

MONITORING REPORT FOR WIND POWER PROJECT AT ANTHIYUR, TAMIL NADU

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Project Title	Wind Power Project at Anthiyur, Tamil Nadu
Version	03
Report ID	NSL682
Date of Issue	13-December -2017
Project ID	682
Monitoring Period	08-February - 2010 to 31-March-2016
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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The project activity is a 14.85 MW wind farm consisting of 9 Vestas (India) Pvt. Ltd. WTGs of NM82/1650 kW capacity each. The project activity is implemented in the Anthiyur Village of Udumalpet and Pollachi Talukas of Coimbatore District in state of Tamil Nadu. The project activity involves implementation of WTGs as a voluntary measure to strengthen the regional grid of India through wind power generation potential available to India. The generated electricity shall be fed into the Tamil Nadu Electricity Board (TNEB). The electricity generation from the project activity is free of GHG emissions since wind energy (a zero emission source) is harnessed for electricity generation. However, in the baseline scenario, in the absence of the project activity the electricity would have been generated from the power stations operating in the grid. The commissioning date of each of the WTGs along with their H.T. Service Number is provided below;

Location Name	S.F. Nos	HT. Service Number	Date of commissioning
NSL 1	38&39/3	751	31.03.2005
NSL 2	150/3A2,150/3B,158/1	752	31.03.2005
NSL 3	104/1&109/1	754	31.03.2005
NSL 4	56/1C,47/8&56/1B	788	29.04.2005
NSL 5	431/3	753	31.03.2005
NSL 6	95/2,95/3&95/4	808	17.05.2005
NSL 7	17&18	728	30.03.2005
NSL 8	2/1	755	31.03.2005
NSL 9	254/A1,255/2B,255/2C	690	26.03.2005

The total emission reductions achieved in this monitoring period from 08-February- 2010 to 31-March-2016 are 175,420 tCO₂.

1.2 Sectoral Scope and Project Type

Sectoral scope : 01, Energy Industries (renewable- /non-renewable sources)
Project Type : I, Renewable energy projects

The project is not a grouped (but a bundled of 9 WTGs) project activity.

1.3 Project Proponent

Organization name	M/s Nuziveedu Seeds Limited
Contact person	Mr. A. Rajnikant
Title	DGM – Power Division
Address	#8-2-684/2/A, NSL ICON, Road No. 12, Banjara Hills, Town / City: Hyderabad, Andhra Pradesh, PIN: 500034, India.
Telephone	+91 40 3051 4444
Email	rajnikant.a@nslpower.com

1.4 Other Entities Involved in the Project

NA

1.5 Project Start Date

26 March 2005 (Date on which the project began reducing or removing GHG emissions i.e. the commissioning date of the project)

