UNFCCC Secretariat
Martin-Luther-King-Strasse 8
D-53153 Bonn
Germany

Att: CDM Executive Board

DET NORSKE VERITAS
Certification AS
Climate Change Services
Veritasveien 1
NO-1322 Høvik
Norway
Tel: +47-6757 9900
Fax: +47-6757 9911
http://www.dnv.com
NO 945 748 931 MVA

Your ref.:	Our ref.:	Date:
CDM Ref 1725	MRSA/PETMO	31 July 2008

Response to request for review ''Power generation from coking waste heat utilization project at Taiyuan City Wanguang Coal and Coking Co., Ltd in Shanxi, China'' (1725)

Dear Members of the CDM Executive Board,

We refer to the requests for review by three Board members concerning DNV's request for registration of project activity 1725 "Power generation from coking waste heat utilization project at Taiyuan City Wanguang Coal and Coking Co., Ltd in Shanxi, China" and would like to provide the following initial response to the issues raised by the requests for review.

Comment 1: *Considering that the investment being made is in the power sector, further substantiation that the benchmark reflects the risk profile of this project activity is required.*

DNV Response:
As stated in our validation report, the benchmark chosen for the project activity is the benchmark financial IRR for the coking industry as per the *Economic Assessment Method and Parameters for Project Construction* 03 edition (2006), hereafter referred to as "Economic Assessment Methods".

The "Economic Assessment Methods" states that when a project owner invests in a project with key characteristics of another sector rather than that of its own core business, the sectoral benchmark of its own core business should be applied[1]. Although the proposed project is a power generation project, given that the core investment focus of the project owner is the coking industry, the sectoral benchmark of the coking industry should be applied in decision making, which is 12%. This benchmark was considered appropriate by DNV, even though the sectoral benchmark of the coking industry is higher than the sectoral benchmark of the power industry. The project owner has little experience in power generation adding significant risk to the investment decision. It is our opinion thus reasonable to assume that the project owner would expect at least the same returns as would be expected from an investment in their core business. Furthermore, since the electricity generation project relies on the coking facility's production output to be maintained, the proposed project is exposed to very similar risks as of the coking industry and the sectoral benchmark of power industry should not apply.

[1] Methods and Parameters for Economic Assessment of Construction Project (version 3), published by China's National Development and Reform Commission and Construction Ministry, December 2006, paragraph 2, point 2, page 197.

Comment 2: *The DOE is requested to clarify the discrepancy in the benchmark of 12,0% proposed for this project, while for another project connected to the coke production sector (project 1726) another benchmark of 11% is validated as being correct, being the financial IRR for the iron industry (The Economic Assessment Method and Parameters for Project Construction, 2ndversion, 1993, valid to August 2006)*

DNV Response:
The benchmark for this project (1725) was, as explained in question 1 above, determined from the Economic Assessment Methods as 12%, suited for the coking industry. The project owner is a small-scale private company, which is typical for the coke industry in China. The project owner of project 1726 Maanshan Iron & Steel Co., Ltd. is in contrast a large-scale state owned enterprise which is more representative for the iron & steel industry in China. The core business of this enterprise is iron & steel production, and the suitable benchmark for this project owner is that for the iron & steel industry. DNV would like to refer to the Economic Assessment Methods, as explained in our response to question 1 above, where it is stated that when a project owner invests in a project with key characteristics of another sector rather than that of its own core business, the sectoral benchmark of its own core business should be applied. As the Economic Assessment Methods states different benchmarks for the coking and the iron & steel industry, it is suitable that the two projects use different benchmarks.

Comment 3: *The DOE shall describe how the reliability of the input values used in the investment analysis has been validated in accordance with the requirements of EB38 paragraph 54(c).*

DNV Response:
As now required by paragraph 54 (c) of EB 38 report and again as stated in our validation report, DNV has validated the consistency and appropriateness of the input values during the project investment decision making stage.
As stated in our validation report, the investment analysis is mainly based on the revised feasibility study report (FSR) of May 2005, while the starting date of the project activity is 8 September 2005, evidenced by the construction permit. Therefore, the revised FSR was four months old and still valid at the time of the decision to proceed with the investment in the project activity. Both the FSR and the construction permit have been received and checked by DNV. The input values to the investment analysis was also included in an analysis of similar projects validated by DNV, and were found to be within a reasonable range for the sector and location of the proposed project.

