RESPONSE TO THE REVIEW REQUEST

Bureau Veritas Certification (formerly BVQI) had performed the validation of the CDM Project 1828 - "Guangzhou Zhujiang Power Plant Gas (LNG) Combined Cycle Project". Subsequently, there have been three requests for review.

Our responses to the clarification requests raised are given below:

Reasons for Request for Review	Bureau Veritas Certification's response
RR -1	
The determination of the project activity start date requires further substantiation, in particular it should be demonstrated that no contracts for equipment or fuel supply as well as a power purchase agreement (PPA) were entered into prior to 9 October 2005. (The DOE should provide more detail regarding how the evidence of prior consideration of the CDM has been validated as well as actions take to secure CDM status for the project in parallel with its implementation, taking note of the Guidance given by the Board at its 41st meeting (Annex 46).	Documents of the Project were submitted to the secretariat of CDM EB requiring for registration in April 2008, four months prior to EB41 meeting. That is the reason why the detailed information regarding the timeline of the Project was not provided in the PDD. However, the validation team has re-verified this key issue by tracing the timeline of project implementation progress with the substantial evidences, which is consistently with the requirement of the Guidance given by the Board at its 41st meeting (Annex 46). Firstly, the validation team has verified the Feasibility Study Report (hereafter referred to as the FSR) of the Project and confirmed that the FSR was finalized by an authoritative independent third party viz. Guangdong Electric Power Designing Institution in September 2003 and was approved by National Development & Reform Commission (NDRC) on 08/03/2005 (Document No. FGNY [2005]349). Guangdong Electric Power Designing Institution was established in 1958, which is a national Grade A design institute which is capable of a series of works such as investigation and design of large and ultra-large electric power project, engineering consulting and engineering procurement construction. As per Guidance given by the Board at its 38th meeting paragraph 54, the FSR of the Project is reliable data source for investment analysis. Therefore, the investment analysis of the Project was carried out based on the data provided in the FSR (see Section B.5 of the PDD and the response to Issue 2 for details). Secondly, the validation team verified the financial indicators concluded in the FSR and found that the parameters used for investment analysis are reasonable under the situation of the feasibility study and the Project was thus not financially feasible based on the result of investment analysis. As a result, the PP started to search for assistance for the Project and delayed the decision on whether to implement of the Project. Further, the validation team verified the events afterwards in relation to the investment decision or project implementation following a chronological timeline. The details are as below. World Bank issued a report titled *Clean Development Mechanism in China - Taking a Proactive and Sustainable Approach* in June 2004 and held a dissemination conference at the same time in Beijing, China. About 300 persons from energy sectors, especially the power sector, were invited to attend the conference. The report can be freely downloaded from the website of World Bank: Http://siteresources.worldbank.org/CHINAEXTN/Resources/318949-1121421890573/cdm-china.pdf. The report studied CDM opportunities in China's power sector and natural gas power generation

projects are highly ranked in the pipeline of CDM project activities. The report and the conference have stimulated investors' interest on CDM through out China, including the PP.

After serious consideration of CDM opportunities of the Project, as described on Page 13 of the PDD submitted for registration, "in the Directorate Conference on 14/12/2004, it was discussed that the Project could only be implemented with the assistance from international supporting fund because it was a GHG emission reduction project."

After Kyoto Protocol took effect on 16/02/2005, the PP realized that it could be a great opportunity. Then the PP signed CDM Consulting Contract on 28/02/2005. With confidence that CDM assistance could significantly improve the project return, real action of the Project was carried out after then on.

The Equipment Procurement Contract signed with GE came effective on 26/04/2005 (Contract No.: 04US01GTAOIXC0011). Then, the construction was launched on 09/10/2005. The Fuel Purchase Contract was formally signed with the gas supplier – Guangdong Dapeng LNG Company Limited on 23/12/2005. Afterwards, the PP finally signed Emission Reductions Purchase Agreement of the Project on 08/08/2006. As defined in the Emission Reduction Purchase Agreement, Millennium Capital Services was appointed to take the responsibility of consulting on the development of this CDM projects. CDM due diligence and CDM development of the Project started from then on. In December 2006, the PDD of the Project was finalized and submitted to DOE for validation.

