

## Response to the CDM Executive Board

### Issue 1

The DOE should confirm the data used for the common practice analysis and clarify the basis for its validation opinion.

### Response by PP

Additionality tool step 4 common practice analysis is described in the revised PDD:

The other activities similar to the proposed project activity are hydropower projects in the same region (Hunan Province), rely on a broadly similar technology (hydropower plants), are of a similar scale (50MW~250MW), and take place in a comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing.

The common practice analysis is limited to the provincial level as the investment environment for each province differs (e.g. with regards to taxes, loan policy and electricity tariffs). The selected geographical area for the project, i.e. Hunan Province, is relatively large. Hunan Province is considerably larger than several countries. The policies and regulations in Chinese provinces are different with each other.

According to *Classification & Design Safety Standard of Hydropower Projects* (DL5180-2003), hydropower plants with capacity between 50 MW~300 MW are classified as medium size projects. The similar scale in PDD is defined as 50 MW~250 MW since there is no similar project existed between 250 MW~300 MW in Hunan Province.

The significant reform to Chinese electric power sector was taken place in 2002. The reform involved establishing State Grid Corporation of China and China Southern Power Grid Corporation<sup>1</sup>. The former State Power Corporation was restructured and separated into 5 national power generation companies<sup>2</sup>. Before the power industry restructure in year 2002, the hydropower plants are mainly developed by state-owned companies, provincial governments ensured that project entity of power plants can obtain sufficient return by providing guarantee electricity tariff<sup>3</sup>. The national policy changed after 2002, the electricity tariff will be determined on the basis of average costs of power generators using the same advanced technology and built within the same period under the provincial power grid. Thus projects operated after 2002 are considered as similar projects to the proposed project since they were operated under a same policy scheme.

There is no hydropower plants with installed capacity between 50 MW~300 MW operated after 2002 is listed in publicly available *Yearbook of China Water Resources 2006* and *Yearbook of China Water Resources 2007*. In order for the completeness of common

---

<sup>1</sup> Notice of the State Council on Printing and Distributing the Plans Regarding the Restructuring of the Power Industry (Guofa [2002] No.5), issued by State Council on 10 February 2002

<http://www.china5e.com/laws/index2.htm?id=200608080001>

<sup>2</sup> Approval from State Development Planning Commission about Power Generation Asset Restructuring and Division Scheme of State Power Corporation, Guodianban (2002) No.952, 26 December 2002

[http://www.365dq.com/Research/Info\\_View.asp?ContentID=1793](http://www.365dq.com/Research/Info_View.asp?ContentID=1793)

<sup>3</sup> Ministry of Water Resources and Electric Power, State Economic Committee and State Price Bureau, Note on Implementing methods of Various Power Tariff (Shuidiancaizi[1987] No.101)

<http://www.my.gov.cn/MYGOV/150597964467798016/20061201/138692.html>

practice, the *Investigation Report on Hydropower Plants with Installed capacity above 15 MW Operational since 2002 in Hunan Province*, which is compiled by Grade A provincial design institute, Hunan Hydro & Power Design Institute, is used in common practice for the proposed project. There are total 4 similar projects operated after 2002 are listed in the table 8 of PDD.

In order to demonstrate and argue the difference between the proposed project and other 4 similar projects, we would like to list the 4 similar projects again:

Hydropower Station	Installed capacity (MW)	Operation (year)
Jinweizhou	63.18	2003
Zhuzhou Hangdian	140	2006
Hongjiang	225	2003
Wanmipo	240	2004

All the data and information described below are derived from *Investigation Report on Hydropower Plants with Installed Capacity above 15 MW Operational since 2002 in Hunan Province* unless otherwise stated expressly.

Jinweizhou Project obtained the Hunan Provincial Government's favorable support<sup>4</sup> in electricity tariff and tax and a bank loan with low interests from Austrian government<sup>5</sup>. The project owner only needs to repay foreign bank loan and part of domestic bank loan. Furthermore, the annual operation period of Jinweizhou Project amounts 4628 hours, which is much higher than the Tongwan Project (3950 h).

The Zhuzhou Hangdian Project is an inland waterways project financed by government financial support (RMB• 1.15 billion) and World Bank (US\$ 0.1 billion of low-interest loan)<sup>6</sup>. Furthermore, the annual operation period of Zhuzhou Hangdian Project amounts 4740 hours, which is much higher than the Tongwan Project (3950 h).