Comment 4: *The PP/DOE shall provide information on the maximum and minimum production capacity design rate of the coke production and apply these values to the sensitivity analysis*

DNV Response:
By checking the FSR, DNV has verified the maximum and minimum production capacity design rate of the coke production to be 40 000 tonnes/year and zero respectively. At maximum production capacity, the IRR for the project is 9%. By increasing the production to 12.9% above the estimated maximum, the IRR crosses the benchmark. This should however not be feasible, according to the FSR. DNV refers to the PP's response for a more elaborated answer.

Comment 5: *Further clarification is required on why the common practice analysis includes only those project activities that started construction after 2005.*

DNV Response:
According to the EB's *"Tool for the demonstration and assessment of additionality"*, only those projects which are similar to the proposed activity need to be analyzed for common practice analysis which is defined as follows: "Projects are considered similar if they are in the same country/region and/or rely on a broadly similar technology, are of a similar scale, and take place in a comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing, etc."
In the Shanxi Province, only 35 out of total 717 coke units use the clean-type technology for coke production. Out of these 35, ten are utilizing, or plan to utilize waste heat. This was confirmed against a letter from the Shanxi Province 21 Agenda Sustainable Development Office (under the Provincial Development and Reform Committee). The letter was verified by DNV. This letter lists the units utilizing clean-type technology, and does also list those applying for CDM. The remaining 25 facilities are emitting the waste heat to the atmosphere or are in the very early stage of planning to utilize waste heat for electricity production. Through communication with a representative for the Shanxi Reform and Development Committee, it was confirmed that the common practice in the province is to release the waste heat to the atmosphere without utilization for electricity production. The list of coke plants was also cross checked through several internet web pages and was found to be reliable and complete. All the coke plants in this list using the clean-type technology were constructed after 2005.

Comment 6: *The DOE is requested to provide an explanation for the delay in submitting the project for validation to show that CDM revenues were considered essential in the decision to invest in the project activity. The response should provide a detailed timeline of project implementation with relevant, preferably third-party, evidences of the serious prior consideration of CDM.*

DNV Response:
As stated in our validation report, the environmental impact assessment (EIA) of Power generation from coking heat waste utilization at Taiyuan City Wanguang Coal and Coking Co., Ltd project was approved by the Environmental Protection Bureau of Shanxi on 14 July 2003. The feasibility study report (FSR) was approved by Shanxi Economical and Commercial Committee on 8 December 2003. Initially, Taiyuan City Wanguang Coal and Coking Co., Ltd decided to build the coking plant without the waste heat recovery. A revised FSR was developed in May 2005 covering only the waste heat recovery project. The agreement of construction for the project activity was signed on 8 September 2005 after considering the CDM in the revised FSR report of May 2005. Therefore, it establishes the start date of the project activity to be 8 September 2005.
DNV has reviewed all these above stated documents during validation. In addition DNV has reviewed a clarification letter from the Shanxi Province 21 Agenda Sustainable Development Office (under the Provincial Development and Reform Committee) dated April 2006 confirming that the project had started the CDM application process.

The validation of the project started before April 2007. However, it would be conservative to consider the date of publication, which is April 2007, to be the date of start of validation. Thus, confirming a delay of 20 months in start of validation and the start of the project activity. However, DNV considers this delay to be reasonable due to lengthy development of CDM process in China for the following two reasons:

(i) the regulatory framework for the CDM in China was still immature at the start of the project activity, and

(ii) the common market practice in China for CDM projects being to secure an Annex 1 project participant before proceeding with host nation's approval, which can eventually cause delays.

The above mentioned clarification letter from the Shanxi Province Agenda21 Sustainable Development Office of April 2006 also confirms that the CDM application process had started within one year of the start of the project activity. However, immature regulatory framework for the CDM and the common market practice of securing Annex I project participant as stated above caused delay to start validation of the project.