According to the definition of "the start date of a CDM project activity" as latest version of "CDM Glossary" provided in paragraph 67 of EB41 meeting report, the start date of the Project is now determined as 26/04/2005. The start date of the Project is before 02/08/2008 and prior to the date of publication of the PDD for global stakeholder consultation. According to the Guidance on the *Demonstration and Assessment of Prior Consideration of the CDM* (Annex 46 of EB41), the validation team has verified the evidences provided to demonstrate the prior consideration of the CDM of the Project:

- Memo of the Directorate Conference of Guangzhou Development Industry (Holding) Co., Ltd. – the shareholder of Guangzhou Zhujiang LNG Power Generation Co., Ltd. - held on 14/12/2004.
(See Reference /16/ of the Validation Report or Appendix uploaded requesting for registration)
- CDM Consulting Contract signed by the PP on 28/02/2005. /***Annex 1** of this response*/

As described above, the validation team is able to confirm that the incentives from the CDM were seriously considered in the decision to implement the Project. Relevant timeline is summarized blow for clear understanding:

03/09/2003	Compilation of the FSR of the Project.
14/12/2004	CDM decision of the Project was made in the Directorate Conference.
28/02/2005	CDM Consulting Contract was signed.
08/03/2005	The Project was approved by National Development & Reform Commission (NDRC) (Document No. FGNY [2005]349).
26/04/2005	Equipment Procurement Contract with GE Power.
09/10/2005	Launch construction of the Project.

	<table><tr><td>23/12/2005</td><td>The PP signed Fuel Purchase Contract with the gas supplier – Guangdong Dapeng LNG Company Limited.</td></tr><tr><td>08/08/2006</td><td>Emission Reduction Purchase Agreement signed.</td></tr><tr><td>Dec.2006</td><td>Submission of PDD to DOE for validation.</td></tr></table> All the documents mentioned above had been validated by the validation team. As per timeline described in above table, 26/04/2005 is deemed as the earliest date at which the real action of the project activity commenced. Moreover, taking note of the Guidance given by the Board at its 41st meeting (Annex 46), CDM was seriously considered in the decision of Project implementation.
RR -2	
The DOE should provide more detail regarding how the input values used in the investment analysis have been validated to be appropriate, in particular that the applied tariff reflects a credible assumption at the time of the investment decision.	According to AM0029 ver. 01.1, the economically most attractive baseline scenario alternative is identified using investment analysis. The levelized cost of electricity production in RMB/kWh should be used as financial indicator for investment analysis. In the context of the project, the suitable financial indicators for all alternatives remaining after Step 1 of Identification of the baseline scenario of AM0029 should be calculated using the relevant cost (including the investment costs, fuel costs, operation and maintenance costs etc.) The validation team has reviewed the sources of the input values used for the EGC calculations and IRR calculations of the proposed alternative baseline scenarios and confirmed that Key assumptions used in the calculation of EGC and IRR are taken from the FSR. Key assumptions used in the calculation of the levelized electricity generation cost (EGC) of other power generation technologies are taken from the Global Climate Change Institute of Tsinghua University and the book published by the China Electric Publishing Press and etc, which are reliable sources. Further details regarding validation of these assumptions are described respectively as following. (1) Assumptions used in the calculation of the levelized electricity generation cost (EGC) and the IRR of the Project For EGC: The validation team had verified the approach adopted for the calculation of the levelized electricity generation cost (EGC), and confirmed that it is carried out in accordance with the prescription of Step 2 of Identification of the baseline scenario of ver. 01.1, and based on the International Comparisons of Electricity Generation by Types & Costs1 written by Nathan Ilten. The formula applied to calculate the EGC has been stated in the PDD submitted for registration, i.e. $$EGC = \frac{\sum_t \left[(I_t + M_t + F_t)((1+r)^{-t}) \right]}{\sum_t \left[E_t (1+r)^{-t} \right]}$$ The formula can also be found in Cost Estimation Methodology under Appendix 5 of the Projected Costs of Generating Electricity - 2005 Update published by NEA, IEA and OECD2. It is therefore considered that the method used for the EGC calculations is acceptable.

