SECTION D. Application of a monitoring methodology and plan:
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D.1. Name and reference of approved monitoring methodology applied to the small-scale project activity:

>>
Type I – Renewable Energy Projects
AMS.I .D: Renewable electricity generation for a grid, Version 07.

D.2. Justification of the choice of the methodology and why it is applicable to the small-scale project activity:

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The expansion of the bagasse cogeneration unit at the GSIL factory will provide electricity to the annexed sugar plant and the surplus to the Andhra Pradesh grid. This electricity will displace existing grid generation capacity and future planned grid capacity additions. The main variable in determining the volume of emission reductions is the Net electricity supplied to the grid by the project activity ($\mathbf{EG}_y$).

The monitoring provides a range of data measurement, estimation and collection options/techniques in each case indicating preferred options consistent with good practices to allow project managers and operational staff, auditors, and verifiers to apply the most practical and effective measurement approaches to the project. The aim is to enable GSIL project activity to have a clear, credible and accurate set of monitoring, evaluation and verification procedures. The purpose of these procedures would be to direct and support continuous monitoring of project performance/key project indicators to determine project outcomes, greenhouse gas (GHG) emission reductions.

Detailed monitoring plan and procedures associated are provided in Annex 4 of this document.

D.3 Data to be monitored:

>>

D.3.1 Data to be collected in order to monitor emissions from the project activity, and how this data will be archived:								
ID number *(Please use numbers to ease cross-referencing to table D.3)*	Data variable	Source of data	Data unit	Measured (m), calculated (c), estimated (e),	Recording Frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	Comment
1.	**EG_y** : Net electricity supplied to the grid by the project activity	Monthly joint meter readings	kWh	c	Monthly	100%	Electronic/paper	The Net electricity supplied to the grid by the project activity is calculated as: **EG_y** = (Electricity exported to the grid after meeting captive & auxiliary power requirements) – (Electricity Import from the grid). Total units exported to the grid and imported from the grid are measured by energy meters installed at APTRANSCO sub station on 24th day of every month[1] and recorded by representatives of APTRANSCO (Grid operator) and project proponent (GSIL in a monthly Joint Meter Reading (JMR). The Net electricity supplied to the grid by the project activity (**EG_y**) will only be considered for CERs calculation purpose.

[1] Metering Date is subjected to the standards of the Agreement made with APTRANSO (as per the directions of Andhra Pradesh Electricity Regulatory Commission, Govt of AP).

2	Electricity exported to the grid	Monthly joint meter readings	kWh	M	Monthly	100%	Electronic/ paper	Power exported to the grid is measured by energy meters installed at APTRANSCO sub station on 24th day of every month[2]. A monthly Joint Meter Reading (JMR) for the energy exported to the Grid is recorded by representatives of APTRANSCO (Grid operator) and project proponent (GSIL).
3	Electricity Import from the grid	Monthly joint meter readings	kWh	M	Monthly	100%	Electronic/ paper	Power imported from the grid is measured by energy meters installed at APTRANSCO sub station on 24th day of every month. A monthly Joint Meter Reading (JMR) for the energy imported from the Grid is recorded by representatives of APTRANSCO (Grid operator) and project proponent (GSIL)
4	Diesel Consumption	Plant records	Litres/ yr	m	Monthly	100%	Electronic/ paper	Diesel in DG set is used only for emergency purposes (trail runs to maintain its running condition) and not for the power generation purpose in the project activity. The consumption records of Diesel in DG set for maintenance purposes can be cross checked with the log books and purchase records.
5	Electricity generation using diesel	Plant records	kWh	m	Monthly	100%	Electronic/ paper	The diesel consumption for emergency purposes & trial runs, and corresponding diesel consumption for electricity generation is monitored. The amount of electricity generated (if generated) on using diesel in DG set is recorded by energy meter attached to the set.

[2] Metering Date is subjected to the standards of the Agreement made with APTRANSO (as per the directions of Andhra Pradesh Electricity Regulatory Commission, Govt of AP).

