Mr. Hans Jürgen Stehr
Chair, CDM Executive Board
UNFCCC Secretariat
CDMinfo@unfccc.int

October 9th 2007

Re: Request for review of the request for registration for the CDM project activity "GIPPL Waste Heat based 11.5 MW Captive Power Project" (UNFCCC No. 1169)

Dear Mr. Stehr,

SGS has been informed that the request for registration for the CDM project activity "GIPPL Waste Heat based 11.5 MW Captive Power Project" (1169) is under consideration for review because three requests for review have been received from members of the Board.

The requests for review are based on the same reason outlined below. SGS would like to provide an initial response to the issues raised by the request for review:

Request 1, 2 and 3:

1. *Clarification is required as to why version 2 of the 'Tool for the demonstration and assessment of additionality' was applied and not version3.*

SGS Response:

SGS would like to through light on the chronology of the Project activities CDM cycle.

Sr. No.	Date	Description
1	3rd Jan. 2007	PDD for the project activity was made public on UNFCCC website. PDD uses most recent version of methodology ACM0002 version 6 with the applicable tool for the demonstration and assessment of additionality version 2
2	1st Feb. 2007	Period for submission of Public comments was over
3	16th Feb. 2007	EB 29 (para 35) agreed to the revision of the tool for the demonstration and assessment of additionality; which was came in force after 14 days i.e. from 1st March 2007
4	13th June 2007	Project activity was submitted for Request for Registration (RfR) to UNFCCC
5	19th June 2007	Confirmation reg. payment of fees to UNFCCC
6	31st July 2007	Project activity was published on UNFCCC website under RfR
7	17th Sept. 2007	CDM-EB informed DoE that project activity was requested review

As per Annex 2 to the EB30 report: "*The revision of an approved methodology or tool referred to in a methodology shall not affect (i) registered CDM project activities during their crediting period; and (ii) project activities that have been published for public comments for validation using the previously approved methodology or tool, so long as the project activity is submitted for registration within 8 months of the date when the revision became effective."*

Version 3.0 of the additionality tool was made public on 16th February 2007 and hence was effective from 14th day i.e. from 1st March 2007. The Project Activity was published for public comments for validation prior to version 3.0 of the additionality tool and submitted for RfR before end of the grace period of eight months as mentioned in EB 30 Annex 2.

In light of the above, we understand that additionality tool version 2.0 is applicable to the project activity. We would of course be guided by the Executive Board in this regard. The same was mentioned in the PDD submitted with the request for registration and validated in the Validation report attached as Annex 1 herewith.

2. *Further justification is required of how the DOE validated the benchmark option to be an appropriate method of determining that the project activity is economically less attractive than at least one alternative.*

SGS Response:

The project proponent has mentioned Investment IRR, Equity IRR and Project IRR without considering the CDM and compares it with the benchmark established as mentioned in PDD to show that the project activity is financially not attractive. As mentioned in the additionality tool version 2: project proponent had to select one option out of three; option I in case there is no economic benefits from the project otherwise option II or III. PP has selected Option III (Benchmark Analysis). The benchmark for investment IRR was referred from bank loan documents for the project activity and CERC order was referred for equity IRR. These documents were validated during validation process and same are attached as Annex 2 herewith. DOE has accepted benchmark analysis given by project proponent; as an appropriate option to show the additionality of the project activity. This is inline with the additionality tool version 2 used to assess the additionality of the project activity. However, the option II is also used to compare the IRR with other option available to the project activity.

All IRRs show increase due to CDM benefits consideration but still lower than respective benchmark; showing project activity as less attractive in comparison to coal option. With coal, all IRRs were higher than WHRB option and project IRR was crossing the benchmark. Excel spreadsheets considering both the options was already submitted to CDM-EB during RfR. Same is attached herewith as Annex 5.

3. *Clarification is required as to which IRR and benchmark the DOE considered appropriate in validating that the project activity is additional.*

SGS Response:

All IRRs show increase due to CDM benefits consideration but still lower than benchmarks showing project activity as not financially attractive. Investment IRR shows an increase up to 10% from 8.5% when CDM benefits were considered and thus bringing closer to benchmark of 11.5% which made the project activity viable to lenders as interest liability could be met. Hence Investment IRR was considered as more appropriate for additionality proof. This was also mentioned in the revised validation report attached as Annex 1 herewith.

4. *Further justification is required as to use of a 60% PLF and why only a 10% increase in the PLF has been used in the sensitivity analysis.*

SGS Response:

The problem of lower PLF in waste heat based electricity has been brought out clearly under technological barrier 3.a.b

The Sponge Iron Rotary Kiln operation is dependant on many factors such are Iron Ore quality, Coal quality etc., the flue gas temperature and quantity variations result in lowered steam generation and hence power generation. The sponge iron kilns shut down once in 3-4 months for maintenance thus affecting flue gas flow and other conditions directly affecting electricity generation.