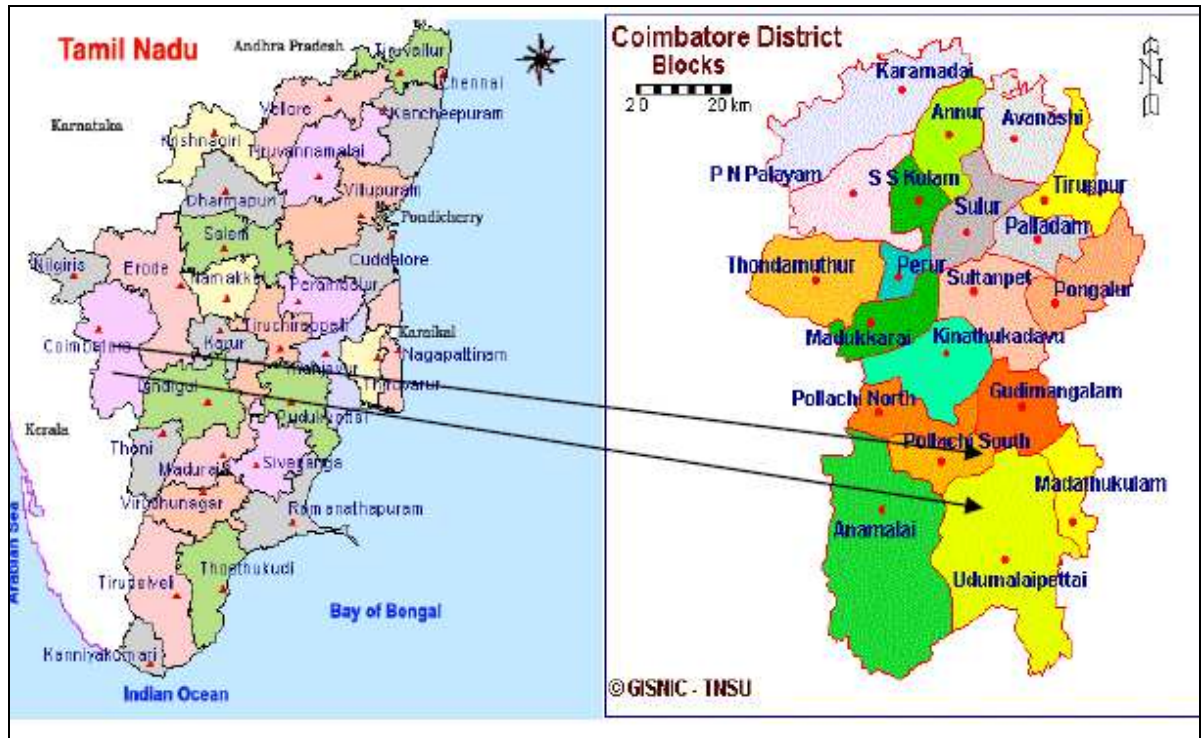
1.6 Project Crediting Period

The proposed crediting period under VCS is as follows:

Duration of crediting period : 10 years.
Start date of the crediting period : 01 April 2006
End date of the crediting period : 31 March 2016.

1.7 Project Location

The 14.85 MW wind farm is located near Anthiyur Village of Udumalpet and Pollachi Talukas of Coimbatore District in Tamil Nadu. This wind farm is located 60 Km south – east of Coimbatore, Tamil Nadu. The altitude of wind farm is 380 m.



Location of Project:

S. No	Location Name	S.F. Nos	Village Name	Taluk Name	Co-ordinates			HT. Service Number
					North	East	Altitude in metres	
1	NSL1	38&39/3	Koolanayakan Patti	Pollachi	10°36'49.6"	77°09'15.3"	385	751
2	NSL2	150/3A2,150/3B,158/1	Gomangalam Puthoor	Pollachi	10°37'21.4"	77°09'30.0"	380	752
3	NSL3	104/1&109/1	Gomangalam Puthoor	Pollachi	10°36'48.2"	77°09'51.0"	386	754
4	NSL4	56/1C,47/8&56/1B	Gomangalam Puthoor	Pollachi	10°37'01.2"	77°09'45.6"	383	788
5	NSL5	431/3	Gomangalam	Pollachi	10°37'15.5"	77°09'52.9"	379	753
6	NSL6	95/2,95/3&95/4	Gomangalam Puthoor	Pollachi	10°36'39.6"	77°10'07.7"	385	808

7	NSL7	17&18	Venasa Patti	Udumal pet	10°37' 11.7"	77°11' 25.2"	383	728
8	NSL8	.2/1	Venasa Patti	Udumal pet	10°37' 27.5"	77°11' 21.0"	379	755
9	NSL9	254/A1, 255/2B, 255/2C	Pannai Kinaru	Udumal pet	10°38' 33.8"	77°11' 02.9"	364	690

1.8 Title and Reference of Methodology

Title: Grid connected Renewable Electricity Generation

Reference: AMS I.D., Version 14.0

1.9 Other Programs

Project has not been applied under any other GHG or any related programs.

1.10 Sustainable Development

Project's contribution to sustainable development:

The project primarily assists the region as a whole in stimulating and accelerating the commercialization of grid connected renewable energy technologies.

The project activity contributes to the sustainable development in the following way:

Social well being: Enhancing local employment in the rural area around the project. Capacity building and empowerment of vulnerable sections of the rural community dwelling in the project area.

Economical well being: During the construction and operation phases, the project activity would generate small business opportunities for local stakeholders such as bankers, suppliers, manufacturers and contractors.

Environmental well being: This project activity contributes to sustainable development through generation of eco-friendly power resulting in the increase of the share of renewable energy power generation in the regional and national grid. It would aid in strengthening India's rural electrification coverage. Wind power projects also aid in reducing GHG emissions and other pollutants (SO_x, NO_x, PM etc).

Technological well being: The project activity helps in increasing the share of renewable energy power generation in the regional and national grid. The project activity also, encourages clean, renewable and efficient technologies.

2 IMPLEMENTATION STATUS

2.1 Implementation Status of the Project Activity

The implementation status of the project activity(s), includes the following information:

- The project activity has been in operation since its date of commissioning. There is no any event of break down or non-operational phase during the monitoring period.
- There are no any other changes related to the project proponent or project observed. Project is implemented and operational as per the VCS Project description submitted.