In addition, DNV understands that there were no requirements at the start of project activity which set a time limit between the project starting date and start of validation. However, DNV confirms that the project owner had worked continuously and steadily towards submission of project for registration since start of validation.

Comment 7: *Further clarification is required on how the DOE has validated the baseline determination, in particular that the continuation of grid electricity imports is a more economically attractive alternative than the project activity undertaken without CDM.*

DNV Response:
As stated in our validation report, the proposed project activity without CDM has an IRR of 9.08% and is not economically attractive when compared to the relevant coking industry benchmark of 12%. Therefore, the baseline scenario is that the project owner will continue to buy electricity from the grid and emit waste heat in the atmosphere.

In further confirming the additionality of the project, DNV found that the approach adopted was in line with the "Tool for the demonstration and assessment of additionality" and the EB 39 Report Annex 35 guidelines as further explained below. Following sub-step 2(a) of the tool, since the proposed project generates financial and economic benefits through the sale of electricity other than CDM-related income, the simple cost analysis (Option I) was not applicable. The investment comparison analysis (Option II) should be applicable to the projects where similar investment alternatives are available. However, since the proposed project activity without CDM is not economically attractive, Option II was also excluded and the benchmark analysis (Option III) was chosen to confirm the project's additionality.

It should be noted here that the EB 39 Report Annex 35 *''Guidance on the assessment of investment analysis''* provides further relevant guidance stating that in a situation such as this project activity, an investment comparison analysis is not appropriate as the alternative to the project activity is to make no investment and take the supply of electricity from the grid:
"If the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services, a benchmark analysis is not appropriate and an investment comparison analysis shall be used. If the alternative to the project activity is the supply of electricity from a grid this is not to be considered an investment and a benchmark approach is considered appropriate."

DNV understands that since one of the alternative to the project activity is continued import of electricity from the grid, the project developer's decision should be to invest in the project activity or not invest (i.e. the project developer does not require the project activity to provide its limited electricity demand as it can be sourced from the grid). The following elaboration in the aforementioned EB 39 Report Annex 35 is also found relevant by DNV:

"The benchmark approach is therefore suited to circumstances where the baseline does not require investment or is outside the direct control of the project developer, i.e. cases where the choice of the developer is to invest or not to invest." [2]

However, in order to further illustrate succinctly that continuation of grid electricity imports is more economically attractive than the project activity undertaken without CDM, a comparative NPV calculation has be conducted by the project proponent and reviewed by DNV. The comparative calculation adopted here is based on calculation of the NPV between a) "*The project activity undertaken without CDM*" and b) "*Continuation of grid electricity imports*":

a) "*The project activity undertaken without CDM*": In the NPV calculation for this alternative scenario all of the coking facility's electricity production is exported to the grid. The electricity requirement for the coking facility is then purchased back from the grid. The NPV for "*The project activity undertaken without CDM*" has been calculated to be minus 44.77 million RMB.

b) While for the "*Continuation of grid electricity imports*", the calculation of the NPV is based on the following assumptions:

1. the project owner cannot find an alternative investment which is more economically attractive than the project activity undertaken without CDM, and
2. the project owner's capital lays dormant.

These assumptions are considered conservative by DNV. The NPV for the "*continuation of grid electricity imports*" based on these conservative assumptions has been calculated to be minus 31.65 million RMB.

The result of the comparative NPV calculation thus indicates that the "*continuation of grid electricity imports*" is more economically attractive than the "*project activity undertaken without CDM*". This forms the basis for the baseline scenario to be the "*Continuation of equivalent import of electricity from North China Power Grid*" without the use of waste heat for electricity production.

We sincerely hope that the Board accepts our aforementioned explanations.

Yours faithfully
for DET NORSKE VERITAS CERTIFICATION AS

Peter Molin
Project Manager
DNV International Climate Change Services

[2] EB 39 Report Annex 35 "Guidance on the Assessment of Investment Analysis" page 3