6	Density of diesel	National Default values	kg/lit	e	Yearly	100%	Electronic/ paper	National Default value is considered for density of diesel. The value is based on standard values published by Central Electricity Authority (CEA) CO2 baseline database version 05 which is considered to be well documented reliable source. The appropriateness of the value is reviewed annually.
7	Net Calorific Value of diesel	IPCC 2006 default values	GJ/ton	e	Yearly	100%	Electronic/ paper	IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in table 1.2 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories. Any future revision of the IPCC Guidelines should be taken into account.
8	CO_2 emission factor of diesel	IPCC 2006 default values	tCO_2/ GJ	e	Yearly	100%	Electronic/ paper	IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories. Any future revision of the IPCC Guidelines should be taken into account.

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

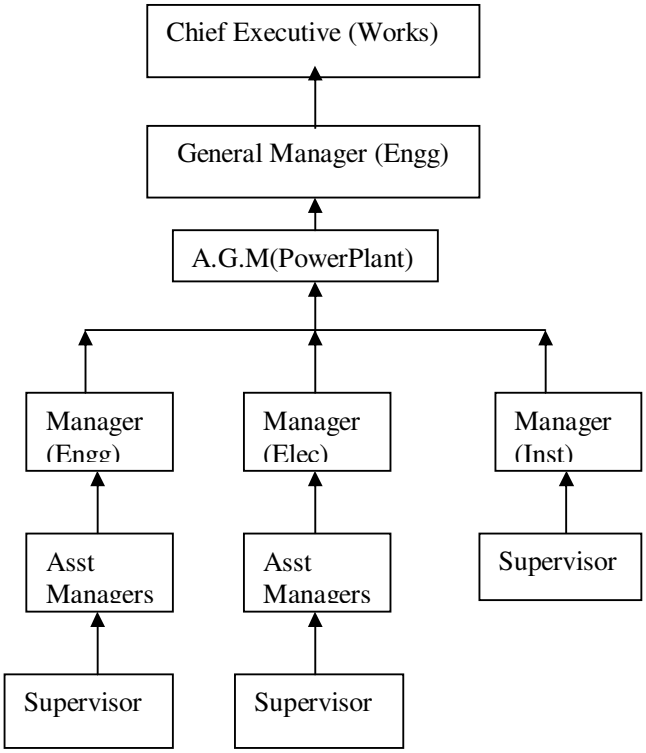
>>

Data *(Indicate table and ID number e.g. 3.-1.; 3.2.)*	Uncertainty level of data (High/Medium/Low)	Explain QA/QC procedures planned for these data, or why such procedures are not necessary.
1	Low	The Net electricity supplied to the grid by the project activity is calculated as: EGy = (Electricity exported to the grid after meeting captive & auxiliary power requirements) – (Electricity Import from the grid). Electricity exported to the grid and Electricity Import from the grid will be cross checked with the bills raised by the company as well as the payment details by the grid operator. Meters based with best accuracy procured from reputed manufacturers will undergo maintenance/calibration subject to appropriate industry standards. The Net electricity supplied to the grid by the project activity will be used for the CER computation purposes.
2	Low	This will be cross checked with the bills raised by the company as well as the payment details by the grid operator. Meters based with best accuracy procured from reputed manufacturers will undergo maintenance/calibration subject to appropriate industry standards.
3	Low	This will be cross checked with the bills raised by the company as well as the payment details by the grid operator. Meters based with best accuracy procured from reputed manufacturers will undergo maintenance/calibration subject to appropriate industry standards.
4	Low	The consumption of diesel can be cross checked with the log books to find whether DG set is used for power generation. Mostly diesel is used in the DG sets for keeping them in better running condition and rarely diesel may be used for emergency purposes, the amount of electricity generation from the DG set and corresponding diesel consumption for electricity generation is monitored.
5	Low	The amount of electricity generated (if generated) on using diesel in DG set is recorded by energy meter attached to the set. The consumption of diesel can be cross checked with the log books to find whether DG set is used for power generation. The diesel consumption for emergency purposes, the amount of electricity generation from the DG set and corresponding diesel consumption for electricity generation is monitored.
6	Low	Not Applicable Since the value is a national default value
7	Low	Not Applicable Since the value is a IPCC default value
8	Low	Not Applicable Since the value is a IPCC default value

D.5. Please describe briefly the operational and management structure that the project participant(s) will implement in order to monitor emission reductions and any leakage effects generated by the project activity:

>>

The GSIL's team will carry out Monitoring and recording of electricity data. Comprehensive systems are in place to accurately measure the electricity generated and exported to the grid on a continuous basis. This data will be signed off by the plant manager and then crosschecked against the payment records / details provided by the Grid operator.



