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Request for Review

Dear Sirs,

Please find below the response to the review formulated for the CDM project with the title "Gansu Luqu Dazhuang Hydropower Station Project" with the registration number 1768. In case you have any further inquiries please let us know as we kindly assist you.

Yours sincerely,

Javier Castro
Carbon Management Service

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Response to the CDM Executive Board

Issue 1

The DOE is requested to clarify how it has validated the input values used in the IRR calculation following EB 38, paragraph 54.

AND

Issue 2

The DOE should confirm if the project start date is consistent with the CDM Glossary of Terms.

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Referring to Issue 1

Response from the Project Participant

The input values used in the calculation of the IRR are based on documentation that was available to the project entity at the time of the investment decision.

The main parameters including investment cost, annual operation and maintenance cost, annual power supply and the investment horizon are based on the documentation that was used to obtain government approval. This documentation consists of the following two documents: *Preliminary Design Report of Gansu Tao River Duosongduo Hydropower Development Project Dazhuang Hydropower Station engineering*" (PDR) completed in July 2005, and *"Supplementary Statement for the Approval & Review of Gansu Tao River Duosongduo 1st and 2nd Stage Hydropower Stations"* (Supplementary Statement) completed on 25 November 2005. The approval process in China involves a review of the Project Design Report by industry experts which led to corrections of the estimated total investment cost and the total power supply. The project received formal approval from the Provincial Development and Reform Commission on the basis of the above mentioned documents on 19 December 2005 which was prior to the start of the project activity.

The PDR and Supplementary Statement were prepared by the "Water Resources and Hydroelectric Investigation, Design & Research Institute of Gansu Province". This entity is an ISO 9001[1] certified independent organization which is qualified to compile design reports for hydropower projects. It has obtained A grade in the compiling of project proposals and feasibility study reports (Water Resources Engineering, Geotechnical engineering, Hydrogeology and Engineering Survey) issued by National Development and Reform Commission and A grade in engineering design for the Power Industry (Hydroelectricity Generation) issued by the Ministry of Construction.

The grid tariff is based on a formal announcement by the National Development and Reform Commission (NDRC) which was issued on 18 June 2004. NDRC is the national authority that is in charge of setting guidance tariffs that are subsequently implemented by the local authorities. The tariff applied for the proposed project activity is the guidance tariff for hydropower projects in Gansu, Ningxia and Qinghai Provinces. As the proposed project activity involves a hydropower project in Gansu Province this tariff is applicable. The grid tariff is applied from January 2005 onwards and was confirmed through a formal power price notice issued by the provincial authorities on 11 July 2006.

The input values described above were available to the project entity before the first steps towards the implementation were made by signing the equipment purchase agreement in July 2006 (see clarification to issue 2) and made it clear to the project entity that the proposed project activity would not be a commercially attractive option. On this basis the project entity took action towards achieving CDM project status by engaging the CDM advisory team in January 2006.

[1] The design institute has been certified by Bureau Veritas Quality International for the following scope of supply: plan & design, prospection, supervision and consultancy of hydraulic and hydroelectric engineering, prospection and design of civil engineering.

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Response by TÜV SÜD

As already mentioned by the project participant and also described in the PDD, the majority of the input values used for the IRR calculation were derived from the Preliminary Design Report (O&M costs) and the Supplemental Report (investment, annual power supply) (IRL 2, 3), which were both prepared by a certified company with an A-rated technical qualification (IRL 6, 7, 8). These reports were issued in July 2005 (PDR) and November 2005 (Supplemental Report) and officially approved in December 2005 (IRL 5). The results of the economical assessment in the PDR indicated that the project has a pretty low profitability. In addition, the applied net tariff of 0.23 RMB/kWh for the economical analysis in the PDR was over-estimated, as shown by a notice on the applicable tariff for hydro plants in the province issued by the NDRC in June 2004 (IRL 9). Therefore, the potential option of developing this project as a CDM project was already discussed in the PDR (IRL 2). The final decision to develop this project as a CDM project was made in January 2006, when the CDM consulting agreement was signed (IRL 12), only one month after the final approval of the design studies. Hence, it is obvious that the input values used for the investment analysis were valid and applicable at the time the investment decision was taken by the project participant. Therefore, TÜV SÜD can confirm that the results of PDR were the basis of the decision to proceed with the investment in the project and that the requirements of part (a) of the EB38, §54 are fulfilled successfully.