2.2 Deviations

2.2.1 Methodology Deviations

Not Applicable

2.2.2 Project Description Deviations

During this monitoring period there was delay in meter calibration. As described under Section 3.3, in table. Hence, this delay has been considered under temporary project description deviation for the project. However, this delay has been addressed by applying required error factors (i.e. Export and Import values) for the entire respective months which is conservative and is in line with the requirements of VVS for PA version 1.0, para 369(a) of CDM.

2.3 Grouped Project

Not Applicable (as the project is not a grouped project)

2.4 Safeguards

2.4.1 No Net Harm

This is simple bundle wind project, there is no net harm.

2.4.2 Local Stakeholder Consultation

As per Project Description of project (Page 35, section 06 stakeholder comments), NSL identified the following local stakeholders to be associated with the project activities, directly or indirectly.

The typical groups of the stakeholders identified are

- Employees of the TNEB
- Local people
- Farmers
- Contractors (Vestas (India) Pvt. Ltd.)

All the stakeholders were informed about the agenda, venue and date of the meeting through notices issued 15 days prior to the meeting. Further, a project concept note, which gives a clear idea on the project activity including the measures taken under the project and the benefits achieved by the project, was also issued along with the notice as information to the concerned stakeholders.

The consultation meeting was conducted by the project proponent on 21st April 2008 at the Anthiyur Village in Tamil Nadu at the wind farm site office. The stakeholder consultation meeting at Anthiyur wind farm site was attended by participants representing various groups of the stakeholder (as mentioned above), details on the participants has been recorded. The meetings started with a brief presentation on Clean Development Mechanism under Kyoto Protocol. There after it was explained to the stakeholder as how the wind farm project by the project proponent has lead to significant reduction in emissions of greenhouse gases either directly or indirectly and hence how it helps in contributing to the global efforts towards combating global warming. The project proponent further explained the other sustainable development benefits associated with the project. The stakeholders viewed the project proponent as a reputed company contributing to local socio-economy. Overall there was unanimous agreement that the proposed project was a beneficial project from sustainability viewpoint.

Description of how comments by local stakeholders have been invited and compiled

Concerns and responses as recorded during the meeting at the sites of the wind farm area: All the stakeholders were happy in knowing that a project activity in their locality is contributing to a global cause and they commended the project proponent management for their initiatives in the areas of climate change and sustainable development. In particular, the stakeholders lauded the project promoters for the environment friendly power generation using wind.

Summary of the comments received

The stakeholder meeting was conducted at the project proponent's plant site at Anthiyur and was attended by the residents of the nearby villages, the employees of the project proponent and representative of relevant Electricity Board. Summary of the comments received from the stakeholders

Local Population: The villagers expressed their pleasure with the setting up of the power project as it had provided the rural population with permanent employment opportunities. Indirect employment generated as result of the project activity was highlighted by the villagers. The increase in the land prices subsequent to the setting up of the project was a welcome boon for the villagers.

Representative of relevant Electricity Board: Stated the setting up of the power project has helped in reducing the transmission & distribution losses.

Employees: The local population hired for the project activity are pleased with the employment opportunity available to them which was absent in the region prior to the commissioning of the plant.

Report on how due account was taken of any comments received

No account of the comments was taken as all the received comments were positive.

3 DATA AND PARAMETERS

3.1 Data and Parameters Available at Validation

Data / Parameter	EF _{Grid,CM}
Data unit	tCO ₂ /MWh
Description	Combined margin CO ₂ Emission Factor
Source of data	Central Electricity Authority:CO ₂ Emission Database CEA CO ₂ Baseline database Version 04
Value applied	0.9269
Justification of choice of data or description of measurement methods and procedures applied	The combined margin emissions factor is calculated as follows: $EF_{Grid,CM} = W_{OM} * OM + W_{BM} * BM$ The following default values should be used for w_{OM} and w_{BM}: For Wind power generation project activities: $w_{OM} = 0.75$ and $w_{BM} = 0.25$ for the selected crediting period Data compiled in CEA CO₂ CDM database is in line with the requirements of "Tool to calculate the emission factor for an electricity system".
Purpose of the data	Calculation of baseline emissions
Comments	The Combined Margin would be calculated ex ante and fixed during the crediting period.

3.2 Data and Parameters Monitored

For the project activity, the following parameters are being monitored on continuous basis:

Data / Parameter	EG Gross,y
Data unit	kWh
Description	Gross Electricity export to the grid by the project during the year y
Source of data	From the certified joint meter readings
Description of measurement methods and procedures to be applied	Gross electricity generated by each WTG is recorded with the aid of energy meter for that WTG. The procedures for metering and meter reading will be as per the provisions of the power purchase agreement.