The overall responsibility for ensuring the accuracy of the records as well as ensuring complete environmental integrity of the emissions reduction claims will rest with the Board, which has in turn appointed the Chief Executive (Works) to ensure that the details submitted are accurate.

Detail procedure of monitoring procedures, day to day recording, emergency preparedness etc is provided in Annex 4 of this document.

D.6. Name of person/entity determining the monitoring methodology:

>>

MR. MAHESH BARASIA
GANPATI SUGAR INDUSTRIES LIMITED
SANGA REDDY MONDAL, MEDAK DISTRICT, ANDHRA PRADESH, INDIA

SECTION E.: Estimation of GHG emissions by sources:

E.1. Formulae used:

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E.1.1 Selected formulae as provided in appendix B:

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No formula is used. Emissions by sources are zero since Baggase based cogeneration power is a zero CO2 neutral source of energy

E.1.2 Description of formulae when not provided in appendix B:

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Calculation of the project GHG emissions reductions applies a weighted average emissions factor for all the thermal plants that are operational on the Southern grid of India as of Mar 2005. Appendix B of the simplified M&P for CDM small-scale project activities does not provide specific formulae for the baseline for project Category I.D paragraph 7.The detailed description is provided in section E.1.2.4

E.1.2.1 Describe the formulae used to estimate anthropogenic emissions by sources of GHGs due to the project activity within the project boundary:

>>

Baseline Emissions:

Calculation of Baseline Emissions due to displacement of Electricity

$BE_{electricity,y} = EG_y \times EF_{electricity,y}$

where

$BE_{electricity,y}$	Are the baseline emissions due to displacement of electricity during the year y in tons of CO_2.
EG_y	Is the Net electricity supplied to the grid by the project activity during the year y in kWh.
$EF_{electricity,y}$	Is the CO_2 baseline emission factor for the electricity displaced due to the project activity in during the year y in tons CO_2/kWh.

Project Emissions:

The project activity is renewal based electricity generation and can only fire bagasse as fuel (The local regulation also constraint use of fossil fuels for the bagasse based co-gen system implemented in sugar industry) and the emission reductions are calculated based on the net electricity supplied to the grid. Since it is not a cofired plant, the amount of fossil fuel input to the project activity need not to be monitored.

Fossil fuel combustion (diesel) in standby DG sets during trial runs and maintenance activities only (not for power generation purpose in the project activity) is included as a monitoring parameter. The consumption records of Diesel in DG set for maintenance purposes can be cross checked with the log books and purchase records. If diesel is consumed for the project activity, the project emissions from the same are calculated as below:

Project emissions due to diesel consumption in DG set for electricity generation:

As per formula 1 provided in "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion", Version 02, CO_2 emissions from fossil fuel combustion is as follows:

$PE_{FC,j,y} = \sum FC_{i,j,y} \times COEF_{i,y}$

For the project activity, since the CO_2 emissions from fossil fuel combustion are only from diesel consumption for electricity generation. The above formula can henceforth be referred as:

$PE_y = FC_{diesel} \times COEF_{diesel}$

Where :

PE_y	Are the CO_2 emissions from diesel consumption during the year y (tCO_2/yr);
FC_{diesel}	Is the quantity of diesel consumed in process during the year y (tons/yr), which equals to the Quantity of diesel consumed in litres/yr times the density of diesel (ρ_{diesel}) in kg/lit and divide by 1000 kg/ton to convert the unit of FC_{diesel} to tons/yr.
$COEF_{diesel}$	Is the CO_2 emission coefficient of diesel in year y (tCO_2/ton). $COEF_{diesel}$ is based on Option B of "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion". $COEF_{diesel} = NCV_{diesel} \times EF_{CO2, diesel}$

Therefore, Project emissions due to diesel consumption for electricity generation (PE_y) can be calculated finally as follows:

$PE_y = FC_{diesel} \times NCV_{diesel} \times EF_{CO2, diesel}$

Where:

FC_{diesel}	Is the quantity of diesel consumed in process during the year y (tons/yr),
NCV_{diesel}	Is net calorific value of the diesel (GJ/ton)
$EF_{CO2, diesel}$	Is the CO_2 emission factor of diesel in year y (tCO_2/GJ)

Emission reductions from the project activity:
ER = Baseline Emissions – Project Emissions – Leakage

E.1.2.2 Describe the formulae used to estimate leakage due to the project activity, where required, for the applicable project category in appendix B of the simplified modalities and procedures for small-scale CDM project activities

>>
Not applicable for the project activity.