As mentioned above, the majority of the input values were derived from the PDR (i.e. O&M costs; IRL 2) and a Supplemental Report (i.e. investment costs, annual power supply; IRL 3) that was issued on the basis of comments by government appointed experts on how to apply more feasible and realistic values (IRL 4). The only deviating key input parameter is the tariff that was derived from a notice issued by the NDRC (IRL 9). Typically, the tariff indicated in the PDRs or FSRs in China is simply back-calculated in order to obtain the minimum return required to obtain government approval and was therefore not realistic and applicable, as indicated by this notice of the NDRC. In summary, TÜV SÜD confirm that the applied tariff is appropriate and valid and was also well known at the time of the investment decision, hence the requirements of part (b) of the EB38, §54 are also completely fulfilled for this project.

In addition, TÜV SÜD performed a thorough evaluation and review of the values of the input parameters applied for the investment analysis for this project. As part of this evaluation, TÜV SÜD checked the credibility and plausibility of the input data by comparing the applied values with TÜV SÜD's internal statistical results of the evaluation of 250 hydropower projects in China that are either already registered or currently under validation.

Investment costs were calculated at approximately 7.3 Mio RMB/MW, which are only slightly higher than the average cost of 6.7 Mio RMB/MW, but still within a range of plus one standard deviation from the average. Although the project is currently still under construction, and is not expect to be operational before the end of 2008, the investment costs spent so far on the project were actually higher than estimated in the Supplemental Report, which could be demonstrated by three letters from the general contractor, from the manufacturer of the metallic structure and the supplier of the cranes, respectively (IRL 17, 18, 19), indicating that these costs increased by about 20 Mio RMB. Hence, the applied value for the investment costs can be considered as conservative in the CDM/additionality context.

O&M costs equal about 2.6% of the total investment costs, and are thus almost equal to the average of 2.5% based on TÜV SÜD's internal statistics, and were therefore considered as also appropriate and realistic.

The plant is estimated to operate about 4241 hours per year, resulting in a load factor of approximately 48%, which is within the proximity of the average observed operating hours (i.e.

44%). The annual power supply was calculated based on long-term flow date. In addition, statistical evaluations based on the available long-term flow data indicate, that there is a very small chance of less than 0.5% that a deviation of more than 15% in the annual power supply is possible (IRL 20).

A gross tariff of 0.227 RMB/kWh was applied, which lies also well within proximity of the average observed tariff (i.e. 0.24 RMB/kWh). The applied tariff of 0.227 RMB/kWh was further confirmed by another formal power price notice issued by the provincial authorities in July 2006 (IRL 10), which indicated that this tariff is still applicable. Since the project is still under construction, a power purchase agreement has not been signed at the time of this request for review. However, the applied tariff was confirmed by two official notices and was therefore considered as also plausible and applicable for this hydro plant by TÜV SÜD.

In summary, TÜV SÜD checked the applied values thoroughly and based on its local and sectoral expertise, TÜV SÜD confirms that these values are realistic and plausible and appear to be valid at the time the investment decision was made. Hence, criteria (c) of EB38, §54 is also fulfilled successfully.

In conclusion, TÜV SÜD conducted a careful assessment of these parameters and assumptions used in the IRR calculation and therefore confirms that the applied values were accurate and also suitable on the basis of the provided evidences as well as on TÜV SÜD's expertise in this sector.

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Referring to issue 2

Response from the Project Participant

The project start date is defined by the CDM Glossary of Terms as "*the earliest date at which either the implementation or construction or real action of a project activity begins*". We provide an overview of all early actions towards the implementation of the project in the table below.

Early actions towards the implementation of the proposed project activity

Date	Event
9 July 2006	Signature of equipment purchase contract
1 April 2007	Approval for start of construction
29 December 2007	Signature of 1st bank loan agreement (Industrial and Commercial Bank of China): 60 million;
4 January 2008	Signature of 2nd bank loan agreement (Industrial and Commercial Bank of China): 40 million;
19 May 2008	Signature of 3rd bank loan agreement (Industrial and Commercial Bank of China): 50 million;

From the above table it can be concluded that the earliest start date of the proposed project activity is the signature of the equipment purchase contract on 9 July 2006. The Project Design Document (PDD) that was submitted for registration stated as the project start date 1 April 2007 which marked the approval for start of construction. In order to comply with the CDM Glossary of Terms we have revised the project start date to the earlier date of 9 July 2006.