Frequency of monitoring/recording	The parameter will be monitored continuously and recorded at least monthly.																
Value monitored	Monitoring Value year wise as <table border="1"> <thead> <tr> <th>Year</th><th>Value (kWh)</th></tr> </thead> <tbody> <tr> <td>2010</td><td>37,569,791</td></tr> <tr> <td>2011</td><td>34,763,187</td></tr> <tr> <td>2012</td><td>41,893,255</td></tr> <tr> <td>2013</td><td>32,352,362</td></tr> <tr> <td>2014</td><td>25,219,202</td></tr> <tr> <td>2015</td><td>16,769,555</td></tr> <tr> <td>2016</td><td>2,258,919</td></tr> </tbody> </table> Total = 190,826,271 kWh	Year	Value (kWh)	2010	37,569,791	2011	34,763,187	2012	41,893,255	2013	32,352,362	2014	25,219,202	2015	16,769,555	2016	2,258,919
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2015	16,769,555																
2016	2,258,919																
Monitoring equipment	Energy Meter																
QA/QC procedures to be applied	QA/QC procedures will be as implemented by TNEB – state government utility. The meters used are calibrated annually to ensure accuracy of data.																
Purpose of the data	Used to calculate baseline emissions																
Calculation method	Same as mentioned under the description of measurement methods																
Comments	All records relating to the project are kept in a secure and retrievable manner for atleast two years after the end of the project crediting period.																

Data / Parameter	EG _{net,y}
Data unit	MWh/year
Description	Net electricity supplied to the grid
Source of data	Monthly joint Energy Meter Reading Reports of 9 energy meters covering 9 numbers of WTG
Description of measurement methods and procedures to be applied	Continuous measurement and monthly recording. The monitoring of 'net Electricity supplied to the grid' would be as per the details provided in Power Purchase Agreement signed between the TNEB and NSL. The HTSC No. for the individual or group of turbines represents the unique identification of the joint meter. The net electricity supplied to the grid is calculated by the summation of the net electricity export figures of individual WTGs.

Frequency of monitoring/recording	The parameter will be monitored continuously and recorded at least monthly.																
Value monitored	Monitoring Value year wise as <table border="1"> <thead> <tr> <th>Year</th><th>Value (MWh)</th></tr> </thead> <tbody> <tr><td>2010</td><td>37,391</td></tr> <tr><td>2011</td><td>34,524</td></tr> <tr><td>2012</td><td>41,647</td></tr> <tr><td>2013</td><td>32,110</td></tr> <tr><td>2014</td><td>24,981</td></tr> <tr><td>2015</td><td>16,498</td></tr> <tr><td>2016</td><td>2,143</td></tr> </tbody> </table> Total = 189,295 MWh	Year	Value (MWh)	2010	37,391	2011	34,524	2012	41,647	2013	32,110	2014	24,981	2015	16,498	2016	2,143
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2012	41,647																
2013	32,110																
2014	24,981																
2015	16,498																
2016	2,143																
Monitoring equipment	Energy Meter																
QA/QC procedures to be applied	Every month these meter readings will be recorded by TNEB representative and plant personnel. The meters at the substation will be two-way meters and will be in the custody of TNEB. The quantity of net electricity supplied will be cross-verified from the invoice raised on TNEB by the project proponent																
Purpose of the data	Used to calculate baseline emissions																
Calculation method	Same as mentioned under the description of measurement methods																
Comments	All records relating to the project are kept in a secure and retrievable manner for atleast two years after the end of the project crediting period.																

Data / Parameter	EG _{import,y}
Data unit	kWh
Description	Electricity imported from the grid by the project during the year y
Source of data	From the certified joint meter readings
Description of measurement methods and procedures to be applied	Calculated as measurement from the energy meters available at the generation points.
Frequency of monitoring/recording	The parameter will be monitored continuously and recorded at least monthly.
Value monitored	Monitoring Value year wise as

	Year	Value (kWh)
	2010	178,858
	2011	238,820
	2012	246,058
	2013	241,919
	2014	237,729
	2015	271,696
	2016	115,956
Total = 1,531,038 kWh		
Monitoring equipment	Energy Meter	
QA/QC procedures to be applied	The electricity imported by the individual WTG is recorded. The electricity imported is adjusted against the gross export by the project activity to the grid. To be cross-checked with monthly invoices or receipts of payments.	
Purpose of the data	Used to calculate baseline emissions	
Calculation method	Same as mentioned under the description of measurement methods	
Comments	All records relating to the project are kept in a secure and retrievable manner for atleast two years after the end of the project crediting period.	

