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Att: CDM Executive Board

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Your ref.:	Our ref.:	Date:
CDM Ref 1704	MLEH/RAFI	10 July 2008

Response to request for review ''Power generation from coking waste heat utilization project at Lan County Fengda Coking and Chemicals Smelting Co., Ltd in Shanxi, China'' (1704)

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 1704 "Power generation from coking waste heat utilization project at Lan County Fengda Coking and Chemicals Smelting 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 industry 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 is12%. 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: Considering the time gap between revised FSR and project activity start date, further clarification is required on how DOE has validated the suitability of the input values, as per EB 38 para 54(a).

DNV Response:
As stated in our validation report, the investment analysis is mainly based on the revised feasibility study report of March 2006 developed by Shanxi Electric Power Industry Design Company Limited. The construction of the project had not started at the start of CDM validation and was planned for March 2008. The project is currently finalising its planning and due to start implementation in July 2008.

As now required by para 54 (a) 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. It should be noted that the validation report for the project activity was submitted on 5 March 2008 and thus prior to EB 38. Nonetheless, DNV re-assessed the suitability of the input values in light of para 54 (a) of EB 38 report.

The design institute which originally developed the FSR for the proposed project (the Shanxi Electric Power Industry Design Company Limited) when contacted by the project proponent further provided a letter dated 30 June 2008 stating that all input values used in the FSR are still consistent and appropriate at the time of the investment decision as none of the supporting reference documents for the FSR have been updated as of the project start date. Since the support documents on which the FSR of March 2006 is based are still valid, DNV confirms that the input values that are taken from the FSR for the investment analysis are valid at the time of project start date.

Comment 3: Further clarification is required on how the DOE has validated the identification of alternative scenarios, in particular, import of electricity from the grid as it is the current practice and will not change during the implementation of the project activity.

DNV Response:
The alternative scenario of import of electricity from the grid has been identified and discussed in the validation report (see page 13 and 14 of the validation report). This alternative faces no barriers as compared to other alternatives that have been identified in the validation report. However, this alternative just by itself does not form the baseline scenario. This has been further explained in the following paragraph and the fact that import of electricity along with release of waster heat is the alternative to be evaluated as a part of the validation.

The import of electricity does not require the project developer to make any additional investments unlike in case of the implementation of the project activity. The current import of electricity from the grid for the coking plant is small as compared to the amount of electricity that the project envisages to produce. The project is expected to generate a net electricity of 117 GWh per annum after meeting the auxiliary needs of the project. All of the electricity produced by the project will be supplied to the grid and the electricity requirement for the coking facility will then be purchased back from the grid. There were no external industrial facilities identified during the project investment decision stage to which the project would be able to sell the electricity generated by the project activity, therefore, it has to sell its electricity to the grid.

As per the "*Cleaner production standard for coking industry*"[1] the electricity usage of coke production could be as high as 35KWh/T_{coke} and thus the total expected electricity requirement for the coking plant could be 14GWh per annum. DNV's understanding is that even in the worst case scenario, the amount of electricity imported from the grid would account for only 11.97% of the net estimated electricity generated by the project activity.

It should be noted that both the baseline scenario and the project activity assume to continue import of electricity for internal consumption from the grid. The only difference between the baseline scenario and the project scenario is that the baseline scenario emits the waste heat into atmosphere while in the project activity the waste heat is used to generate electricity all of which would be exported to the grid.

The relative financial attractiveness of the baseline scenario as import of electricity from the grid compared with the project implemented without CDM will not change during the implementation of the project activity. This is because the continuation of grid electricity import is more economically attractive alternative than the project activity undertaken without CDM (as further explained below in response to comment 4).

Comment 4: Further clarification is required on how the DOE has validated the baseline determination, in particular that the continuation of grid electricity imports is more economically attractive 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 8.02% 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."

[1] Cleaner production standard for Coking industry, HJ/T 126-2003, issued by Ministry of Environmental Protection of the People's Republic of China

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."*[1]

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 50.6 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 31.7 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

Michael Lehmann

Michael Lehmann
Technical Director
Climate Change Services

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