Revision in Monitoring Plan of Registered PDD of Sun-n-Sand Hotels Pvt. Ltd.

Title of the project activity:	Generation of electricity from 4 MW capacity wind mills by Sun-n-Sand Hotels Pvt. Ltd. at Supa, Maharashtra
UNFCCC Reference Number:	0559
PDD Version number:	**02**
PDD Date:	**21 July 2006**

D.3 Data to be monitored:

~~Electricity generation from wind turbines to be metered and recorded on a continuous basis. The total power (EG_y) supplied to the grid is the summation of the power generated from all the 4 nos of wind turbines less the transmission loss and auxiliary consumption.~~

Net Electricity supplied to state grid (EG_y) from the project activity will be calculated from three monitored parameters: (i) Electricity exported to the grid (EG_{export}), (ii) Auxiliary consumption (EG_{import}) and (iii) transmission losses in case of third party sale (EG_{loss}).

The formula for calculation of EG_y is as follows:

$EGy = EG_{export} - EG_{import} - EG_{loss}$

EG_{export}, the electricity exported to western regional grid represents the difference of gross electricity generated at the wind turbines of the project activity and the line losses up to grid interconnection point (i.e “joint meter”).

EG_{import} represents the auxiliary consumption at the wind turbines.

EG_{loss} in case of third party sale 5 % of the net electricity export are deducted as transmission losses as per MERC guidelines.

ID number	***Data variable***	***Data unit***	***Measured (m), calculated (c), estimated (e),***	***Recording frequency***	***Proportion of data to be monitored***	***How long the data to be kept?***	***How will the data be archived? (electronic/ paper)***	***Comment***
~~1. EG_{GEN}~~	~~Quantitative Total Electricity Generated (metered in individual wind mills)~~	~~MWh/yr~~	~~m~~	~~Continuously~~	~~100%~~	~~Crediting period +2 years after~~	~~Electronic~~	~~Metered at plant. Site incharge of the Contractor operating the mills will be responsible for regular calibration of meter.~~
1.**EG_{export}**	Gross Electricity generated by the project	MWh/yr	m	Continuously	100%	Crediting period +2 years	Electronic	EG_{export} represents the 'export" reading at MSEDCL[1] 2-way-meter (also referred to as "joint meter"), i.e. gross electricity generated at the windmills minus the line losses between the individual wind turbine meter and the MSEDCL meter.
2. **EG_{import}**	~~Quantitative~~ Auxiliary consumption	MWh/yr	m	~~Continuously~~ Continuously	100%	Crediting period +2 years after	Electronic	Auxiliary consumption of the project metered at MSEDCL 2-way-meter as "import" (the 2-way meter is also referred to as "joint meter")

[1] MSEDCL is Maharashtra State Electricity Distribution Company Limited (formerly MSEB)

ID number	***Data variable***	***Data unit***	***Measured (m), calculated (c), estimated (e),***	***Recording frequency***	***Proportion of data to be monitored***	***How long the data to be kept?***	***How will the data be archived? (electronic/ paper)***	***Comment***
3. EG_{loss}	Transmission losses	MWh/yr	c	monthly	100 %	Crediting period +2 years after	Electronic	Calculated for transmission losses in case of a third party sale of electricity (as 5 % of EG_{export} - EG_{import}) as per the prevailing guidelines of MERC. In case of electricity sale to MSEDCL EG_{loss} is zero.
4**.** $\mathbf{EG_y}$	~~Quantitative~~ Net Electricity supplied to State grid	MWh/yr	c	Continuously	100%	Crediting period +2 years after	Electronic	Calculated as EGy = EG_{export} - EG_{import} - EG_{loss} on the basis of the joint meter reading taken by MSEDCL official in presence of O&M contractor for Sun n Sand and MERC guidelines. Data can be cross checked from credit note of ~~MSEB~~ MSEDCL

D.4. Qualitative explanation of how quality control (QC) and quality assurance (QA) procedures are undertaken:

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ID Number	Data monitored	Uncertainty level of data (High/ Medium/ Low)	Are QA/QC procedures planned for these data?	Outline explanation why QA/QC procedures are or are not being planned
1 EG_{export}	Electricity exported by the project to grid.	Low	Yes	This data will be used for the calculation of net electricity generated. Sun n Sand has installed Real Time TOD Meters with online reading features at the Metering Point (the Main Meter). The metering equipment is duly approved, tested and sealed by MSEDCL. The metering equipment consisting of the Main Meter (0.2 accuracy class) and the Check Meter (0.5 accuracy class) are owned, operated and maintained by MSEDCL. The main meter is a two-way electronic tri-vector meter (owned, operated and maintained by MSEDCL) and is a dedicated metering point for SnS project. These meters comply with the requirements of the Electricity Rules. The meter readings at the Metering Point are undertaken jointly by the representatives of the State Grid/ MSEDCL and Suzlon representative in first week of every month. The meter readings are jointly certified by representatives of the State Grid/ MSEDCL and Suzlon. That is why the Main Meter is also referred to as Joint Meter. The Joint Meter Reading (JMR) gives the "export" of the electricity to the western grid and "Import" reading as well. The export meter reading (EG_{export}) by MSEDCL meter takes into account the line losses between the individual windmills and the MSEDCL meter. This JMR is used for calculating the amount of electricity supplied to the grid from the project activity against which the MSEDCL makes the payment to the project proponent. There is also a provision of "check" MSEDCL meter as a fail

ID Number	Data monitored	Uncertainty level of data (High/ Medium/ Low)	Are QA/QC procedures planned for these data?	Outline explanation why QA/QC procedures are or are not being planned
				safe measure, in case the main MSEDCL meter is not working accurately and requires calibration or replacement. The calibration of the main and check meter will be carried out as per the MSEDCL procedure.
2. EG_{import}	Auxiliary consumption	Low	Yes	This value is represented by "import" value in the Joint Meter Reading recorded by MSEDCL meter.
3. EG_{loss}	Transmission losses	Low	Yes	This parameter is calculated as 5 % of EG_{export} - EG_{import} in case of third party sale.
4. EG_y	Net Electricity supplied to grid	Low	No	MSECDL credit note clearly specifies the pattern of electricity sale indicating sale to grid or to third party. Based on this data the MERC guidelines will apply. The figure of net electricity supplied to grid mentioned in the credit note of MSEDCL would serve as the basis for emission reduction calculation.