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**Att:** CDM Executive Board

Your ref.:  
CDM Ref 0745

Our ref.:  
SOBI/BRADB/BRINKS

Date:  
15 February 2010

## Response to request for review - Issuance of CERs regarding “Demand side energy conservation and reduction measures at ITC Tribeni Unit” (0745)

Dear Members of the CDM Executive Board,

We refer to the requests for review raised by three Board members concerning DNV's request for issuance of the CERs from “Demand side energy conservation and reduction measures at ITC Tribeni Unit” (0745) and would like to provide the following initial response to the issues raised by the requests for review.

### **Comment 1:**

*The specifications of equipment replaced/retrofit for the newly implemented project measure “P26”, as well as the determination of the baseline consumption (488,059.09 kWh) as per the methodology and monitoring plan requirement, since the information is not presented in the documents*

### **DNV Response:**

DNV would like to clarify that project measure P26 was related to replacement of paper machine 4 fan pump to a pump with a lower head thus reducing the energy requirement of the pump. The specification of the equipment was verified on-site from the nameplate of the pump. The specification of the equipment replaced and the new equipment is as provided below:

Drive motor (same for project and baseline)	Baseline Pump	Project Pump
Make: Stromberg Power rating: 100 kW RPM: 1 500	Make: Alstrom Type/Model: SPP - 20 Capacity: 2 520 LPM to 7 500 LPM) Head: 55 m	Make: Scanpump AB Type: Z22-250 / 200 - 40 F746 Capacity: 2 300 – 7 000 LPM Head: 38 m

The determination of the baseline consumption had been provided in the Excel sheet submitted for issuance under sheet named “MDS TEM P26”. The baseline has been determined by multiplying the measured monthly average energy consumption of the baseline pump from April 2006 to January 2008 by 10 since the crediting period for this measure spanned 10 months (March 2008 to December 2008). This calculation was also provided in cell G33 of the sheet named “Energy for Elect Projects”.

**Comment 2:**

*The increased emission reductions for each of the relevant project measures as compared to the PDD estimate, considering that the overall emission reductions well exceed the PDD estimates (by about 8%) while several project measures have not claimed emission reductions during this period. Explanations shall be provided on the reasons for significantly increased energy savings for project measures such as F8B: the PDD estimates an annual saving of 75 000 kWh, whereas the actual savings reached 660 066 kWh*

**DNV Response:**

The emission reduction for each of the measures was verified through the monitored electricity consumption for all of the electricity measures. The electricity consumption of the project measures were verified from the plant log books during the verification. The increase in emission reductions from what was estimated in the PDD resulted from two factors: (i) actual increase in electricity savings and (ii) increase in the emission factor assumed in the PDD. The actual increase in electrical savings including all the measures is 13.9% over what was projected in the PDD. Since some measures were excluded from the emission reduction calculations, discarding these measures results in an increase of 3.75% over the PDD estimates. These calculations are presented in the attached excel sheet (Appendix 1 – PDD comparison). This increase may be attributed to a conservative estimate in calculating the electricity savings in the PDD.

The Executive Board is requested to note that while there has been significant increase in the electrical savings from some of the measures, there has also been significant decrease in some of the measures (for example measure P4B). Further, the actual electricity savings from the measure F8B, as pointed out by the Executive Board, was actually supposed to be 715 604 kWh, however due to typographical error the same was written as 75 000 kWh in the PDD. During the first verification this was further reviewed and corrected to 660 066 kWh and this corrected value has been considered from then onwards. The actual data sheet that was used for estimating the baseline emissions of F8B in the PDD is appended with this response (Appendix 2 – F8B). The revised calculations had been presented in the Excel sheet uploaded for issuance under the tab “MDS F8B”. If the correct savings from F8B had been incorporated in the PDD, the actual savings considering all measures would only have been 1.27% higher than the PDD figure. Excluding the relevant measures as in the present verification period would have resulted in electrical savings which would have been 7.81% lower than the PDD figures.