The change of the start date does not affect the validity of the input values as all documentation used for the IRR calculation was available prior to the start of the project activity (see response to issue 1).

The change of the start date also does not affect the serious consideration of CDM in the planning of the project. The PDR of the proposed project activity which was completed in July 2005 considered the potential additional revenues offered by CDM. After the project was approved by the Provincial Government on 19 December 2005 the project entity initiated the first steps towards the CDM application by engaging the CDM advisory team by signing a CDM development contract on 6 January 2006. The PDD has been revised to demonstrate the timeline of the project's implementation and serious CDM consideration more transparently.

Response by TÜV SÜD

As mentioned already in the answer from the project participant, the CDM glossary defines the starting date of a CDM project activity as "the earliest date at which either the implementation or construction or real action of a project activity begins."

In the light of this definition, the starting date of the project activity in the CDM/additionality context was revised to an earlier date (i.e. July 2006) when the contract for the equipment was signed (IRL 11). TÜV SÜD checked all other actions that were taken associated with the proposed project activity, and confirms that the revised starting date of July 2006 is the first real

action when the project participant actually committed to expenditures related to the implementation or related to the construction of this project activity.

The CDM consulting agreement was still signed prior to the revised starting date, i.e. in January 2006 (IRL 12). Therefore, it is still obvious that the project participant was aware of the CDM prior to the start date and that the benefits of the CDM were a decisive factor in the decision to proceed with this project.

The PIN was finalized in August 2006 (IRL 23), and negotiations with Cargill International as the CER buyer were already on-going in November 2006 (IRL 22). The invitation for the CDM stakeholder consultation meeting was published in the provincial newspaper in January 2007 (IRL 24) and the option agreement was signed in February 2007 between the project owner and Cargill International SA (IRL 21). Therefore, it is also clearly demonstrated that continuing and real actions were taken to secure the CDM status of the project in parallel with its implementation.

In summary, TÜV SÜD carefully checked the timeline of this project activity, and confirms that the starting date is in line with the Glossary of CDM terms (version 04).

Ref. No.	Issuance and/or submission date(dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
1	14/08/2008	PDD "Gansu Luqu Dazhuang Hydropower Station Project", Version 04	Caspervandertak Consulting	Revised PDD in response to Request for Review
2	July 2005	Preliminary Design Report of Gansu Tao River Duosongduo Hydropower Development Project Dazhuang Hydropower Station engineering (PDR).	Water Resources and Hydroelectric Investigation, Design & Research Institute of Gansu Province	IRR input values
3	25/11/2005	Supplementary Statement for the Approval & Review of Gansu Tao River Duosongduo 1st and 2nd Stage Hydropower Stations (Supplementary Statement).	Water Resources and Hydroelectric Investigation, Design & Research Institute of Gansu Province	IRR input values
4	17/11/2005	Verification comments on Duoshongduo Stage2(Dazhuang) Hydropower Station on Taohe River Gansu Province.	Industry Experts	
5	19/12/2005	Approval by Gansu Provincial Development and Reform Committee regarding Duosongduo Stage 1 and Stage 2 Hydropower Stations on Taohe River in Gansu Province; Gan Fa Gai Neng Yuan [2005] No.1051.	Gansu Provincial Development and Reform Committee	
6	18/07/2003	Certificate of Engineering Consulting Qualification for Water Resources and Hydroelectric Investigation and Design&Research Institute of Gansu Province; Serial No. Gong Zi Jia 1032533001.	National Development and Reform Committee of People's Republic of China	
7	28/02/2003	Certificate of Engineering Design for Water Resources and Hydroelectric Investigation and Design &Research Institute of Gansu Province; 270102-sj	Ministry of Construction of People's Republic of China	
8	27/11/2003	BVQI Certification awarded to Lanzhou Investigation and Design & Research Institute of Ministry of Water Resources; Water Resources and Hydroelectric Investigation and Design & Research Institute of Gansu Province; ISO 9001:2000; Certificat No: 142754.	Bureau Veritas Quality International (Holding) s.a.	

