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Att: CDM Executive Board

Your ref.:	Our ref.:	Date:
CDM Ref 1721	MLEH/FRZ	4 December 2008

Response to request for review of project activity 1721 entitled "12*6MW Coke Oven Gas Power Generation Project in Xiangcheng County"

Dear Members of the CDM Executive Board,

We refer to your request for review of project activity 1721 ''12*6MW Coke Oven Gas Power Generation Project in Xiangcheng County Project"**.** Please find below the following clarifications for your consideration and review:

Question 1: Considering that the investment being made is by an independent power producer, further substantiation that the benchmark reflects the risk profile of this project activity is required.

DNV Response: During the validation process, it has been accepted by DNV that, from a project IRR perspective, the risks associated to the activity under validation are closely related to coke production. The rational being that the project capacity to generate electricity relies completely on the production and the management of the coking facility upstream of the power production unit.

The purchasing agreement signed between the PP and ShouShan Coking Plant does not guarantee a fixed annual quantity of COG, but the quantity is a function of coke market demand. The coke oven gas is a by-product for the coke producer that can be easily subject to both quantitative and qualitative fluctuations. The amount of waste gas produced by the coking plant, and consequently the risk associated to the project activity, will depend on:

a) the market fluctuations on supply of all upstream coking related materials
b) the downstream demand for coke and
c) the coking plant management

For all these reasons DNV has accepted 12% benchmark of the coking industry as the benchmark for project IRR during the validation process. The 12% benchmark was derived from the Economic Assessment Method and Parameters for Construction Project (page 204, 3rd Edition, 2006)

Current EB request for review have questioned the correctness of the application of the coke production sector benchmark to an independent power producer. Considering the EB's view on applicable benchmarks on projects similar to project activity 1721, the project participants have in their response to the request for review proposed an alternative benchmark for the project based on the benchmark for the power production sector stated in the "Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects".

In their response, the project participants argue that the benchmark of 8% stated in the "Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects" should be adjusted in line with increases in lending rate for long-term loans since the Interim Rules were issued in 2002.

Due to time constraints, DNV was not able to validate the alternative benchmark proposed by the project participants in their response to the request for review. However, the project activity, due to its low capacity, has a risk profile similar to a small hydro projects, for which, according to the "Economic Evaluation Code for Small Hydropower Projects", the project IRR benchmark is 10%. Moreover, the project IRR benchmark of 8% for thermal power plants stated in the Interim Rules may not be applicable for this project as thermal power plants typically do not have such low capacity like the project and thermal power plants have generally higher efficiency and lower unit investment costs.

DNV refers also to the project participants' assessment of the project IRR against this alternative benchmark, including a revised sensitivity analysis.

Question 2: The DOE shall describe how the suitability of the input values used in the investment analysis has been validated in accordance with the requirements of EB38 paragraph 54(c), in particular, total investment, material costs, plant load factor and expected return on equity.

DNV Response: According to the guidance of EB38 paragraph 54, DNV has validated the input parameters used in the investment analysis as follows:

Step 1: Assess the sources of the input parameters: All input parameters used in the financial analysis of the project are taken from the project Feasibility Study Report (FSR) prepared by Henan Provincial Engineering Consulting Company in September 2005, which is an independent consulting company. The FSR input parameters were verified and approved by Henan Provincial Development and Reform Committee on the 25 January 2006 and can thus be considered as information provided by independent and recognized sources.

Step 2: During the validation process, DNV compared the input parameters for the financial analysis included in the PDD with the parameters stated in the FSR, and was able to confirm that the values applied are consistent with the value stated in the FSR.

Step 3: The FSR was approved on 25 January 2006, which is 3 months prior the signature of the turbine-generator unit purchasing contract. Given this relative short period of time between the approval of the FSR and decision to proceed with the project activity, it is unlikely in the context of the project that the input values would have materially changed and that it is thus reasonable to assume that the FSR has been the basis of the decision to proceed with the investment in the project.

Step 4: Cross check of the main input parameters applied in the investment analysis

Total Investment Cost. The total investment stated in the FSR amounts to 64.71 million RMB and is made of equipment, piping, civil works and other minor expenditures. DNV verified during the validation process that the turbine-generator unit purchase contract were signed on 1 March 2006, the boilers purchase contract signed on 27 April 2006, the boilers installation contract signed on 27 August 2006, and the piping manufacturing and installation contract signed of 26 April 2007. The actual prices in the mentioned contracts exceeded the prices contemplated in the FSR. Therefore DNV assessed that the investment input values in the FSR were conservative.