Furthermore, the increase in emissions reductions is partially attributed to the higher emissions factor as compared to the value used in the PDD., The emissions factor actually used in the PDD was 1049.088 tCO<sub>2</sub>/GWh (in contrary to the value mentioned as 1 158.58 tCO<sub>2</sub>/GWh in the registered PDD). The emission factor has actually increased to 1 521.73 tCO<sub>2</sub>/GWh which represents an increase of 45.05%. Thus, the emissions reductions for the electrical measures reported for this period has increased by 50.49% over that projected in the PDD (i.e.  $1.0375 \times 1.4505 = 1.5049$  or 50.49% increase). However this combined with the decrease in the savings from the thermal energy savings measure by 55.12% over what had been projected in the PDD has resulted in a final increase of about 8% in the estimated total emission reductions.

**Comment 3:**

*The emission reductions achieved by each of the individual project measures such as TEM UT2, for which the baseline was established based on a full year's (12 months, or 365 days) annual consumption while in the project scenario, there were periods during which the project did not operate (less than one full year's hours should be used), considering that the registered PDD stipulates that emission reductions shall be based on actual operating hours in the project*

**DNV Response:**

We acknowledge and agree with the observation of the EB that for certain measures where the project has not operated for the entire year, the baseline should be re-evaluated based on the running of the measures in the project scenario. To address this observation, we have adjusted the baseline for the measures TEM UT2, TEM V5 and F 1, 2, 3. To arrive at a conservative estimate of the baseline electricity consumptions for these three measures, wherever the project measure was found not to be operating or operational at a much lower load than normal, the entire months have been eliminated from the baseline estimation. Following this approach, TEM UT2 was found to be operating at a low load for February to May 2008, TEM V5 was found to be operating at a low load for February to May 2008 and F 1, 2, 3 was found to be operating at a low load for February to May 2008. Hence the baseline has been adjusted to 8 months for these measures. As a result, the emission reductions have reduced to 8 492 tCO<sub>2</sub> (rounded off conservatively to lower integer value) as compared to the earlier figure of 8 848 tCO<sub>2</sub>. The revised calculations are presented in the attached excel sheet "Appendix 3 – Modified CER".

**Comment 4:**

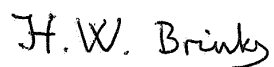
*A significant number of inconsistencies of the (annualised) baseline consumption between the monitoring report and the spreadsheet was noted, e.g. the CER spreadsheet reports 92 885.40 kWh for UT2 (Cell F5, worksheet MDS TEM UT2), whereas the monitoring report states 112,257.45 kWh (p.16). Clarification is required.*

**DNV Response:**

The Executive Board is requested to note that with the exception of the measure MDS TEM UT2, the baseline consumptions for all the measures have been calculated using the same baseline data. In all such cases such inconsistencies arose due to a different approach for calculation of annualized baseline consumption in project specific sheets (for example: "MDS TEM UT2") and electrical savings summary sheet "Energy for Elect Projects" of the CER calculation Excel file. In project specific sheets annualized baseline consumption was calculated averaging monthly consumption for a selected period and multiplying by 12. In the case of the electrical savings summary sheet, the same was calculated by first averaging the run hours and kW of baseline equipment for that specific period and then multiplying the monthly average running hours by monthly average kW to get monthly average kWh and then multiplying by 12 to arrive at the annualized baseline consumption. In the case of the project measure MDS TEM UT2, this difference in baseline consumption value between the two sheets was further increased due to excluding the baseline data for December 2003 in the summary sheet since the run hours in December was found to be quite low. However, to remove the inconsistency resulting in different calculation approaches, all such differences in annualized baseline consumption have been removed through a single calculation approach by direct linking of baseline monthly average values in the summary sheet with the individual project measure sheet. The revised sheets are presented in the attached excel sheet "Appendix 3 – Modified CER".

We sincerely hope that the Board accepts our aforementioned explanations.

Yours faithfully  
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