CDM: Recommendation Form for Small Scale Methodologies (version 01)

(To be used for presenting questions/proposals/amendments to the simplified methodologies for small-scale CDM project activity categories)

Date of SSC WG meeting:	16–19 June 2009, SSC WG 21
Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):	Revision of AMS-II.C for project activity involving multiple equipment operating as a single system
Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.	AMS-II.C version 11
Name of the authors of the query:	Institution: Carbon Finance Unit, The World Bank mranade@worldbank.org, cwarner@worldbank.org

Summary of the query:

Please use the space below to summarize the query related to SSC methodologies/categories SSC Modalities and Procedures provide recommendation/analysis of the SSC WG.

Original text from PP:

Background:

The project involves the replacement of inefficient pump-sets in municipal water pumping stations. The pumping station consist of multiple pumps often operate as a single system with a single water source, a single water output point and a common power supply source. Pumping station are designed to cater to varying demand during the course of the day based on the level of demand in various area , availability of water and shut-down rota. The result is the operation of a *combination* of pump sets based on the immediate water availability and demand. Depending on the energy efficiency potential, which can be gained, only one or two pump-sets may be replaced in each pumping station with higher efficiency pump-set of similar or higher capacity.

Example: *(Please refer to the attached diagrammatic representation)*

In a pumping station, Pump-sets Number 1, 2 and 3 of 750HP, 750HP and 600HP respectively are being used. The CDM project involves the replacement of pump-set No. 2 with a higher efficiency pump-set. The pumping station has a single electricity meter and a single water outlet point. The pump-set number is noted in the official line map of the stations and all maintenance, data-logging and reporting is based on pump-set numbers. Operation of the pump-sets is generally based on a rotation. The operation log book of the pump-sets records will note the following type of information for a 24 hour period:

Hours: 0-8; pump-sets 1 & 2

Hours: 8-15: pump-sets 1 & 3

Hours: 15-20: pump-sets 2

Hours: 20-24: pump-sets 2 & 3

As the prime motive for operation of the pump-sets is to provide water, all decisions regarding operation

of the pump-sets are driven by availability of water in the reservoir and demand for water from the end-users. Water levels in the reservoir vary across the seasons, resulting in seasonal variation in supply. Water demand also varies by hour of the day and the season. Both these factors, therefore, also affect the electricity consumption. Changing even a single pump-set in the pumping station, therefore affects the efficiency of the entire system, thus providing the same or greater quantity of water using less quantity of electricity. All pumping stations measure the total amount of electricity consumed and calculate the amount of water pumped.

Based on the example given above, we would like to request the following revision to AMS II.C ver11.

1. As per the methodology (paragraph 4), definition of Boundary is: "The project boundary is the physical, geographical location of each measure (each piece of equipment) installed".

Proposed Revision: To expand the boundary definition by including a footnote stating that, "In specific cases, e.g., water pumping, the boundary could be defined as system level, i.e., a major pumping station that may have parallel operation of number of pumps. This shall allow the project proponents to develop an adequate metering and monitoring system to determine water being delivered by the system and the energy used to deliver water from source to transmission line. This should also allow the project developer to ensure that the project boundaries do not change significantly during project lifetime."

2. As per the methodology (paragraph 6), the energy displaced is electricity and the emission baseline is determined only as: "the product of the baseline energy consumption of equipment/appliances and the emission factor for the electricity displaced".

Proposed Revision: To include an additional option (b) for calculating the emissions baseline based on the following:

"The product of the energy efficiency ratio of the system in the baseline year, quantity of supply in project year and the emission factor for the electricity displaced. This is established *ex-post*."

$$BE_y = E_{BL,y} \times EF_{CO2,ELEC,y}$$

$$E_{BL,y} = EER_0 \times Q_y /(1 - l_y)$$

Where

BE_y	Baseline emissions in year y (tCO2e)
$E_{BL,y}$	Energy consumption in the baseline in year y (kWh)
$EF_{CO2,ELEC,y}$	Emission factor in year y calculated in accordance with the provisions in AMS I.D (tCO2/MWh)
EER_0	Specific Energy efficiency ratio in the baseline year '0' (MWh/unit). EER0 is calculated as total electricity consumed in baseline year '0' divided by total quantity of supply in baseline year '0' (MWh/unit)
Q_y	Total quantity of supply in project year 'y' (unit)
l_y	Average annual technical grid losses (transmission and distribution) as per provisions elsewhere in AMS II.C v11

3. The Monitoring section of the methodology provides options (paragraph 13-15) for devices with constant and variable current characteristics.

Proposed revision: To include an additional option for monitoring of "systems" with variable current characteristics as paragraph 16. If the boundary of the project activity is defined at a system level, monitoring shall consist of metering the "energy use" and calculating the "quantity of production/supply".

Including a footnote stating that " For example, metering of the pumping station for electricity consumption and calculation of the total quantity of water supplied in the given time period based on the hours of operation of the pumps."

Recommendation by the SSC WG:

Please use the space below to provide amendments/change (in your expert view, if necessary).

Please refer to paragraph 7 of the meeting report of the SSC WG 21 (http://cdm.unfccc.int/Panels/ssc_wg).

Answer to authors of query by the SSC WG:

Please use the space below to provide answer to the authors of the above query

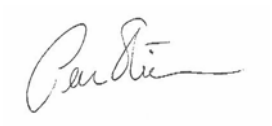
The small-scale working group of the CDM Executive Board would like to thank the author for the submission.

The SSC WG agreed to recommend a revision of AMS-II.C as contained in annex 3 of the SSCWG 21 meeting report. The recommended revisions clarify the consideration of increased output over the historic average and boundary definition. An option has been added for determining baseline emission using specific energy consumption approach.

Signature of SSC WG Chair ……..

(Hugh Sealy)

Date: 19/06/2009



Signature of SSC WG Vice-Chair ……..

(Peer Stiansen)

Date: 19/06/2009

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