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Request for review

Dear Sirs,

Please find below the response to the request for review formulated for the CDM project with the registration number 1668. In case you have any further inquiries please let us know as we kindly assist you.

Yours sincerely,

Javier Castro

Carbon Management Service

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Response to the CDM Executive Board

Question 1

Further clarification is required on how the DOE has validated the suitability of the input values to the investment analysis, as per the guidance of EB 38 paragraph 54(c).

PP Response:

No response required by PP - see DOE response below.

DOE Response:

We understand that as per requirement of EB 38 paragraph 54(c), the CDM EB requires us to provide confirmation that input values from FSR are valid and applicable at the time of the investment decision. In order to provide further clarification to substantiate that this has been done by the audit team, we identify the following sources of information, which formed the basis for our decision:

1. Grid tariff: During the on-site visit, the audit team randomly checked electricity bill for one month that the grid company charged BISCO. The price is deemed reasonable and conservative to supplement the official document which is attached as annexure 1[1], which gives the purchase price of electricity for different types of customers in Western Inner Mongolia Autonomous Region as of 2005. The price relevant for industrial customers like BISCO is given as RMB 0.3697/kWh for the year 2005, whereas IRR calculations assume the same tariff. 2005 was the year of the investment decision.
2. Investment costs - on basis of our local expertise and experience with similar projects in this sector in China, we can confirm that the investment costs are reasonable and applicable at time of investment decision. The costs have been further compared with CDQ project of Ma Steel (same capacity as project 1668) which was selected as the national demonstration project by The National Development and Reform Commission in 2002. The total investment cost is about 170 million RMB (Annexure 7). Since this project was constructed in 2002, with inflation of main raw material, it is reasonable to conclude that the total investment of this CDQ project, 180 million defined in the feasibility study is justified. We are not able to compare the investment costs assumed in IRR with actual costs because the final account for the project has not been closed yet.
3. Net electricity generation - At the time this response to the review was prepared, the operational record (Janurary-Febrary 2008) of the registered BISCO CDQ #1-2 project which is identical to the proposed BISCO CDQ #3 project showed that the average available generation capacity is only 9.4MW, more than 30% lower than the installed capacity of 15 MW[2]. In addition, on basis of our local expertise and experience with similar projects in this sector it can be confirmed that net generation assumed is very optimistic for this kind of project activity. Project assumes 345 days of operation per year, which is optimistic for this kind of project. 15% derating has been assumed whereas expert opinion[3] suggested up to 25% derating. This is very conservative. Out of

[1] Annexure 1. Tariff of Western Inner Mongolia Autonomous Region issued by the National Development and Reform Commission, Annexure 1

[2] Annexure 2. Operational record of net electricity generation from the registered CDQ #1-2 project

[3] Annexure 3. Official Communication with the Baogang Design Institute and China Shougang Design institute

105.5 GWh generation per annum, 22.22 GWh has been deducted as auxiliary consumption because of the large amounts of electricity required for the operation of CDQ plant. This is considered reasonable by the audit team.

4. O&M costs – these costs are only 4% of the total investment costs and are considered to be very reasonable to operate a very complex system like CDQ unit.

Question 2

Further clarification is required why the tariff has not been included in the sensitivity analysis.

PP Response:

Sensitivity analysis was added to the revised PDD (Annexure 8, Revised PDD, page 15-16) in response to the EB request. The results of this analysis show that the change of tariff in the range of +/-10% won't result in the IRR exceeding the benchmark rate (Annexure 4, Investment Analysis Excel Sheet).

DOE Response:

Sensitivity analysis for tariff has been included in the revised PDD and has been validated.

The audit team would like to further clarify the rational for acceptance of a fixed tariff for the entire investment analysis period. The fixed tariff was considered reasonable because:

1. Tariff generally increases after some years (not every year); hence it will have less impact on the overall financial viability of the project because even a 10% increase in the tariff for the entire 20 year investment analysis period shows that IRR is below the benchmark.
2. An increase of more than 10% cannot be predicted for decision making process and hence in its "Guidance on investment analysis", the CDM EB suggested that sensitivity be tested for ±10% variation in input values for IRR calculations.
3. Given current demand trends in China, it is considered realistic to expect that the electricity price will rise gradually in the next years. Simultaneously, O&M costs are expected to rise in tandem, due to the inflation rate and a tied discount and inflation rate, it is likely that the O&M costs will rise in the same proportion. Giving this potential scenario an increase of the electricity price will not lead to a different outcome of the investment analysis.

Question 3

Further clarification is required how the DOE has validated the barriers to the project activity.

PP Response:

The formal opinion issued by the Design Institute (Annexure 5) established that technology risk and lack of operational experience are the two leading barriers to implementing CDQ technology. This is confirmed by the fact that the actual electricity generation of early implemented CDQ project is 30% less than the designed output (Annexure 2).

