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Mr. Hans Jürgen Stehr
Chair, CDM Executive Board
UNFCCC

Response to the requests for review for the CDM project activity "Waste heat power generation project at Hunan Anshi Xingyuan Power Generation Co., Ltd." (Ref. no. 1155),

2007-11-04

Dear Mr. Stehr,

The DOE TÜV Rheinland Japan Ltd. was informed on 23 October 2007 that the CDM project "Waste heat power generation project at Hunan Anshi Xingyuan Power Generation Co., Ltd." (Ref. no. 1155), which was validated by our organization, is under request for review because three requests for review have been received from members of the board.
We would like to provide our response to the issues raised as follows:

Issue 1 (raised only in Review request 2)

Barriers due to uncertain waste gas supply, as well as, technological, investment, and prevailing practice barriers were discussed in the PDD. However, the discussion of the barriers due to uncertain waste gas supply did not indicate how CDM consideration will help to avert the stated associated risks. The PP/DOE shall further substantiate the barrier analysis and in particular the discussion under "Barriers due to uncertain waste gas supply" should be revised to include a statement on how CDM consideration helps to overcome the stated associated risks.

TÜV Rheinland's response:

The PDD has applied the barrier analysis as the key argument for demonstration of additionality, which has been the focus of assessment by the validation team during the course CDM validation. The validation team, including a group of boiler and energy generation experts within the TÜV Rheinland Group, has conducted comprehensive investigations on the statements made in the PDD, by means of document review, on-site stakeholder interviews with the project owner, and discussions with local boiler expert in China. It is the opinion of the validation team the stated barriers are valid, as substantiated below:

Barriers due to uncertain waste gas supply
The validation team has reviewed the status of waste gas supply generated by the coke ovens of the coke production plant as described in the PDD. The validation team has reviewed the waste gas supply contract between the project owner and the coke producing company, which are entirely independent of each other, and confirmed that the project owner has no right or means to interfere with the coke production process in order to improve the quantity and quality of waste heat for power generation. This means that the supply of waste gas is out of the project owner's control, and would depend wholly upon the satisfactory production and transportation of the waste gas from the coking plant to the project. This may result in insufficient supply of waste gas, and / or a poorer quality of waste gas (e.g. lower waste gas temperature), and even the total shut down of the waste gas supply in the event of closure of the coking plant.

The validation team has also confirmed that consideration of additional revenues resulting from a prospective registration of the project activity as CDM project has been the key reason which helped the project proponent to move ahead and implement the project despite the claimed barriers.

An according statement as presented below has been inserted into the Validation Report to describe this more clearly:

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"Consideration of this principal risk and incentives from CDM by the project proponent has been demonstrated by records of internal meeting attended by senior management of HAXPG on 14th March 2005. The validation team therefore concurred that consideration of CDM and hence it's revenue from selling of CERs, has been the key reason which helped the project proponent to move ahead and implement the project despite the claimed barrier."

Investment barrier

The validation team has investigated the barrier claimed in the PDD that the banks and financial institutions did not respond favorably to the project owner's application for loans to implement the project activity. Whilst acknowledging the difficulties to raise fund in China as it is still a relatively unopened economy comparing to other developed countries, the validation team has reviewed the loan application and found that the claim is supported by the fact that there is a loan of only RMB 20 million received from the banks on 26 May 2006 (i.e. after the project is built), against a total investment of over RMB 50 million.

Technological barrier

The validation team has investigated the technological barriers claimed by the project owner which mainly related to the lack of relevant power generation experience, and the power plant operational risks due the uncertain waste gas supply.

First, the validation team has reviewed the relevant experience of the owner in the power generating industry. The validation team has confirmed that the project proponent is a local establishment in Hunan Province only and has had no prior involvement or experience in power generation industry before. Lacking relevant experiences and expertise in management and operation of such facility, the project proponent needed to employ new staff from other power stations and have to send their staff to training in order to allow a successful implementation and operation of the project.

Regarding the risk due to lower than expect waste gas temperature, based on the collected plant operational data, the validation team has been able to confirm that the actual waste gas temperature reaching the waste heat boilers (600 °C) is significantly lower than the expected boiler designed temperature (900°C) and has a high seasonal fluctuations, which results in the generation of steam with substantially lower temperature than the original design values. This will not only reduce the electricity generated, and will also increase the operation and maintenance risks, especially the risk related to operation of steam turbine, hence may increase the number of down-time and decrease the expected service life-time of the plant.

The validation team has reviewed the Plant Operation Manual, the characteristics of typical turbine, the impact to turbine operation under the prevailing low temperature operating conditions, and has sought expert advice from a local boiler expert, and confirmed the above stated barriers. The validation team hence confirmed that the existence of the barriers when the waste gas temperature cannot reach a certain minimum values, which is a result of the uncertain waste gas supply.

The lack of the ability to control the supply of waste gas as explained above means the risk to turbine operation would persist.

Barriers due to prevailing practice

The validation team confirms that the project activity is a new technology in Hunan and the "first of its kind" waste heat based power generation of the new clean type coke oven in Hunan province. This is further supported by the Chemical Engineering Design College of Shanxi Province (CEDSP), which has issued a letter on 28th December 2006 to confirm that HAXPG is the only company in Hunan Province to utilise the CEDSP new type clean coke oven technology.

Based on the findings, the validation team considers that the various barriers reported in the PDD are valid and hence the project is deemed additional compared to baseline scenrio.

Issue 2 (raised in Review request 1-3):

Figure 3 on Page 10 of the PDD does not correctly represent the project boundary as ACM0004 version 2 stipulates that the spatial extent of the project boundary must include the waste heat or gas sources. Therefore, the clean type coke oven should be included in the project boundary.

TÜV Rheinland's response:

This issue was recognized during internal review and discussed with the validation team in view of potential project emissions. In this process the following could be confirmed:

1. The waste gas supply is determined only by the operation of the coke manufacturing plant, which does not receive any revenues from waste gas supply or production of electricity in the project activity. Therefore it is not likely that project emissions from excessive fuel use in the coke plant might arise in order to increase the waste gas supply.
2. Within the coking plant there is no other use for the waste gas provided to the project activity.
3. Suction fans used for transporting the waste gas to the project plant are included within the power plant as auxiliary equipment, and thus already considered in the net electricity export calculation.

Clarifying these issues, it was overlooked to have the boundary corrected to include the coking plant according to the methodology. The PDD has now been amended to reflect this.

Issue 3 (raised in Review request 1-3):

Table 3 on page 10 of the PDD lists the baseline as a fossil fuel-fired power generation plant whereas the grid has been determined as the baseline.

TÜV Rheinland's response:

During the validation and based on the context the validation team indeed understood that the term "fossil fuel-fired power generation plant" in Table 3 of the PDD was supposed to refer to the fossil fuel-fired power generation plants (or coal dominated power generation plants) connected to the Central China Power Grid, and not a particular fossil fuel-fired power generation plant. The validation is actually based on the baseline being electricity generation in that mentioned grid. The Table 3 in the PDD has been updated accordingly.

In summary, we understand the issues raised in the clarification requests and regret if the previous validation report was not sufficiently clear on the barrier analysis, as well as the oversights in the PDD. However, we hope that the input by the project participants and this explanation will find acceptance among the members of the Executive Board.

Yours sincerely

M. Brinkmann

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