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Att: CDM Executive Board

Your ref.:
 CDM Ref 0298

Our ref.:
 MLEH/ETEL

Date:
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**Response to request for review
 “4.5 MW Biomass (low density Crop Residues) based Power Generation unit of
 Malavalli Power Plant Pvt Ltd.” (0298)**

Dear Members of the CDM Executive Board,

We refer to the requests for review raised by three Board members concerning DNV’s request for registration of the “4.5 MW Biomass (low density Crop Residues) based Power Generation unit of Malavalli Power Plant Pvt Ltd” (Ref 0298) and would like to provide an initial response to these requests for review.

All the three requests for review point out the following: *The DOE has failed to request a corrective action for an irrelevant barrier analysis, but instead has attempted to justify such an analysis. The requests for review point out that the project proponents compare the project activity (i.e., 4.5MW agricultural residue power plant) with an 8 MW standard biomass (rice husk/bagasse/wood) power plant while analysing the investment barrier. The analysis shows that the standard biomass power plant is more economically attractive than the one considered under the CDM project. Note that, a rice husk/bagasse/wood fired 7.5 to 8 MW power plant would avoid more GHG emissions from the grid than the 4.5 MW plant considered under the CDM project. Hence, the investment barrier analysis presented in the PDD and validated by the DOE to demonstrate additionality goes against the criteria set forth in the SSC modalities and procedures - a financially more viable alternative to the project activity would have led to higher emissions. This suggests that there are probably other reasons for doing this project other than CDM consideration.*

We acknowledge that the comparison with an 8 MW standard biomass power plant as part of DNV’s assessment of the barrier analysis may have caused some confusion. However, we would like to emphasise the following:

- It is correct that the project activity is financially less viable than i) conventional power generation projects and ii) 8 MW standard bagasse / rice husk fired power plants. However, it must be noted that an 8 MW rice husk/bagasse fired power plant is not an available option to the project participants at the project location, due to the non availability of surplus bagasse/rice husk in the region. Hence, an 8 MW rice husk/bagasse fired power plant is not a likely baseline scenario and there are only two baseline alternatives: 1) the 4.5 MW biomass (low density crop residues) based power plant is not implemented and 2) the 4.5 MW biomass based power plant is implemented in absence of

CDM benefits. In our opinion, the barrier analysis demonstrates that the implementation of the 4.5 MW biomass based power plant in absence of CDM benefits faces significant barriers and is thus not a likely baseline scenario.

- In addition to an investment barrier, the PDD clearly presents and explains two plausible barriers to the CDM project activity (technological barrier and barrier due to prevailing practice) and these barriers have been confirmed in DNV's validation of the project. Neither of these barriers seems to be questioned by the requests for review. According to Attachment A to the simplified modalities and procedures for small-scale CDM project activities "*Project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers*". Hence, even if the investment barrier is questioned, this does not question the overall additionality of the project as it faces technological barriers and barriers due to prevailing practice.

Further justifications on DNV's assessment of the barriers presented in the PDD are provided in Appendix A to this letter.

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

Yours faithfully
for DNV



Einar Telnes
Director
International Climate Change Services



Michael Lehmann
Technical Director

Appendix A: DNV's assessment of the barriers presented in the PDD

Before providing a justification on the assessment of the barrier analysis argued in the PDD, we draw your attention to the following facts (as indicated in the PDD and in DNV's validation report):

- The purpose of the project is to utilise the available low-density crop residues, primarily cane trash, coconut fronds and toppings of plantation wood in the region for generation of power.
- These low density crop materials would otherwise have been burnt in open fields or left to decay.
- It has been established that these crops are available in plenty, in and around the project activity.
- Establishment of *Grameena Abhivrudhi Mandali*, a not-for-profit organization by the project proponent, for managing the biomass supply chain and primarily for the purpose of sustainable development in the project activity area.

In DNV's opinion the assessment of the barrier analysis as addressed by the project proponent is justified. The barrier analysis has been verified and is based on the following:

- Criteria for establishment of the project activity have been essentially driven by the availability of the type of biomass. And as presented by the project proponent, there has been no sustainable conventional biomass available such as bagasse and rice husk.
- Dependent on the availability of biomass such as coconut fronds and cane trash, the project was sized as 4.5 MW as against the more standard rating (for biomass power plants in India of 7.5 to 8 MW).

Therefore, the additionality argument has to be addressed in the light of the project activity sized at 4.5 MW with the available biomass (coconut fronds and cane trash) as opposed to the more conventional and standard biomass based (rice husk/bagasse) 8 MW power plant. It is plainly incorrect that we "attempted to justify such an analysis". In our request for clarification, we sought a better substantiation on this matter from the project proponent, also in light of the financial aspects of the project:

As a consequence of the project utilizing low density crop residues and its comparatively lower rating of 4.5 MW and the project proponents argument that this venture has led to MPPL incurring substantial financial costs and losses, DNV sought clarification on the financial viability of the project vis-à-vis 8 MW bagasse based plant (refer Validation Report, Table 3, CL 2). As a response to this clarification request, the project proponent has provided a detailed financial comparison of 8 MW and 4.5 MW biomass power plants (also attached as Annex 3 in the PDD). It has been demonstrated that the cost of a 4.5 MW crop residues fired power plant is INR 36.5 million as opposed to an 8 MW rice husk based plant at INR 31.9. The contention that project activity at 4.5 MW as against the more standard rating (for biomass power plants in India of 7.5 to 8 MW) has resulted in higher costs of generation due to (as indicated in the validation protocol)

- Approximately 9% higher heat rate (resulting in higher fuel cost of approximately INR 0.20/kWh)
- Approximately 10% higher unit capital cost (resulting in approximately INR 0.10/kWh higher capital servicing costs during first 10 years)
- Same fixed operation and maintenance costs (resulting in approximately INR 0.15/Kwh higher unit operation and maintenance costs)

- Higher unburnt residue, lower availability and higher plant operation and maintenance costs in view of slag/corrosion in the boiler (resulting in approximately INR 0.05/ kWh higher operation and maintenance costs) is therefore deemed appropriate.

As reported, the project activity requires firing of low density crop residues as primary fuel, which has resulted in technological innovations related to fuel beneficiation systems as well as implementation of a 100% ash utilization scheme, thus adding to the financial burden of the project proponent.

To summarize, even though it appears that a standard rice husk/bagasse based MW power plant is more economically attractive and would have avoided more GHG emissions, the project activity should be considered as a viable CDM project activity, as:

- 7.5 – 8 MW rice husk/bagasse fired power plant was not an available option to the project participants at the project location, in view of non availability of surplus bagasse/rice husk.
- Establishment of a 4.5 MW crop residues based power plant is not a common practice, and leads to higher costs of generation, as compared to a more conventional and standard rating of 7.5 to 8 MW biomass based power plants.
- A 4.5 MW crop residues fired power plant (based on the only sustainably available surplus biomass at the project location) required significant technical technological innovation with related costs.