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DOE Response:

Based on evidence submitted (Appendix 1 - Enclosure 1 uploaded during request for registration) we are of the opinion that this kind of project can be considered new to the Chinese iron and steel industry (see also response to question 4 where clarification on common practice analysis substantiation is given) and as a result there is limited if any available staff with useful operational experience for the project. There are currently no specific technical training institutes in China that can provide professional training for the operation of such projects. This has been validated by the official opinion of the relevant design institute that designed the BISCO CDQ project. The unavailability of properly trained labour to operate and maintain the project plant, increases the risk of equipment malfunctioning and this combined with technological barriers creates a significant obstacle to project implementation without the CDM. For further information in support of this conclusion we would request you to please refer to Resolution of 2. Proof of additionality using the barrier analysis, discussed on page 11 of the validation report.

Question 4

Further clarification is required how the DOE has validated the common practice analysis.

PP Response:

No response required by PP - see response by DOE below.

DOE Response:

It has been confirmed by audit team with reference to literature (China Steel Yearbook 2005) and internet search that there are over 1300 iron and steel companies in Northern region of China (where project is located). Out these only two companies viz. Ji'nan Iron and Steel Group and Capital Steel Group have implemented CDQ projects. Evidences have been verified[4] (annexure 6), which substantiate the fact that Ji'nan's CDQ project was supported by the Chinese government as a national energy saving demonstration project and Capital Steel Group's CDQ project benefited from the Japanese Green Aid Plan. However, similar benefits were not available for this project activity. It can be concluded that it is not a common practice to implement similar kind of project in iron and steel industries in the region. For further information in support of this conclusion we would request you to please refer to Resolution of 4. Common practice analysis, discussed on page 11 of the validation report.

For the purposes of the common practice analysis the region has been limited to Northern region of China because the investment environment for each province in China is radically different. This is due to variation of available natural resources, the economic development level, the industrial structure, the available infrastructure, development strategy and the policy framework. These variables affect the demand for products in terms of amount as well as the types of products and technologies. This further has an impact on tariff rates of products, the cost of materials, the cost of electricity and other utilities such as water, the cost of labor and services. This means that similar projects located in different provinces will have different returns on investment and the market penetration of technologies will differ between regions. Accordingly, only projects within the same province can be considered truly comparable.. In general there is more commonality within the regions that are clusters of provinces than there is outside the regions. For example in South China there are limited coal resources and as such much higher

[4] Annexure 6 Common Practice summary and information of two similar CDQ projects from public domain

prices for electricity, it would therefore be incorrect to compare projects in Southern China to projects in Northern China. To reflect the difference between regions and to ensure that the common practice analysis is accurate it is considered appropriate to restrict the region to the Northern part of China in this project case.

Question 5

If the barriers to the project activity cannot be further substantiated, an economic comparison of the proposed baseline and the project activity without CDM must be conducted to determine the baseline.

PP Response:

It is the PP's opinion that the barriers are significant to justify CDM support to mitigate the technology risk and underperformance of CDQ equipment. In addition, according to paragraph 15 of *Guidance on the Assessment of Investment Analysis version 2*, if the alternative to the project activity is the supply/import of electricity from a grid, this is not to be considered an investment and a benchmark approach is considered appropriate. We believe a benchmark approach is considered appropriate, no economic comparison analysis need to be conducted to determine the baseline.

DOE Response:

As stated in response to question 3, project activity faces significant technological barriers. Hence it is not required to carry out economic comparison analysis to identify the baseline scenario.

Question 6

Further clarification is required on how the DOE has validated the electricity consumption in pre-project scenario and current status of the waste gas based captive power plant.

PP Response:

No response required by PP - see response by DOE below.

DOE Response:

Electricity consumption and supply of BISCO Group in the pre-project scenario for years 2003, 2004 and 2005 was already validated by the DOE during validation of registered project reference number 1281. We would request you to please refer to the page 18 of PDD of this project. Around 80-85% of total electricity consumption was purchased from the grid. Rest 15-20% was generated through Top-pressure Turbine and captive power plants based on coal and waste gas (coke oven gas and blast furnace gas).
We understand that CDM EB is concerned if this project activity (1668) would displace the waste gas based captive power project in place of grid. In this regard we would like to clarify that the existing waste gas based captive **power plants** are already operating. Given the fact that these investments have been already done, the only costs for project owner are operational costs related to these projects. Operational costs would relate to cleaning of gas, salary of employees and regular maintenance of equipments. These costs are much lower than cost for buying electricity from the grid and hence project will not displace these low costs waste gas based captive power plants.

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The project owner also operates a waste gas based **combined cycle power plant**, which is a registered CDM project with reference number 1416. The project cannot displace this CDM project too.