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Att: CDM Executive Board

Your ref.:
 UNFCCC Ref #5313

DNV responsible ref.:
 Murali/Wenbo/EDAA

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 23 January 2012

QUESTIONS RAISED BY CDM EXECUTIVE BOARD MEMBERS	RESPONSE SUMMARY FROM DNV	ACTION TAKEN (IF RELEVANT)
<p>Q1 a) <i>the project description which states that only surplus biomass will be utilized, considering that coal consumption is included in the monitoring plan and coal price is included in the calculation of the average fuel price. In doing so, it may incorporate the correct description of the project in the relevant sections of the PDD and validation report.</i></p>	<p>The project activity envisages the use of renewable biomass and coal (85:15) for power generation. As per the statutory approvals received for the Project activity, usage of coal cannot exceed 15% of the yearly average fuel mix, however the project can fire 100% biomass for power generation. Thus, the project activity can use coal during the crediting period. The clear description of the project activity has been incorporated in the relevant sections of PDD and validation report.</p>	<p>The PDD and the validation report have been revised to include the details in the project design.</p>
<p>b) <i>the suitability of the price for each biomass fuel (coconut residues, Prosopis juliflora, saw dust and wood chips, sugarcane trash) as well as the price of coal, considered in the DPR (02 May</i></p>	<p>The price of the biomass fuel considered in the financial analysis was based on the detailed project report available at the time of decision making. Individual fuel price considered in the financial analysis of the DPR have been sourced from the quotations received from independent suppliers. Since the price is based on the quotations obtained from the suppliers at the time of preparation</p>	<p>The details of the publicly available document has been included in the reference list and referred in the validation report and indicated in the revised</p>

2009)	<p>of DPR, which formed the basis for decision making (and therefore conforms to guidance 6 of Annex 5, EB 62), the biomass and fossil fuel price considered are suitable and appropriate for the project activity at the time of decision making.</p> <p>DNV has verified the quotations obtained from the suppliers at the time of preparation of DPR and the same has been enclosed, also publicly available data on the average biomass price at the time of decision making was verified. Also, the biomass suppliers were interviewed during the site visit and the prices of individual biomass have been checked. It could be seen that the biomass price has registered a steep increase since then and the cost has increased to a level of INR.2400 per tonne¹ during the year 2009, which proves that the biomass cost considered is conservative.</p>	PDD.
<p><i>c) the suitability of the average fuel price (INR 2,185/ tonne) considering that the Tamilnadu Electricity Regulatory Commission tariff order (27 April 2009) indicates a lower average biomass price of INR 2,000/ tonne; and</i></p>	<p>The TNERC order talks on the average biomass fuel price and the average fuel price of INR 2185 per tonne considered in the financials of the project activity includes the price of the coal and biomass. The average price of biomass and coal has been indicated separately in the PDD and in the validation report. Thus the weighted average biomass price used in the financial analysis works out to be INR 2041 per tonne (INR 177.917 Million for 87 164 MT), which is only 2.05% higher than the average biomass price indicated in the TNERC order and within the range of sensitivity analysis, i.e lower than the 9.94%, the variation in fuel prices with which the project IRR reaches the benchmark. The detail of the sensitivity analysis has been submitted as responses to the subsequent question.</p> <p>The TNERC order also indicates that some of the stakeholders have demanded fuel price in the range of INR 2400 to INR 2500 per tonne of biomass with an annual escalation of 5% (page 15). However, TNERC chose to fix the price at INR 2000 per tonne with 5% escalation. Also, there were publicly available documents indicating that the biomass cost has registered a steep increase and the cost during the tariff order discussion was more than INR 2400/MT. In the above background, thus it has been concluded that the average biomass price considered in additionality demonstration is suitable and conservative.</p>	The excel sheet working depicting various scenarios have been attached with the responses.

¹ <http://www.financialexpress.com/news/biomass-power-generation-gets-short-shrift-in-tamil-nadu/417812/0>

d) a project IRR of 9.6% (Verification report, page 18) with INR 2,000/tonne (based on the TNERC order) as in the same report on page 20, it is stated that with a decrease of 9.94% on the average biomass price assumed in the DPR (corresponding to INR 2,185 - 9.94% = INR 1,967.8/tonne) the IRR reaches the 13.2% benchmark. In doing so, please provide the relevant calculations in the IRR spreadsheet. Please refer to VVM v1.2 paragraphs 58 and 111 a, b.

It is submitted that there was an inadvertent error in stating the values for project IRR in the documents submitted for request for registration. We regret the mistake and have rectified the same. The project IRR under various scenarios are given in the following table

Scenario	Project IRR	Enclosure
<i>Case-I (With Biomass Calorific values, prices, station heat rate as in PDD)</i>	6.61%	Base case-IRR sheet
<i>Case-II (With Biomass Calorific values as in PDD, station heat rate & Prices as per TNERC Order April 2009)</i>	9.96% [#]	Annex – 1.a
<i>Case-III (With Biomass calorific values, Prices, station heat rate as per the TNERC Tariff order April 2009)</i>	8.18% [#]	Annex– 1.b

This was stated as 9.6% and 8.81% respectively in the Validation report due to typographical error.

The relevant calculations of the excel spread sheet by consideration of the fuel price as INR 1,967.8 with a decrease of 9.94% on the fuel cost assumed (corresponding to INR 2,185 - 9.94% = INR 1,967.8/tonne) is enclosed as Annex-2, where in the Project IRR reaches the benchmark .

As could be seen the project activity remains additional as the financial indicator is below the benchmark (13.20%), enclosed the relevant Annexes.