E.1.2.3 The sum of E.1.2.1 and E.1.2.2 represents the small-scale project activity emissions:

>>
The project emissions will depend on the quantity of diesel if consumed for electricity generation for the project. Since the diesel consumption for electricity generation is zero now, the project emissions from same is zero i.e., $PE_y = 0$ tCO2/yr. However, if any consumption of diesel for electricity generation identified, the project emissions are calculated as per the formula provided below:.

$PE_y = FC_{diesel} \times NCV_{diesel} \times EF_{CO2, diesel}$

Parameter	Description	Value	Unit
FC_{diesel}	Is the quantity of diesel consumed in process during the year y	0. Diesel in DG set is used only for emergency purposes (trail runs to maintain its running condition) and not for the power generation purpose in the project activity. If diesel is consumed for the project activity, the project emissions from the same are calculated	tons/yr
ρ_{diesel}	Is the density of diesel	0.83. Density of diesel is taken from standard values published by Central Electricity Authority (CEA) CO2 baseline database version 05.	kg/lit
NCV_{diesel}	Is net calorific value of the diesel	43.3GJ/ton. Value is taken from IPCC 2006 default values at the upper limit of the uncertainty at a 95% confidence interval as provided in table 1.2 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories. Any future revision of the IPCC Guidelines should be taken into account.	GJ/ton
$EF_{CO2, diesel}$	Is the CO_2 emission factor of diesel in year y	0.0748 tCO2/GJ. CO_2 emission factor of diesel is taken from IPCC 2006 default values at the upper limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories. Any future revision of the IPCC Guidelines should be taken into account.	tCO_2/GJ

E.1.2.4 Describe the formulae used to estimate the anthropogenic emissions by sources of GHGs in the baseline using the baseline methodology for the applicable project category in appendix B of the simplified modalities and procedures for small-scale CDM project activities:

>>

The project derives and calculates the baseline emission co-efficient on ex-ante basis and the actual electricity produced is metered ex-post.

Step1: Calculation of Operating Margin Emission Factor for the region based on Simple OM:

$EF_{OM,simple,y} = \sum F_{i,j,y} * COEF_{i,j,y} / \sum GEN_{j,y}$

where

$F_{i,j,y}$ Is the amount of fuel *i* (in a mass or volume unit) consumed by relevant power sources *j* in year(s) *y*.

j Refers to the power sources delivering electricity to the grid, not including low-operating cost and must-run power plants, and including imports[5] from the grid.

$COEF_{i,j\ y}$ Is the CO_2 emission coefficient of fuel *i* (tCO_2 / mass or volume unit of the fuel), taking into account the carbon content of the fuels used by relevant power sources j and the percent oxidation of the fuel in year(s) y.
$GEN_{j,y}$ Is the electricity (GWh) delivered to the grid by source *j.*

$COEF = NCVi * EF_{CO2,i} * OXIDi$
where
NCV_i Is the net calorific value (energy content) per mass or volume unit of a fuel *i.*
$EF_{CO2,i}$ Is the CO_2 emission factor per unit of energy of the fuel *i.*
$OXID_i$ Is the oxidation factor of the fuel (see page 1.29 in the 1996 Revised IPCC Guidelines for default values).

Step2: Calculation of Build Margin Emission Factor for the region (ex-ante):

$EF_{BM,y} = \sum F_{i,m,y} * COEF_{i,m} / \sum GEN_{m,y}$

where
$F_{i,m,y}$, $COEF_{i,m}$ Are analogous to the variables described for the simple OM method above for plants *m.* and $GEN_{m,y}$

Step 3: Calculation of Electricity Baseline Emission Factor:

$EF_{electricity,y} = w_{OM} * EF_{OM,y} + w_{BM} * EF_{BM,y}$

where the weights w_{OM} and w_{BM}, by default, are 50% (i.e., $w_{OM} = w_{BM} = 0.5$), and $EF_{OM,y}$ and $EF_{BM,y}$ are calculated as described in Steps 1 and 2 above and are expressed in tCO_2/kWh.