In general, investors will develop the hydropower plants with good technical and economic indicators, the Hongjiang Hydropower Plant was developed earlier with excellent natural conditions such as high water head and low construction costs. The annual operational time of Hongjiang Hydropower Plant is 4311 h<sup>7</sup>, which is higher than the proposed project (3950 h). The unit kW investment of Hongjiang Project is 7,569 RMB• /kW, which is 25% lower than the proposed project (10,128 RMB• /kW). Furthermore, the unit kWh investment of Hongjiang Project is 1.76 RMB• /kWh), which is 31% lower than the proposed project (2.56 RMB• /kWh).

Wanmipo Hydropower Plant was also developed earlier than the proposed project. The unit kW investment of Wanmipo Project is 6,292 RMB• /kW, which is 38% lower than the proposed project (10,128 RMB• /kW). Furthermore, the unit kWh investment of Wanmipo Project is 1.91 RMB• /kWh), which is 25% lower than the proposed project (2.56 RMB• /kWh).

The reasons for the high investment of the project are as follows:

<sup>4</sup> <http://www.shp.com.cn/news/info/2002/7/22/17401657.html>

<sup>5</sup> <http://www.iwicn.com/view-zp.jsp?id=138>

<sup>6</sup> <http://www.zzx.gov.cn/ReadNews.asp?NewsID=560>

<http://www.chinabidding.com/xmzx.jhtml?method=detail&docId=351178>

<sup>7</sup> <http://www.dianli1000.com/Photo/hcssdz/200705/116.html>

(1) The project is located at the entrance of canyon. The width of riverbed merely meets the minimum layout requirement of overflow dam. Both the left-bank construction and the right-bank power house are required to be placed on the slope of the river banks. The river banks have to be dug more wider and the hill has to be dug to form a artificial slope with height of 120~150 m according to design to meet construction requirements. It can be found from the PDR that the earth and stone work quantity is as many as 3.4 million m<sup>3</sup>. For the construction of the similar scale domestic hydropower projects, the height of artificial slope and earth work quantity for the project is extremely rare<sup>8</sup>.

(2) The project is equipped with 4 sets of 45 MW horizontal bulb type turbines whose unit installed capacity is the biggest in China at the time of starting construction<sup>9</sup>. Thus the transportation and installation of the turbine is very hard and need high investment.

According to above it is concluded that the project is not a common practice in Hunan Province.

### Response by TÜV SÜD

Referring to "Issue1": Chapters 2.2 to 2.5 of the validation report clarify that both a desk review and follow up interviews were performed to validate that all validation requirements, amongst them additionality (containing a common practice analysis) were fulfilled. We have confirmed in chapter 3 of our validation report and protocol and would like to reconfirm that TÜV SÜD reviewed all documents mentioned in the PDD under sub-step 4.a of the additionality tool and confirmed their completeness and relevance for evidencing the analysis of similar projects in the region of the CDM project. The assessment is based on official sources and further verification of these sources is considered being out of the scope of the CDM validation. As the figures used for the Common practice analysis are dating from the time of decision making for the project it can be confirmed that they are applicable in the context of the project activity.

There are three different criteria, which can be used as a filter for common practice analysis. First to name is the Geographical Boundary.

The investment climate and the environment in China differ from province to province. The general requirements of the Chinese government are the same, but local differences (e.g. electricity tariffs; taxes) influence local investment decisions.

The regulations of different provinces have been checked and compared by the DOE. The Hunan province can be considered as a place in a comparable environment. The geographical boundary can be considered to be applicable.

The second criteria is the Capacity boundary.

The "China Tongwan Hydropower Project" will have a Capacity of 180 MW. According to the "Classification & Design Safety Standard of Hydropower Projects"(DL5180-2003) hydropowerplants with capacity between 50~300 MW are clarified as medium size projects. This report was published by the China Hydropower Engineering Consulting Group Co.(CHECC).

This document was checked and verified by the DOE and can be considered valid.

The third criteria is the historical boundary.

In 2002 the Chinese electric power sector was reformed. The former State Grid Corporation was restructured and separated into 5 national power generation companies. Before that

---

<sup>8</sup> Instruction about the Engineering Characteristics of Tongwan Hydropower Plant, Hunan Hydro & Power Design Institute

<sup>9</sup> [http://power.newmaker.com/art\\_17645.html](http://power.newmaker.com/art_17645.html)

provincial governments ensured that project entity of power plants can obtain sufficient return by providing guarantee electricity tariff.

