

MONITORING REPORT

of

**“3.5 MW Rice Husk based Cogeneration Project at Nahar Spinning
Mills Ltd.”**

Reference no.: 0117

by

**NAHAR SPINNING MILLS LTD.
Dhandari Kalan
Ludhiana (Punjab)
141010**

Current status of the project

The biomass based Co-Generation Power Plant has been successfully commissioned by

Nahar Spinning Mills Ltd. (NSML)

S/No.	Equipment	Supplier
1.	Boiler	Thermax Ltd. Pune
2.	T.G.Set	Triveni Engineering And Industries Ltd. Banglore
3.	Balance of Plant	Various Supplier like Crompton Greaves for Transformers, Alstom & Siemens for other major electrical equipments, Ion Exchange Service Ltd. for RO Plant, Paharpur Cooling Tower Calcutta for cooling Tower etc.
4.	Fuel Handling System	Munish Industries Ltd.
5.	Ash Handling system	Macawber Beekay New Delhi.
6.	Electro static Precipitator	M/S Thermax (Enviro) Limited

Statement to what extent the project has been implemented as planned.

The project activity was completed as planned and described in the Project Design Document (PDD).

Commercial operation was declared on 22 Dec 2005. The project activity is in operation continuously, except the outages for 150.5 hours during the monitoring period, as given below:

Outages detail – Nahar Spinning Mills Ltd.

Dated	Start time	Duration (hrs:min)	Type	Reason
24 th Dec 2005 to 25 th Dec 05	4 am	22	Un-Planned	TG Tripped due to low vacuum
28 th Dec 2005	8.24 am	2:30	Un-Planned	Due to Over frequency
3 rd Jan 2006 to 5 th Jan 2006	12.00 am	33	Planned	Taken shut down to attend boiler Problem
14 th Jan 2006	4.30 pm	1	Unplanned	To check casing leakage
26 th Jan 2006	9.00 am	28	Planned	Due to checking of safety valve and cleaning of ESP
15 th March 2006	7.00 am	24:30	Planned	General shut down due to less load public holiday Holi
18 th March 2006	7.00 am	4	Unplanned	Solenoid valve problem
25 th March 2006	12.55 pm	3	Unplanned	Due to electrical problem
24 th April to 25 th April 2006	11.20 pm	14:45	Planned	Planned shut to attended leakage by lapping of throttle valve
9 th May to 10 th May 2006	1.15 am	17:45	Planned	Taken shut down to attend boiler Problem
Total Time		150:30		

Monitoring period

The starting date of the fixed 10-year crediting period is from 10 December 2005. The monitoring period is from 10/12/2005 to 31/05/2006 (Both Days included). However, emission reductions from 10 Dec 2005 to 22 Dec 2005 have been excluded from the calculations as the date of start of commercial operations of the Project is 22 December 2005.

Sustainability—economic and social well-being

The project activity has result in sustainable development in the region as follows:

- Helped to create employment in the area for skilled and unskilled labour during construction and operation.
- By generating clean power, project activity has helped to eliminate an equivalent carbon dioxide, nitrogen oxides, SPM etc., which would have been otherwise generated due to power generation at grid.
- Helped to reduce transmission losses due to generation of decentralised power

Obtained parameters according to monitoring plan

For the project, following parameters were monitored:

1. **Energy**-electronic energy meters have been installed to monitor the total energy generation, auxiliary consumption and energy supplied to spinning mill. Eight hourly data is recorded which is aggregated into daily and then to monthly readings
2. **Biomass**-biomass fuel used in the project activity is weighed by electronic weighbridge. Also quantity of biomass is based on invoices from fuel contractors. Biomass fuel consumption is recorded on daily basis which is aggregated to monthly readings.
3. **Fossil fuel**-no fossil fuel has been used during the period under review.
4. **Calorific value of biomass**-calorific value of biomass was measured once, by an independent agency.

Electricity generation and fuel consumption data

S/No.	Month	Total energy generation (kWh)	Auxiliary consumption (kWh)	Net energy supplied to spinning mill (kWh)	Biomass used (ton)	Fossil fuel used (ton)
1.	Dec 2005	358573	96926	261647	799.72	0
2.	Jan 2006	1516892	326416	1190476	3676.01	0
3.	Feb 2006	1452200	278531	1173669	3135.23	0
4.	March 2006	1645153	287305	1357848	3582.80	0
5.	April 2006	1714380	274499	1439881	3639.00	0
6.	May 2006	1632060	269068	1362992	3526.89	0
Total		8319258	1532745	6786513	18359.65	

Calorific value of biomass = 3528 kcal/kg

Emission reductions

Baseline emissions:

Carbon Emission Factor as per the baseline adopted (kg CO₂/kwh) = 0.85

Net energy exported by project activity to spinning mill (kWH) = 6786513

Baseline emissions (ton CO₂) = 5768

Project Emissions: NIL

Emission Reductions:

Baseline emissions – Project emissions

= 5768 - 0

= 5,768

Measure to ensure the results/uncertainty analysis

The total energy generated, auxiliary consumption and net energy supplied by project activity to the spinning mill were recorded by independent meters.

Readings from the net energy supply meter were used to calculate the baseline emissions. In the event, the meter used to monitor net energy supply is not in operation, then reading from total energy generation meter and auxiliary consumption meter may be used for calculating the net energy supplied to spinning mill and baseline emissions. Till date, meter used to monitor net energy supply has been operating successfully.

Meters used for monitoring total energy generation and net energy supply are of accuracy class 0.2 with maximum uncertainty of ± 0.2 %. Meter used for monitoring auxiliary consumption is of accuracy class 0.5 with maximum uncertainty of ± 0.5 %. All the meters are electronic unidirectional trivector meters.

At the time of installation of the meters, the accuracy and other parameters were checked thoroughly by the manufacturer. Further, the check for accuracy of the meters was carried out during June 2006 by an independent agency. Meters were found within permissible limits of error during this check.

Roles and responsibilities

NSML was the sole agency responsible for implementation and monitoring plan given above.