Due to the variations observed, the PLF of WHRB is low and is around 60% only. This can be proved by variations considered by WHRB designer ERK Eckrohr keseel GmbH. The data sheets of ERK Eckrohr keseel GmbH are attached herewith as Annex 3.

WHRB steam generation at optimum condition of flue gas 27000 NM^3/h at 1000 deg C	12.7 tonnes/h
WHRB steam generation at minimum condition of flue gas 22000 NM^3/h at 850 deg C	8.3 tonnes/h
WHRB steam generation at average condition of flue gas 25000 NM^3/h at 900 deg C	10.9 tonnes/h
WHRB Electricity 11.5 MW is based on optimum conditions of flue gas and steam generation.	
Normal PLF achievable in power plant is in range of 70% to 80%; hence 75% was considered as average.	
Effect of change between optimum and minimum flue gas conditions on PLF	8.3/12.7 x 75% = 49.02 %
Hence PLF considered for conservative calculations of CER is 60%	
Effect of change between optimum and average flue gas conditions on PLF	10.9/12.7x75% = 64.37%
Hence maximum PLF for the project activity will be 64.37% which is 7.28% increase on PLF.	

Hence sensitivity worked on 10 % increase which is practically feasible if average conditions of flue gas are achieved. Excel sheet for the above calculations attached is attached herewith as Annex 4.

5. *Clarification is required as to why page 2 of the validation report refers to small scale when the project activity has applied a large scale methodology.*

SGS Response:

The project activity is a large scale project activity and uses approved baseline and monitoring methodology ACM0004 version 2 as mentioned in the PDD. This was corrected in the revised validation report attached herewith as Annex 1. We regret for the typographical error occurred in the validation report submitted for RfR.

6. *The validation reports states that the project activity will displace electricity from the Western regional grid however, the PDD states that in the absence of the project activity, coal based power would have been used. Clarification is required, and the levelized cost of electricity from both potential sources should be calculated to confirm the likely baseline scenario for the project activity.*

SGS Response:

There is typographical error in the validation report submitted for RfR which mentions that grid electricity is a baseline scenario for the project activity. It was validated that the baseline for the project activity is a coal based captive power plant. This was found accepted as the project proponent is also setting up a coal based FBC power plant to meet the additional steam required by steam turbine generator (STG). Hence Project proponent has selected coal based captive power plant as a baseline scenario for the project activity. This was further supported by the levelized cost analysis for the coal based FBC power plant and grid power.

Table 1: Summary on levelized cost analysis for FBC power plant and grid power

Baseline Scenario to WHR CDM Project	Rs./kWh	Conclusion
FBC Power plant	1.55	Most economical baseline scenario for CDM project activity
Grid Power	3.74	Rs./kWh cost with respect to above alternative is more and hence not selected as baseline scenario for CDM project activity

As per approved methodology ACM0004 Version 02 which is applicable for the project activity the baseline is to be decided after considering various alternatives and most economically attractive alternative is to be considered as baseline scenario. The analysis of the alternatives done by project proponent shows that the most economically attractive option available to project proponent is to go for Coal, Char/coal fines based power plant i.e. alternative 5 in the PDD .The methodology requires project proponent to select the baseline which is economically most attractive and faces no barrier. Project proponent is putting coal based FBC power plant to meet the additional steam required by Steam Turbine Generator. Hence project proponent has selected coal based FBC power plant (captive power plant) as baseline scenario. The revised validation report mentioning coal based FBC power plant (captive power plant) as a baseline for project activity was attached herewith as Annex 1. Also levelized cost analysis for FBC power plant was mentioned in the IRR sheet and that for grid power referred from a monthly electricity bill copy. These references are attached herewith as Annex 5; which indicates that per unit cost of electricity generation for coal based FBC power plant is less than the per unit cost of electricity purchase through grid and thus an economically most attractive alternative for project activity.

With the above explanation and corrections, we feel that the clarification sought by board members has been taken into account. We do however apologize if this was not sufficiently clear from the validation report.

Vikrant Badve (+91 9967005290) will be the contact person for the review process and is available to address questions from the Board during the consideration of the review in case the Executive Board wishes.

Yours sincerely

Sanjeev Kumar
Lead Auditor
Sanjeev.kumar@sgs.com
T: +91 124 23 99990 - 98
M: +91 98717 94628

Irma Lubrecht
Technical Reviewer
Irma.lubrecht@sgs.com
T: +31 181 693287
M: +31 651851777

Annex 1: Revised Validation Report
Annex 2: Evidence against benchmark IRR
Annex 3: Data sheets of ERK Eckrohr keseel GmbH
Annex 4: Justification for PLF and Sensitivity analysis
Annex 5: Evidence for baseline scenario