Material Cost. The 5,9 million RMB raw material cost stated in the FSR is the product of the 79 Million Nm3/year of COG multiplied by 0.075 RMB/Nm3 which is the price that the PP has to pay to ShouShan Coking Plant for the provision of raw coke oven gas. DNV has verified during the validation process the COG purchase agreement signed by both parties on the 29 July 2005, and where it is stated the 0.075 RMB/Nm3 price has been fixed for 15 years without adjustment for inflation.

At the moment of the validation, there was a project similar to the Xiangcheng project published ionn the UNFCCC web site, i.e. the "Comprehensive utilization of waste coal gas for electricity generation project in Shaanxi Xinglong Cogeneration Co. Ltd.", which was registered on 26 August 2008.

This project is similar to the project in question due to the following:

a) the technology used is COG feed boilers and steam turbines
b) the project participant, the Shaanxi Xinglong Cogeneration Co.Ltd, is different from the coke producer, the Longmen Iron Company, and therefore there is a purchase of the COG.

The price for COG paid by Shaanxi Xinglong is 0,08 RMB/Nm3 which is thus very similar with the price contemplated in the project activity FSR. Another source verified by DNV was COG market price information available at the time of the validation1. The market price for purified COG can be up to 0.80 RMB/Nm3. Therefore, the purchase agreement price of 0.075 RMB/Nm3 was deemed to be a reasonable and acceptable price by DNV.

Plant Load Factor. The load factor of the project activity (63%) has been verified by DNV through the quantity and quality of the COG provided from the coke producer. The COG quality stated in the FSR has a net calorific value of 17.900 kJ/ Nm^3. This value was cross-checked with the official value range (16.726 – 17.981 KJ/ Nm^3) reported in China Energy Statistical Yearbook 2007, and therefore DNV can agree that the NCV used in the FSR is conservative. Annual consumption by the power plant is uncertain as the COG purchase agreement does not guaranty the PP a minimum annual quantity. The annual amount stated in the FSR, which is nearly 80 Million Nm^3/year of COG, is based on the planned production of the coking plan.

Expected Return on Equity.The IRR financial analysis calculation provided by the PP contains the Project IRR of 8.7 % and the Equity IRR of 8.89 %. During the Validation

[1] http://finance.jrj.com.cn/news/2007-05-01/000002204190.html

Process, DNV has checked the input values and the calculations relative to the Project IRR. The Project Return on Equity or Equity IRR has not been validated by DNV.

Question 3: The project activity start date should be in accordance with the CDM Glossary of terms.

DNV Response: The following table shows the chronological events related to implementation, construction or real action of the project:

No.	Date	Event
1	30 May 2005	Board decision on CDM development
2	29 July 2005	COG purchasing agreement signed between ShouShan Coking Plant and the PP.
3	September 2005	Feasibility Study Report (FSR) completed by the officially accredited Henan Provincial Engineering Consulting Company.
4	25 January 2006	FSR Approval issued by the Henan Provincial Development and Reform Committee
5	21 May 2006	EIA Approval issued by the Henan Provincial Environmental Protection Bureau
6	1 March 2006	Turbine-generator Unit Purchasing Contract signed
7	27 April 2006	Boiler Purchasing Contract signed
8	1 June 2006	Construction Permission issued by Henan Provincial Development and Reform Committee
9	27 August 2006	Construction Contract signed
10	13 October 2006	Letter of Loan Intent signed
11	28 November 2006	Turbine-generator Unit Installation Contract Signed
12	28 March 2007	Power Purchase Agreement signed

According to the description of EB 41 on "start date of the project activity", the start date of the project should be "the project participant has committed to expenditures related to the implementation or related to the construction of the project activity".

Considering this recent EB's requirement, DNV acknowledges that the project start date should be 1 March 2006, which is the date when the PP signed the Turbine-generator Unit Purchasing Contract. DNV verified the signed contract during the validation process, and can confirm that project participant would have to pay 10% of the total cost as down payment upon signing the contract. Thus this can be a clear commitment for project participant concerning this project.

DNV also verified that the COG Purchasing Agreement was signed on 29 July, 2005. This agreement does not contain any penalty or biding clauses constraining the PP to implement the project, and therefore DNV believes that it cannot be considered as the project starting date. The same reason applies for other dates listed above, including the FSR approval date or board decision on CDM development date.

Early consideration of CDM has been demonstrated through a Board of Directors minutes of meeting of 30 March 2005. Hence, the revision of the start date of the project does not affect the additionality of the project.

We sincerely hope that the Board accepts our aforementioned explanations.

Yours faithfully
for DET NORSKE VERITAS CERTIFICATION AS

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