Ref. No.	Issuance and/or submission date(dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
9	18/06/2004	Notice on Some Issues Regarding Alleviating the Conflict of the Power Price of Northwest Grid issued by NDRC; Fagaijiage (2004) No.1125.	NDRC (DRC and Price Bureau of Sha'anxi ,Gansiu, Qinghai, Ningxia, Xinjiang province (district)	IRR input value - tariff
10	11/07/2006	Formal power price notice, [2006]125.	Provincial Authorities	IRR input value - tariff
11	09/07/2006	Hydroelectric Generating Set Purchase Contract for Gansu Taohe Duosongduo 2nd Cascade (Dazhuang) Hydropower Station Project; (Contract No. LY-gc-[2006]-5-1)	Project Entity: Gansu Longyuan Electric Technical Development Co., Ltd. Contractor: Fujian Nanping Nandian Hydropower Equipment Manufacturing Co., Ltd.	Starting date of project activity in the CDM/additionality context
12	06/01/2006	Agency Appointment Contract of CDM Project Development; Project Name: Taohe Duosongduo 1st Stage and 2nd Stage Hydropower Stations	Entrusting Party (Party A): Gansu Longyuan Electric Power Technology Development Co., Ltd. Trustee Party (Party B): Gansu Tonghe Investment Consulting Co., Ltd.; Caspervandertak Consulting	Early CDM consideration
13	01/04/2007	Order to Commence of control works and power house of Dazhuang Hydropower Station of Dazhuang Project; Doc: DZ Shi Gong [2007]No.001 to Project Department of Duosongduo project of Liudian	Project Construction Supervision Department of Duosongduo	

Ref. No.	Issuance and/or submission date(dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
		Construction Installation and Maintenance Co.,Ltd.	Hydropower Project -- Beijing Anneng Engineering Supervision Consulting Co.,Ltd.	
14	29/12/2007	Fixes asset loan contract; Borrower: Gansu Minzhu Hydropower Development Co., Ltd; Contract Serial No.2007year An Ning Zi No.0023	Industrial and Commercial Bank of China	
15	04/01/2008	Fixes asset loan contract; Borrower: Gansu Minzhu Hydropower Development Co., Ltd; Contract Serial No.2008year An Ning Zi No.001	Industrial and Commercial Bank of China	
16	19/05/2008	Fixes asset loan contract; Borrower: Gansu Minzhu Hydropower Development Co., Ltd; Contract Serial No.2008year An Ning Zi No.006	Industrial and Commercial Bank of China	
17	20/04/2008	Official Letter requesting resolution on engineering expenses of Duosongduo Stage1 and Stage2 hydropower stations; Doc: Liu Jian Si Han[2008]No.15; to Gansu Electric Mingzhu Group Co,.Ltd	Gansu Liujiaxia hydropower Construction Installation and Maintenance Co.,Ltd (General contractor for procurement-construction and preoperation)	Supporting document on IRR input values
18	26/03/2008	Official letter of requesting compensation for price differences of metal structures or Duosongduo and Dazhuang hydropower stations due to rise in price of raw materials; Chang Guan Zi [2008] No.16; Gansu Mingzhu Hydropower Development Co.,Ltd., Luqu Branch.	China Water Conservancy and hydropower No.3 Engineering Bureau the Machinery Manufacture Factory (Mental Structure Supplier)	Supporting document on IRR input values

Ref. No.	Issuance and/or submission date(dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
19	19/05/2008	Report on compensation for additional fees of equipments for Dazhuang &Duosongduo hydropower stations; to Gansu Mingzhu Hydropower Development Co.,Ltd.	Xinxiang City Mine Cranes Co.,Ltd, Henan Province (electric hoist supplier)	Supporting document on IRR input values
20	August 2008	Dazhuang Water Flow Statistics	Caspervandertak Consulting	
21	03/02/2007	Option Agreement (Regarding the exclusive right to negotiate and enter into a emission reductions purchase agreement)	Cargill International SA and Gansu Mingzhu Hydropower Development Co. Ltd.	
22	16/11/2006	E-mail from CaspervanderTak to Cargill outlining bidding conditions; e-mail subject: Bids – Strictly Private & Confidential.	CaspervanderTak	
23	01/08/2006	E-mail indicating that the PIN was finalized.	CaspervanderTak	
24	23/01/2007	Newspaper Announcement on Invitation for CDM stakeholder consultation meeting.	Daily News – South of Gansu Province	