Step 4: Calculation of Baseline Emissions due to displacement of Electricity

$BE_{electricity,y} = EG_y \times EF_{electricity,y}$

Description	Value	unit
EG_y: Net electricity supplied to the grid by the project activity	54,523,000	kWh
$EF_{electricity,y}$ The Baseline Emission Factor of grid. Calculated on ex-ante basis and is the weighted sum of OM and BM Emission Factor (value is fixed throughout the first crediting period).	0.00093741	tCO2e / kWh

E.1.2.5 Difference between E.1.2.4 and E.1.2.3 represents the emission reductions due to the project activity during a given period:

>>
Emission reductions from the project activity are **3,39,865** tCO2 throughout the first crediting period

E.2 Table providing values obtained when applying formulae above:

>>

Year	2003	2004	2005	2006	2007	2008	2009
Baseline emissions, **E.1.2.4**, tCO_2	50328	33,983	51111	51111	51111	51111	51111
Project emissions, **E.1.2.3**, tCO_2	0	0	0	0	0	0	0
Emissions Reductions, **E.1.2.4 – E.1.2.3,** tCO_2	50328	33,983	51111	51111	51111	51111	51111

Annex 4

MONITORING PLAN

The Monitoring provides a range of data measurement, estimation and collection options/techniques in each case indicating preferred options consistent with good practices to allow project managers and operational staff, auditors, and verifiers to apply the most practical and cost-effective measurement approaches to the project. The aim is to enable GSIL project activity to have a clear, credible and accurate set of monitoring, evaluation and verification procedures. The purpose of these procedures would be to direct and support continuous monitoring of project performance/key project indicators to determine project outcomes, greenhouse gas (GHG) emission reductions.

The project revenue is based on the net electricity supplied to the grid by the project activity. Electricity exported to the grid and electricity imported from grid is measured by power meters, main and check meters at the high-tension substation of the APTRANSCO. The monitoring and verification system mainly comprise of these meters as far as power export is concerned. The Net electricity supplied to the grid by the project activity ($\mathbf{EG_y}$) = (Electricity exported to the grid after meeting captive & auxiliary power requirements) – (Electricity Import from the grid).

The GSIL project activity has employed the PLC (Programmable Logic Controller) system and Micro processor based instruments which will electronically monitor the main performance and output variables of the power plant, the systems for monitoring the CDM aspect of the project will draw extensively from the above system, monitoring and control equipment that measure, monitor and control various key parameters. All monitoring and control functions will be done as per the internally accepted standards and norms of GSIL. All instruments will be calibrated so that the accuracy of measurement can be ensured all the time.

MONITORED DATA: Parameters being monitored according to Monitoring Plan

i. **Net electricity supplied to the grid by the project activity** ($\mathbf{EG_y}$): The Net electricity supplied to the grid by the project activity is calculated as: $\mathbf{EG_y}$ = (Electricity exported to the grid after meeting captive & auxiliary power requirements) – (Electricity Import from the grid). Total units exported to the grid and imported from the grid are measured by energy meters installed at APTRANSCO sub station on 24th day of every month and recorded by representatives of APTRANSCO (Grid operator) and project proponent (GSIL in a monthly Joint Meter Reading (JMR). The Net electricity supplied to the grid by the project activity ($\mathbf{EG_y}$) will only be considered for CERs calculation purpose.

ii. **Electricity exported to the grid**: Power supplied to the grid (i.e., Electricity exported to the grid after meeting captive & auxiliary power requirements) is measured by energy meters installed at APTRANSCO sub station on 24th day of every month. A Joint Meter Reading (JMR) for the energy exported to the Grid is recorded by representatives of APTRANSCO and Company and the readings are jointly signed by both the parties as a proof of export of Power to the grid from power plant. Billing is based on meter readings provided at substation. Since the billing is based on the measurements at substation and it is more conservative, the parameters were taken from monthly joint meter readings (which is verified by APTRANSCO and jointly signed with PP).