1 Http://people.cs.uchicago.edu/~nilten/docs/final.pdf#search='International%20Comparisons%20of%20Electricity%20Generation%20by%20Types%20%26%20Costs'.

2 *"Projected Costs of Generating Electricity - 2005 Update*, Nuclear Energy Agency (NEA), International Energy Agency (IEA) and Organization for Economic Co-operation and Development (OECD).
(Source:http://www.iea.org/textbase/nppdf/free/2005/ElecCost.pdf)

	For IRR: The validation team had verified the source of the 8% benchmark applied in the PDD - Interim Rules on Economic Assessment of Electric Power Retrofit Projects, which is deemed as an appropriate benchmark as the high degree of its relevance to the power industry. Furthermore, it has been commonly adopted in the investment analysis section for all of the already registered renewable energy and natural gas fired power generation CDM projects in China. (2) Input values used in the Investment Analysis of the Project The validation team had verified the sources of the input values used in the calculation of the EGC and IRR of the Project and confirmed that the sources are taken from the feasibility study report (FSR), which was completed by the Guangdong Electric Power Designing Institution and then passed the evaluation by China International Engineering Consulting Corporation (CIECC) in September 2003. The FSR was eventually approved by the National Development and Reform Commission (NDRC) later on 8 March 2005 (Document No. FGNY [2005]349). The input values used in the Investment Analysis were taken from the FSR except for the bus-bar tariff and the LNG price. [The input data of LNG Price] The natural gas used by the Project is produced in Australia Northwest shelf area and purchased from Guangdong Dapeng LNG Company who is responsible for gasifying LNG and supplying the natural gas for the Project complying with the signed take-or-pay (ToP) long-term contracts. The LNG price (including VAT) adopted in the FSR is viz.1.45 RMB/m^3 which is CIF price (without the cost of gasification and transmission by the local supplier). The global LNG pricing kept increasing for years. Actually, the Fuel Purchase Contract formally signed with the local gas supplier on 23/12/2005. The gas price used in the PDD is 1.60 RMB/m^3 (not including VAT) as per the actual gas purchasing receipts./*Annex 2 of this response*/ The validation team has verified the Fuel Purchase Contract and further crosschecked with the commercial receipts of the gas and found that the actual gas price paid by the PP was 1.60 RMB/ m^3 (not including VAT) as per the gas purchasing receipt of the commencing year 2007 issued by the local gas supplier. Therefore, the price 1.60 RMB/m^3 adopted in the investment analysis is valid and to reflect the actual situation. [The input data of Bus-bar tariff] In the approved FSR, the peak, average and valley electricity tariff of Guangdong Power Grid (including VAT) was 0.486 RMB/kWh, 0.368 RMB/kWh and 0.162 RMB/kWh respectively. The data used in the FSR is the maximum one of the above values. However, the actual Bus-bar tariff to the Project is 0.571 RMB/kWh (including VAT) or 0.488 RMB/kWh (not including VAT) was endorsed by the provincial government in later 2007 and the data also adopted in the PDD for conservative purpose. The validation team has validated the evidence of the *Approval on the Bus-bar Tariff of LNG Power Plants within Guangdong Province* (Doc. no. YJH [2007]397) /*Annex 3 of this response*/ and can confirm that the data used in the investment analysis is valid and more conservative to reflect the actual situation at the time of the investment decision of the PP. Based on the data used in the FSR, and selecting the more applicable data of bus-bar tariff and

the gas price, the validation team was able to verify that the project IRR of the Project was 5.43% as provided in the PDD submitted for registration. If the input values of the investment analysis of the Project are all obtained from the approved FSR, the project IRR of the Project will go down to 4.37% /*Annex 4 of this response*/. The financial indicator of 4.37% of the approved FSR is much less than the benchmark, and the conclusion of the FSR is that "the feasibility of the Project implementation relies on the financial support from policies of the government such as a favorable Bus-bar tariff, a stable natural gas price or from other financial assistances."