After 2002 the electricity tariff will be determined on the basis of average costs of power generators using the same advanced technology and built within the same period under the provincial power grid. The risk for a hydropower operator is higher than before 2002. For that reason projects implemented after 2002 can be considered as similar.

Searching the “Yearbook of China Water Resources 2006, Yearbook of China Water Resources 2007” and the “Investigation Report on Hydropower Plants with Installed capacity above 15 MW Operational since 2002 in Hunan Province”, which is compiled by Grade A provincial design institute, Hunan Hydro & Power Design Institute, and excluding all projects according to the above mentioned, four similar projects remain.

We mention explicitly that the operational hours and the investment per Unit kWh of the other projects are listed in the respective source and that this source is official. Besides annual operation hour and unit kWh investment, Zhuzhou Hangdian and Jinweizhou projects have got favorable policies in bank loan or electricity tariff.

The request to validate the assumptions and parameters used for the other hydro projects is considered being outside the scope of the CDM validation.

## **Issue 2**

The DOE should confirm that the expected additional income from the CDM was essential for the decision to go ahead with the implementation of the project activity given that it was submitted for validation almost two years after the start date of construction.

### **Response by PP**

The reference of serious CDM consideration has been in the PDD and it is concluded that CDM has been seriously taken into account before the start of the construction of the proposed project activity. We would like to take the opportunity to further describe in more details regarding the progress of the project implementation.

The whole timeline regarding the project is as follow:

<b>Time</b>	<b>Event</b>
12/07/2004	Learn about of CDM
October 2004	Preliminary Design Report (PDR) completed.
03/11/2004	The project owner decided to implement CDM application in board meeting.
23/02/2005	The project signed the Lol of CDM Project Development.
12/03/2005	PDR approved.
17/03/2005	Industrial & Commercial Bank of China Huaihua Branch agreed to provide bank loan due to CDM.
22/03/2005	Construction permission issued.
16/04/2005	Bank of China Huaihua Branch agreed the bank loan application due to CDM.
09/11/2005	Establishment of Hunan Province CDM Project Service Center (HNCMD).
23/06/2006	Letter of Intent of Emission Reductions Purchase signed.
29/09/2006	Emission Reductions Purchase Agreement signed.
January 2007	GSP PDD completed.
20/03/2007	On-site validation by DOE.
05/11/2007	Chinese LoA received.

As early as in July 2004, the project owner learned about the CDM during an on-site meeting regarding the Tongwan Project organized by the Deputy Governor of People's Government of Zhongfang County<sup>10</sup>.

In the end of October 2004, the Preliminary Design Report (PDR) of Tongwan Hydropower Project was completed, in which the CDM was specified. The water regulation storage of the project is weak and the water head of the project is low, the project is significantly affected by upstream hydropower plant. It can be found from the PDR that the expected power supply (used for IRR calculation) of the project will be decreased if the upstream hydropower plant is put into operation. Due to the high investment of the turbines, generator and earth work engineering and low project IRR in PDR, the project owner decided to implement CDM application to overcome the financial barrier, lower investment risks and apply for bank loan in the board meeting on 3 November 2004 (Ref No.11 in final validation report).

On 23 February 2005, the project owner signed the Lol of CDM Project Development (Ref No.12 in final validation report) for CDM development and application with Hunan Science & Technology Information Research Institute (HNSTI), which is a public service unit belonged to Science & Technology Bureau of Hunan Province. Science & Technology Bureau is one of two CDM administration authority in China, another authority is Development & Reform Commission.

On 17 March 2005, the Industrial & Commercial Bank of China Huaihua agreed to offer loans to the proposed CDM project activity after seriously considering CDM incentives. (Approval Regarding the Bank Loan Application from Hunan Zhongfang Tongwan Water Resources & Hydropower Development Co., Ltd, Gongyinhuaihan [2005] No. 3, 17 March 2005)

On 22 March 2005, the project owner is permitted to start the construction of the proposed CDM project activity. (Ref No.10 in final validation report).

On 16 April 2005, the Bank of China Huaihua Branch agreed the bank loan application and required the project owner to speed up the CDM implementation process and the CDM revenue should be firstly used for bank loan repayment (Ref No.34 in final validation report).

