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Att: CDM Executive Board

Your ref.:
 CDM Ref 1003

Our ref.:
 MLEH/KCHA

Date:
 17 July 2007

Response to request for review Ramgarh Chini Mills RE Project (1003)

Dear Members of the CDM Executive Board,

We refer to the issues raised in the requests for review by three Board members concerning DNV's request for registration of the "Ramgarh Chini Mills RE project" (1003) and would like to provide the following clarifications for your perusal and review.

The points raised and our response to the same are indicated below.

Comment 1:

Further evidence regarding the validation of the input values of the IRR should be provided. In particular the assumptions regarding electricity prices received by the project participant should be substantiated.

DNV Response:

The investment analysis presented by the project participant uses the IRR as a basis to assess the financial attractiveness of the project activity.

DNV has verified the following evidences for assumptions and data used in the IRR calculations:

- The price of sale of electricity is INR 2.98/kWh in the first year and for the subsequent years increases in line with the Uttar Pradesh Electricity Regulatory Commission (UPERC) tariff order as given in the power purchase agreement (PPA) for the project. The price for the power sale is only defined for the first four years (as per the PPA) and the investment analysis assumes that the price will be held constant for the remainder of the crediting period, which is deemed conservative. The UPERC Tariff Order was provided at the time of validation and prices set out in this were applied in the financial analysis. The copy of the PPA which follows this Tariff Order is attached (**Annex 1**).
- The investment cost is INR 816.19 million (**Annex 2a**) supported by purchase orders of major equipments (**Annex 2b, 2c, 2d**),
- The cost for trippings was conservatively set at 10% of revenue from electricity sales and taken from a survey of a substation in Uttar Pradesh which resulted in a survey figure of 18% loss (**Annex 3**),
- The operation and maintenance cost is set at 2.5% of investment cost. This is in line with the UPERC tariff order and the link to this was provided at the time of validation (Source

(refer page 18): <http://www.uperc.org/Copy%20of%20Order%20-UPERC%20NCE%20Policy%20FINAL%20DT.18-7-2005.pdf>). This value is also deemed conservative.

- The administration cost was set at 5% of revenues revenue from electricity and CER sales. This is justified by actual expenses in the previous year at the plant and the budgeted expenses for the forthcoming year. The spreadsheet providing this and that has been assessed during the validation is attached (*Annex 4*).
- The cost of Uttar Pradesh Electricity Board (UPEB) maintenance is 10% of the cost of the line. This is deemed as justified as already a pylon and 3 km of line has been stolen and a 'First Information Report' (FIR) ["police report"] for this theft has been filed with the police (has been attached as evidence), which contribute to these expenses (*Annex 5*).
- The net billable expenses is 2.5% of revenues from electricity sales (at the time of validation based on the PPA dated 26/06/2004), however the actual figure being deducted by UPEB was 2% against the amount billed and so this was for reasons of conservativeness used in the financial analysis. This has now been reduced to 1.25% (based on latest PPA dated 05/04/07 as in *Annex 1*). However, this reduction does not have any significant impact on the financial analysis, it increases the IRR from 9.16% to 9.41%.

DNV is able to verify that the assumptions used (as above) in the determination of IRR are conservatively applied and sourced from the appropriate industrial standards or are the realistic figures.

Comment 2:

The value used for electricity generation in the estimation of CERs is 68,006MWh whereas the value used in the IRR calculations is 60,826MWh. This 10% difference should be more transparently explained.