It is obviously that, the input values used in the investment analysis in the PDD is adequately reflecting the actual situation and also more conservative to demonstration of the additionality of the Project.

The details of validating the input values are summarized in the table below:

Item	Unit	Value	Data source	Validator assessment	Conclusion
Total project cost	10^4 RMB	268976	FSR	Check FSR	OK
Working capital	10^4 RMB	6835	FSR	Check FSR	OK
Annual electricity generation	GWh	2509.01	FSR	Check FSR	OK
Annual operating hours	Hours	3585	FSR	Check FSR	OK
Auxiliary electricity consumption rate	%	2.30	FSR	Check FSR	OK
Bus-bar tariff Not Incl. VAT (17%)	RMB/kWh	0.488	Government Approval in 2007.	Crosscheck the approval issued by the local government with the FSR (0.486 Incl. VAT)	OK Conservative
LNG consumption	m^3/kWh	0.1840	FSR	Crosscheck FSR with public data from the turbine supplier GE Power and reproduce it based on the parameters of available generation efficiency and LNG's NCV	OK
LNG price Not Incl.VAT	RMB/m^3	1.60	The Fuel Purchase Contract and gas purchasing receipt /Annex 2/	Crosscheck FSR and the Fuel Purchase Contract as well as the gas purchasing receipt in the first operating year 2007. 1.45 used in FSR (without consideration of the cost of gasification and distribution from local gas supplier to the power plant)	OK

					Remark The "Incl. VAT" was presented in the PDD, which was a typo error, the calculation in the IRR sheet uploaded for request for registration was based on Not Incl. VAT properly)	
	VAT of water	%	13	FSR	Check FSR	OK
	VAT of materials	%	17	FSR	Check FSR	OK
	Income TAX rate	%	33	FSR	Check FSR	OK

Integrating the responses to the above queries 1 and 2, the validation team was able to conclude that

(a) The approved FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short in term of such a large power generation project using imported LNG, thus, it is unlikely in the context of the Project that the input values would have materially changed in that period of time.

(b) The values used in the PDD and associated annexes are fully consistent with the FSR, except two parameters (Bus-bar tariff and gas price) that adopted more appropriate data for conservative purpose in the context of the Project.

(c) On the basis of the natural gas power generation projects in China, the input values from the approved FSR are valid and applicable at the time of the investment decision by cross-checking or other appropriate manner.

Therefore, the validation team has confirmed that the paragraph 54th of EB 38th meeting report was also properly followed.

RR -3

The DOE shall confirm how the applicability of the methodology has been validated, in particular that the implementation of the project will not limit natural gas based power capacity additions in the region.

The validation opinions of the validation team to each requirement on the applicability of the AM0029 Ver.01.1 are summarized in the table below.

Applicable conditions of the methodology AM0029 ver.01.1	The opinion of the Validation Team	Approaches of Validation
a. The project activity is the construction and operation of a new natural gas fired grid-connected electricity generation plant.	The project activity is the construction and operation of a new natural gas fired grid-connected electricity generation plant and no other fuel besides natural gas is used in the Project. Therefore, the Project meets the applicability requirement of the methodology AM0029.	a. Verify the FSR, EIA and corresponding governmental approvals. b. Check the nameplates and specifications both of Turbines and Boilers c. On-site assessment

