LH SUGAR FACTORIES

REVISED MONITORING PLAN

LHSF BAGASSE PROJECT

CDM REGISTRATION REFERENCE NO: 0334

Monitoring period: From May 2006 onwards

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Introduction

The project involves the generation of electricity in the LH Sugar Factories sugar plant located at Pilibhit, in the state of Uttar Pradesh, India. The fuel used in the power plant is bagasse, a fibrous material derived from the crushing of sugar cane. The combustion of this biomass residue therefore results in the generation of renewable electricity. The power plant is grid connected and the emission reductions are calculated from the product of the carbon dioxide grid emissions factor and the electricity supplied to the grid.

The carbon dioxide grid emissions factor was calculated on an ex-ante basis in the PDD and will therefore be held constant over the life of the project. This data is therefore not part of the monitoring plan.

The project activity was commissioned in December 2005 and was established without any changes to that envisaged in the PDD.

Technology employed

The project activity consists of a 12 MW backpressure turbine generator manufactured by Triveni and an 80 tonnes per hour, 67 bar Walchandnagar bagasse fuelled boiler. The electricity generated is stepped up at the plant to 132kV and supplied to the grid via the UPPCL Roopurkamlu substation.

Revised Monitoring Plan

Following parameter should be considered for the revised Monitoring plan.

1	Net Electricity exported to the grid ------	Measured (Electricity Board Invoices)
2.	Amount of Bagasse generated ----------	Estimated (RT 8C form)
3	UPPCB consent ----------	Pollution Board Consent

Justification of Revised Monitoring Plan

During the first verification it was verified that no other parameter mentioned in the registered PDD was playing any role in calculations of CERs. There is no fossil fuel consumption as there is no provision of fossil fuel firing in the equipment installed i.e. Boiler. This was also certified by the Supplier of the equipment and was provided to the EB during the deviation sought for the first verification period.

The parameters related to Bagasse consumption & saving is not relevant to the CER calculations as it is a sugar factory and exports power during the season only and not operates in OFF season. The turbine used is a back pressure turbine which can operate only during sugar cane season and not during OFF season because the steam can not be utilized in the process during off season. The factory does not purchase any biomass from outside which was verified during the first monitoring period. The factory sold the saved Bagasse of the season and keeps only some amount for the start up only.

During the crushing season the Bagasse generated by the sugar mill was only consumed and this can be verified by the RT8C forms which are submitted by each and every sugar factory to Government of India. RT8C form gives the amount of Bagasse produced in percentage of Cane

crushed. The amount of Bagasse generation can only be estimated rather than measured. This estimation is on conservative side.

Emission reductions generated

In line with the PDD for the project activity the total number of CERs (tCO_2e) is calculated from the following equations:

$$ER_y = BE_y - Pe_y \qquad \text{Equation 1}$$

Where:

ER_y = Emission reduction in year y, tCO_2e
BE_y = Baseline emissions in year y, tCO_2e
Pe_y = Project emissions in year y, tCO_2e

$$BE_y = 0.918.P_y \qquad \text{Equation 2}$$

Where:

P_y = Electricity exported in year y, MWh

Monitored data

a) ***Monitored energy data***

The following data has been monitored for the project. Electricity export data has been taken from the invoices raised by the factory on UPPCL, the purchaser of electricity. P_y has been monitored as exports of electricity to the grid.

Period	Net electricity export, (kWh)	Invoice no
Month 1		
Month 2		
Month 3		
Month 4		
Month 5		
Total		

b) ***Biomass generation***

The power plant operated solely on bagasse. The Bagasse generation according to RT8C form is shown in the table below.

Period	Bagasse Generation, mt	RT 8C form mentioning in % of Cane crushed
Month 1		
Month 2		
Month 3		
Month 4		
Month 5		
Total		

c) ***Environmental monitoring***

The plant operated under a valid consent from the Uttar Pradesh Pollution Control Board and a copy of this consent will be provided to the verifiers.

Calculation of emission reductions

The calculation of the emission reductions requires the input of the net electricity export variable into equation 2.

$$BE_y = 0.918.P_y \qquad \text{Equation 2}$$

Where:

P_y is in MWh

Therefore $BE_y = 0.918 * P_y$ (tCO_2e)

The calculation of the emission reductions from the project requires to consider the project emissions but as the project emission is equal to zero the emission reductions is equal to the baseline emissions.

$$ER_y = BE_y - Pe_y \qquad \text{Equation 1}$$

$Pe_y = 0$ (There is no fossil fuel consumption)

Therefore $ER_y = BE_y$ tCO_2e

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