iii. **Electricity Import from the grid**: Power imported from the grid is measured by energy meters installed at APTRANSCO sub station on 24th day of every month. A Joint Meter Reading (JMR) for the energy imported from the Grid is recorded by representatives of APTRANSCO and Company and the readings are jointly signed by both the parties as a proof of import of Power from grid by the power plant. Billing is based on meter readings provided at substation. Since the billing is based on the measurements at substation and it is more conservative, the parameters were taken from monthly joint meter readings (which is verified by APTRANSCO and jointly signed with PP).

iv. **Diesel Consumption:** Diesel in DG set is used only for emergency purposes (trail runs to maintain its running condition) and not for the power generation purpose in the project activity. The diesel quantity and source are maintained at the point of entry by stores department. Diesel once received by stores department will be issued to DG set department as and when required. Stores department maintains receipt, issue data everyday in excel sheet and takes issue slips from DG set department for the issued Quantity. The amount of diesel consumed by DG set is measured by using a level measuring gauge in the tank and the same is cross verified with the issue slips and same is compiled into monthly reports.

v. **Electricity generation using diesel:** The monthly diesel consumption for emergency purposes & trial runs, the amount of electricity generation from the DG set (Rating 750KVA) and corresponding diesel consumption for electricity generation is monitored. The amount of electricity generated (if generated) on using diesel in DG set is recorded by energy meter attached to the set. Hence it is assured that both consumption details of diesel and generation details of DG are monitored. The monthly diesel consumption for emergency purposes, the amount of electricity generation from the DG set and corresponding diesel consumption for electricity generation is monitored. Project emissions due to diesel consumption for electricity generation are calculated and will be deducted from emission reductions.

vi. **Density of diesel**: National Default value is considered for density of diesel. The value is based on standard values published by Central Electricity Authority (CEA) CO2 baseline database version 05 which is considered to be well documented reliable source. The appropriateness of the value is reviewed annually.

vii. **NCV of diesel**: IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in table 1.2 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories. Any future revision of the IPCC Guidelines should be taken into account.

viii. **CO_2 emission factor of diesel**: IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories. Any future revision of the IPCC Guidelines should be taken into account.

INFORMATION OF MONITORING EQUIPEMENTS AND ITS POSITIONING FOR ALL MONITORING PARAMETERS

Description	Main Meter	Check Meter	DG set Energy meter
Accuracy Class	Class 0.2	Class 0.2	Class 1.0
Location	Kandi Substation	Kandi Substation	Energy meter attached to the DG set in plant
Purpose	To measure the electricity exported to APTRANSCO and electricity imported from APTRANSCO grid.	It is a stand by meter for export and import of electricity	It is used to measure the electricity generation from the DG set

MONITORING APPROACH

The general monitoring principles are based on:

Frequency
Reliability
Registration and reporting

Frequency of monitoring

The project developer has installed all metering and check metering facilities within the plant premises as well as in the grid substation where exported power is connected to the grid. The electricity details are being recorded on monthly basis and measured on continuous basis by both APTRANSCO and the project developer..

Reliability

The amount of emission reduction units is proportional to the net energy generation from the project. Thus the final kWh meter reading is the final value from project side. All measurement devices are with best accuracy procured from reputed manufacturers. Since the reliability of the monitoring system is governed by the accuracy of the measurement system and the quality of the equipment to produce the result all power measuring instruments is calibrated once a year for ensuring reliability of the system. Therefore the system ensures the final generation is highly reliable.

Registration and reporting

Daily and monthly reports are prepared stating the generation. In addition to the records maintained by the GSIL, APTRANSCO also monitors the power exported to the grid and certify the same.

VERIFICATION

The performance of the bagasse based power project leads to CO_2 emission reductions. In other words, the longer the cogeneration power plant runs and exports power to the grid more would be the emission reductions. The GSIL project activity has employed PLC (Programmable Logic Controller) system and Micro processor based instruments which will electronically monitor the main performance and output

variables of the power plant, the systems for monitoring the CDM aspect of the project will draw extensively from the above system, monitoring and control equipment that measure, monitor and control various key parameters. All monitoring and control functions will be done as per the internally accepted standards and norms of GSIL. All instruments will be calibrated so that the accuracy of measurement can be ensured all the time. The major activities to be verified are as under

- Verification of various measurement and monitoring methods
- Verification of instrument calibration methods
- Verification of data generated.
- Verification of measurement accuracy

