LOA of Chinese DNA. Since then, the CDM application was going on smoothly.

And the project's construction works went on simultaneously. For example, the water diversion key project started on 25th Sept., 2006, and after the whole 2007 year's construction, it finally finished on 25th Jun., 2008. The powerhouse construction project started on 1st Sept., 2007 and completed on 8th Sept., 2008.

From the analysis above, it can be concluded that the CDM played a crucial function on the decision of implement of the Project. And continuing and real actions to secure registration as a CDM project activity have been taken in parallel with its implementation. Therefore the Project meets the requirement of EB 41, Annex 46, paragraph 5 (b).

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The CDM Consulting Agreement of the Mudiqing Secondary Hydropower signed on 5th Apr., 2007.

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Response by TÜV SÜD

As explained by the PP in much detail above, the PP has undertaken continuing and real actions to secure CDM status for the project in parallel with its implementation. After making the decision of applying for CDM on May 29th, 2006, the PP initiated the equipment purchasing and the project construction and started to seek for the consulting company and the CERs buyer simultaneously . There are the sequent events and supported evidences available that proof the continuing and real CDM activities of the PP.

- April 5th, 2007 – CDM consulting contract signed with Beijing Changjiang River International Holding (IRL 19 of the validation report)
- August 4th, 2007 – ERPA signed with Mitsubishi (IRL 18 of the validation report)
- September 6th, 2007– order signed with TÜV SÜD as DOE,
- September 21st, 2007 – GSP start
- October 22nd, 2007 – TÜV SÜD on-site audit
- December 20th, 2007 – The project approved by NDRC, LoA issued
- December 27th, 2007 – The project approved by Japan, LoA issued

CDM consulting contract and ERPA are attached to this response (Annex 5 and Annex 6). TÜV SÜD can confirm that the requirements of EB 41 Annex 46 paragraph 5(b) have been met.