DNV Response: It is evident that for this project activity, the more the number of operating days, the more electricity will be available to export and the more will be the emission reductions (maximum CERs) which will lead to a higher IRR (as cash in-flow is more and thus there appears to be no financial barrier and thus conservative) and vice-versa. If the number of operating days are reduced, less electricity will be available for export and consequently also the emission reductions (minimum CERs) and a lower IRR (as cash in-flow is reduced and thus the project appears to have a financial barrier). So, ideally for conservativeness, the value of power required to calculate CERs should be minimum (i.e. operating days should be minimum) and the value of power required to calculate IRR (financial additionality) should be maximum (i.e. operating days should be maximum). Thus it is evident that for this project, emission reductions and the financial additionality are inversely related. However, this is something similar to application of the uncertainty principle where a simultaneous determination of conservative IRR and CERs is not possible. Certainty in a conservative determination of IRR will lead to uncertainty in the conservative determination of CERs. However for practical reasons as above, there should in DNV's view be more priority to determine IRR (additionality based on higher operating days) conservatively than the forecasted emission reductions, as in this process, the risk of forecasted emission reductions being overstated is taken care of by ex-post verification before issuance.

From the project proponent's response, it is evident that average operating days for the Ramgarh plant is 145 days (based on 3 year average for years 2003-2006) as given in *Annex 6*.

The IRR calculation is therefore based on 180 operating days (leading to value of power required to calculate IRR as 60,826 MWh) which is higher than the 145 operating days and is a

conservative approach as evident from *Annex 7*. The value of power required to calculate CERs on the basis of 180 operating days is 68,006 MWh is clearly overstated. A means to solve the problem of 10% difference (as indicated in the comment 3) is to use the average days of operation of the last three years and calculate the emission reductions from this average.

From the above, it is clarified that the project will now calculate CER's from value of power required based on operating days equal to average of last three years to make it practical and conservative and will submit these figures in a revised PDD.

Comment 3:

The baseline emission factor (0.914 tCO₂/MWh) is higher than the factor published by the Central Electricity Authority of India (0.75 tCO₂/MWh). This discrepancy should be explained.

Requirement: The project participant shall apply an approved monitoring methodology.

Assessment: CERs will be based on the lower of the project plant output or the total site output less (This sentence seems to have been cut in the submission).

DNV Response: We acknowledge that version 06 of ACM0002 (Page 5) stipulates the following: "Calculations for this combined margin must be based on data from an official source (where available) and made publicly available." However, we would like to point to the fact that at the time of requesting the registration of this project, only a final report (published on November 2006) including the summary of the emission factor of the northern region grid (0.75 tCO₂/MWh) was made publicly available on the CEA website (<http://www.cea.nic.in/planning/c%20and%20e/Government%20of%20India%20website.htm>).

The detailed calculations (excel sheets) for the baseline emission factor of northern region grid were not published by the Central Electricity Authority of India and were not publicly available. As such, this does not meet the above stipulated requirement of ACM002, version 6 as given below:

DNV is able to confirm the following:

- There is no detailed calculation (at the time of request for registration), for determining the emission factor of northern region grid, available on Central Electricity Authority of India (CEA) website (though it is a final report published on November 2006). As such the emission factor cannot be validated.
- DNV accepted that the NCV data used by Ramgarh Chini Mills, based on NATCOM data, is based on a reliable and an official Indian source of data.

As such, it is DNV's opinion, that until the time CEA provides the detailed calculations for calculation of emission factor of northern region grid (by complying all the requirements of ACM0002) or there is a clear decision or guideline by DNA of India or by UNFCCC, Ramgarh Chini Mills is eligible to use a calculation based on ACM0002 for calculations of the carbon emission factors of the grid (0.914 tCO₂/MWh) as long as this is based on transparent and official data.

It should also be noted that DNV in its validation report pointed out this discrepancy as well (CAR 2) and the response provided by the PP, elaborating on the above discussion, was subsequently accepted.

Further, the project proponent has also requested UNFCCC to provide guidance on the use of emission factor data, before UNFCCC concludes this point. DNV would also like to see this issue clarified.

The points referring to “Requirement” and “Assessment” under this point of the request for review have been ignored as we believe these are not complete and appear to be not related to the comment raised above.

We sincerely hope that the Board accepts our aforementioned explanations and we look forward to the registration of the project activity.

Yours faithfully
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