CDM MONITORING SYSTEM PROCEDURES TO BE IMPLEMENTED

Procedure name	Purpose	Responsibility & Description
Procedure for training monitoring personnel	To establish a system for training and awareness of staff on monitoring and recording of clean development mechanism (CDM) related data	This procedure outlines the steps to ensure that staff receives adequate training to collect and archive complete and accurate data necessary for CDM monitoring. Orientation/induction training will be conducted for all new operational staff. All the Managers and General Managers are responsible for this task. Specialized training will be provided to operators for operating the power plant and for recording the parameters in accordance with the Monitoring and Verification (M&V) system as required by the CDM project design document (PDD) On job training will be conducted by Supervisor for operators. Supervision and follow up will be done to ensure that the operators are fully aware of the monitoring and recording requirements under CDM. Training records will be maintained and initiated
Procedures for handling of records	To establish a procedure for handling or records pertaining to CDM project in order to ensure that they can be easily retrieved.	This procedure provides details of the sites data and record keeping arrangements. The arrangements ensure that complete and accurate records are retained by the CDM Manager. Data and records will be stored and archived according to this procedure. Identify information/data/record that need to be maintained as per the monitoring plan and prepare a list for records as per the M&V protocol including the details of the retention period Maintain active files/registers/books for this data indexed in a manner to enable easy retrieval of specific data/record Ensure that the records are legible, are not lost/damaged and are

		kept in safe custody, with access to authorized personnel. Ensure that the records are kept at the known locations; Maintain an index of files/records at the locations for easy retrieval of the file /record. Make available the records to the designated operational entity (DOE) within the retention period as agreed in the M & V protocol. Review the records at the end of the retention period and decide on the records to be retained in archives and records to be disposed off.
Procedures for Emergency Preparedness and Response	To establish a system to deal with emergency situations, in order to minimize hazards to the environment during the operation of the CDM project.	Identify potential hazardous and emergency situations for the activities of different areas in consultation with the concerned heads/ managers Make all concerned personnel aware of all the aspects & conditions that may lead to emergency situations In the on site emergency plan all the emergency conditions, preparedness and response plan is described
Procedure for Maintenance and Calibration of Monitoring Equipment	To establish a system for maintaining and calibrating the monitoring equipments that, record the parameters pertaining to the CDM project.	This procedure outlines the steps to provide regular and preventative maintenance to the measurement equipments and details the process of organizing and managing the calibration process. The procedure includes details of how a suitable company or organization is commissioned to undertake the calibration. The equipments should be calibrated as the reliability of the monitoring system is governed by the accuracy of the measurements system and quality of equipment used All instruments will be calibrated once in either one year or as per prescribed and marked at regular intervals so that the accuracy of measurements can be ensured at all times All the instruments should carry tag plates that indicate the date of calibration and date of next calibration
Procedure for monitoring measurement and reporting	To establish a procedure for monitoring measurements and reporting, as per the CDM requirements All monitoring measurements and reports as per the	The various measurements that need to be observed and recorded will be identified as provided Section D3 of the PDD The measurements of power generated, power import and power exported will be recorded and monitored on a continuous basis. The data would be thus registered into softcopies for recording purposes. Hourly data logging will be made on paper on power generation,

	monitoring and verification protocol defined in Section D3 of the PDD	and power exported to the state grid, Daily, and monthly reports of the same would be prepared. Invoices / receipts of purchase of diesel from contractors will be retained and filed
Procedures for internal audit of GHG project compliance	To establish a procedure for an internal audit before actual verification of emission reductions	The internal audit and team will review all the records pertaining to power generation, power exported, checking monitoring equipments for accuracy and whether calibration was performed. The internal GHG audit will be conducted once in a year. The manager in association with the Supervisor shall answers all the queries raised by the internal audit team. The internal audit team will produce an audit report providing details of concerns that need to be attended to immediately before actual verification by the external verifier.
Procedure for Corrective actions	To establish a procedure for taking corrective actions for ensuring accuracy for future monitoring and reporting	The Manager shall ensure that the corrective actions proposed by the internal audit team is built into the system so that errors in data collections/ monitoring/ recording are eliminated Manager shall inform that Supervisor regarding that corrective actions and it's appropriate implementation in the future months