	b. The geographical/ physical boundaries of the baseline grid can be clearly identified and information pertaining to the grid and estimating baseline emissions is publicly available.	Electricity generated by the Project will be supplied to the China Southern Power Grid. With reference to the Notification on Determining Baseline Emission Factor of China's Grid issued by China's DNA on 09/08/2007 on http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=1889, the geographical/physical boundaries of the China Southern Power Grid can be clearly identified and information pertaining to the grid and used to estimate baseline emissions is publicly available. Therefore, the Project meets this applicability requirement of the methodology AM0029.	a. Check with the public data source viz. web page of NDRC b. Check the relevant Power and Energy Year Books of the years	
	c. Natural gas is sufficiently available in the region or country, e.g. future natural gas based power capacity additions, comparable in size to the project activity, are not constrained by the use of natural gas in the project activity.	The validation team has verified that the LNG used by the Project is produced in Australia and supplied by the Guangdong Dapeng LNG Company. Guangdong Dapeng LNG Company will annually import 3.7 million tons of LNG from Australia's Northwest Shelf gas development project over the next 25 years based on the signed take-or-pay (ToP) long-term contract signed between them. The Validation team has also verified the natural gas reserves and annual production capacity of the original producer - the North West Shelf Venture, through the public available data. The natural gas resources of Greater North West Shelf area had been identified as of about 100 trillion cubic feet (Tcf). One Tcf can produce about 20 million tonnes of LNG. The North West Shelf Venture has a proven track record as a reliable and efficient supplier of LNG spanning more than a decade. It is the third largest LNG exporter in the Asia-Pacific region, with the capacity	a. Check the approved FSR b. Check with the relevant public data of the Project including the LNG's origins, gas purchasing contracts (ToP) between the Australia and the local gas supplier, turbines supplies and construction of the Project. c. Check the Fuel Purchasing Contract between the local gas supplier and the PP (ToP), Equipment Procurement Contract with GE Power. d. Specially check the reserves and annual productions of the Australia Northwest Shelf Venture. Reserve http://www.nwsalng.com.au/website.aspx?mp=3&pn=301 Production http://www.nwsalng.com.au/w	

			to supply around 11.5 million tonnes of LNG each year from 2004. The Onshore Gas Plant covers 200 hectares on the Burrup Peninsula and is one of the most advanced integrated facilities of its kind anywhere in the world. Furthermore, the local gas supplier - Guangdong Dapeng LNG Company has also signed take-or-pay (ToP) long-term contracts (25 years) with all of its demand consumers with quantified fuel supply obligation which has been fixed for the 25 years long contract period. Of all the consumers, LNG consumed by the PP accounts for about 8% of the total LNG supply according to the approved FSR. Such long-term contract along the LNG chain ensures that there is no supply constrain for all LNG demands have been contracted. Therefore, future capacity additions of LNG power generation project with a commensurate scale to the Project will not be restricted due to the utilization of LNG by the Project. Therefore, the Project meets this applicability requirement of the methodology AM0029 ver.01.1. The validation team has also validated the annual gas contract volume of the ToP (page 64 of the contract) between the local gas supplier and the PP, in the contract, the LNG supply for each LNG consumer, including power plants and cities utilizing LNG under that general ToP between Australia and the local gas supplier, were quantified in the form of ToP also and fixed in their 25 years contract period complying with international trading laws.	ebsite.aspx?mp=3&pn=302 e. Reproduced the annual contract volume of each LNG consumer and crosscheck with the total contract volume of that general ToP. According to the data of each LNG consumer stated in the contract, the total annual contract volume is 3.67 million tones, which is less than but close to the contract volume of 3.7 million tones of the general ToP.	

	The validation team has seriously verified above evidences and confirmed that these facts are reliable and deemed to prove the assumption for the Project that the future capacity additions of LNG power generation projects with a commensurate scale to the Project are and will not be restricted in the contract period due to the utilization of LNG by the Project. As summarized above, the Project fulfils all the applicable conditions of methodology AM0029 ver.01.1.

Hope the above responses given clarify the queries raised.
Thank you,

For Bureau Veritas Certification Holding SAS

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