***From the milestones and key events above, it can be concluded that CDM incentives were essential for project owner to go ahead with the implementation of the project activity.***

With the development of the CDM project activity, the project owner faced unexpected increasing investment which was not budgeted in PDR after project construction, such as two issues as follows:

(1) Land occupation compensation investment increased: The land compensation budget in Preliminary Design Report was calculated in accordance with original regulation. According to new <Land Compensation and Migration Resettlement Regulation for Large and Medium Scale Water Resources and Hydropower Construction> issued by State Council of the People's Republic of China in August 2006, the compensation standard is higher than the original regulation. The land requisition fee will increase of RMB• 22.84 million (Explanation of Increased Land Occupation Compensation Investment, Hunan Xiangyi Resettlement Engineering Supervision Company, 20 September 2006). Furthermore, in order to resettle the migrations much better, the project owner will build infrastructure involving water supply, electricity supply and roads etc. These measures will increase migration resettlement budget greatly.

---

<sup>10</sup> Minutes of Governor's Work Meeting, 12 July 2004

(2) Construction of Anjinag Flood Embankment: In order to prevent flood disasters, the project owner built Anjiang Flood Embankment which was not budgeted in PDR. According to *Engineering Construction Contract of Anjiang Flood Embankment* signed on 14 February 2007, the investment is RMB• 99 million.

***The project is still under construction. All the increment of investment during the construction of the project activity makes the project activity much more financially unattractive and CDM is essential for the project owner to the decision to go ahead with the implementation of the project activity.***

In the following section, we'll explain why the CDM development is delayed for such a long time.

The CDM development was entrusted to HNSTI, including PDD development, buyer search and so on.

HNSTI has been focused on CDM research since April 2004. Due to lack of English professionals and capable PDD writers as well as huge pressure from project owners and urgent demand of special CDM development team, the Science & Technology Bureau of Hunan Province approved to establish Hunan Province CDM Project Service Center (HNCMD) in July 2005 (Report of CDM Development in Hunan Province, HNSTI, Xiangkexin [2005] No.15, 5 July 2005). Finally, the HNCMD was officially established on 9 November 2005.

Thus the delay of Tongwan CDM development is due to the re-construction of CDM business in HNSTI and buyer search.

The HNSTI completed the draft PDD in June 2005. Due to the strong request from project owner, the experts of HNSTI went to project site for PDD writing in September 2005. In order for filling a complete PDD to present to CERs buyers, the experts of HNCMD went to project site again for PDD writing. The project owner signed the Letter of Intent of Emission Reductions Purchase with Carbon Asset Management Sweden AB on June 23 2006. In order for fully investigate the stakeholder's opinions regarding Tongwan Project, the project owner conducted the stakeholder consultation from 1 September 2006 to 30 September 2006 to collect opinions. Later the project owner signed the Emission Reductions Purchase Agreement with Carbon Asset Management Sweden AB on September 29 2006. Finally, the GSP PDD was completed in January 2007 and submitted to buyer for internal QA/QC. The on-site validation was conducted during 20-21 March 2007 by DOE. The revision history of PDD was described in Section A.1 of PDD.

The time difference between the decision making and the GSP start can be explained through the missing experiences using CDM, the missing clarifications from the Chinese government and the time needed to search for CER buyer. The low efficiency of PDD development, lack of DOE is a common problem in Chinese CDM industry.

#### Response by TÜV SÜD

We confirm the PP's comments. All the documents have been reviewed by us and they are deemed credible.

The consideration of CDM before the construction of the project is given through the CDM application decision in board meeting, dated on 03/11/2004. The DOE has checked and verified that it is a normal procedure for Hunan Zhongfang Tongwan Hydro & Power Development Co., Ltd to discuss and apply company decisions in board meetings and to prepare and archive minutes of this meetings. For this reason the evidence can be considered authentic. Further action implementing the project was done after this decision.

On 25th November 2005 the Chinese government gave further guidance and clarification on the CDM implementation procedures “Measures for Operation and Management of Clean Development Mechanism Projects in China“. This facilitated the interest of CER buyers in CDM projects in China.

From above description, we confirm that the expected additional income from the CDM was essential for the decision to go ahead with the implementation of the project activity although it was submitted for validation almost two years after the start date of construction. The given explanation on this delay is suitable and not unusual for the host country environment. Furthermore, the project is still under construction now.