3.3 Monitoring Plan

Purpose of monitoring

The purpose of monitoring is to measure the gross electricity exported, net electricity supplied to the grid and the electricity imported from the project activity to verify the emission reductions.

Types of data and information to be reported, including units of measurement

The approved monitoring methodology (AMS-1.D version 14) requires monitoring of the gross electricity exported, net electricity supplied to the grid and the electricity imported from the project activity.

Origin of the data

The source of the data on monitoring parameters is certified joint meter readings.

Metering Equipment

Metering system - Energy Meter for each WTG for metering the exported electricity to the grid and imported electricity from grid system

Data Monitoring:

The data is monitored at the main meter of each WTG.

1. Equipment:

The main meter is an Energy Meter of accuracy class (0.5%). The meters will have capability of recording half-hourly and monthly readings.

2. Meter readings:

The monthly meter readings at the project site and receiving station are taken simultaneously by the site personnel and electricity board personnel every month. A document indicating number of kilo-watt-hours indicated by meter will be prepared and signed by officials of the electricity board and operating Office.

a) Accuracy:

All meters installed at the project site are of 0.5% accuracy class. Each meter is jointly inspected and sealed in the presence of both the parties. The accuracy of monitoring parameter is ensured by adhering to the calibration and testing procedure as described in the QA/QC procedures described for each parameter in Section 3.3 below. The project will adhere to all the mandatory regulatory and statutory requirements at the state as well as national level. The data will be archived for a period of 2 years after the end of the crediting period in the hard copy format.

b) Testing:

All meters are tested for accuracy every year in accordance with the electricity standards. The consumption by equipments / electricity exported to the grid registered by main meters hold good for purpose of billing as long as errors in main meters are within the permissible limits.

Energy Meter Calibration Details:

Sl. No.	Name	HTSC No.	Energy Meter - S.No	Make	Accuracy Class	Type	Date of Calibration	Calibration Delay Month
1	NSL-1	751	KAB 10100	Secure	0.5s	E3V055	27/10/2010	Feb 2010 to Oct 2010
			TN902583	Secure	0.2s	E3M025	23/11/2011	Oct 2011 to Nov 2011

			TN902583	Secure	0.2s	E3M025	06/04/2014	Nov 2012 to April 2014
			4321904	Genus	0.2s	03D-183 (DLMS)	08/05/2017	April 2015 to April 2016
2	NSL 2	752	04954987	Elster	0.5s	ALPHA D+	27/10/2010	Feb 2010 to Oct 2010
			TN902589	Secure	0.2s	E3M025	14/12/2011	Oct 2011 to Dec 2011
			TN902589	Secure	0.2s	E3M025	06/04/2014	Dec 2012 to April 2014
			4321911	Genus	0.2s	03D-183 (DLMS)	08/05/2017	April 2015 to April 2016
3	NSL 3	754	04954988	Elster	0.5s	ALPHA D+	27/10/2010	Feb 2010 to Oct 2010
			TN902584	Secure	0.2s	E3M025	23/11/2011	Oct 2011 to Nov 2011
			TN902584	Secure	0.2s	E3M025	06/04/2014	Nov 2012 to April 2014
			4321912	Genus	0.2s	03D-183 (DLMS)	08/05/2017	April 2015 to April 2016
4	NSL 4	788	TNB 03828	Secure	0.5s	E3V055	27/10/2010	Feb 2010 to Oct 2010
			HT2110233	Wallaby	0.2s	MK6E	14/09/2011	No Delay
			HT2110233	Wallaby	0.2s	MK6E	06/04/2014	Sep 2012 to April 2014

			4321910	Genus	0.2s	03D-183 (DLMS)	08/05/2017	April 2015 to April 2016
5	NSL 5	753	04691234	Elster	0.5s	ALPHA JL	27/10/2010	Feb 2010 to Oct 2010
			HT2110234	Wallaby	0.2s	MK6E	06/04/2014	Oct 2011 to April 2014
			15198077	L&T	0.2s	ER200P	25/11/2015	April 2015 to Nov 2015
			4321907	Genus	0.2s	03D-183 (DLMS)	08/05/2017	No Delay
6	NSL 6	808	04681455	Elster	0.5s	ALPHA JL	27/10/2010	Feb 2010 to Oct 2010
			HT2110232	Wallaby	0.2s	MK6E	14/09/2011	No Delay
			HT2110232	Wallaby	0.2s	MK6E	06/04/2014	Sep 2012 to April 2014
			4321909	Genus	0.2s	03D-183 (DLMS)	08/05/2017	April 2015 to April 2016
7	NSL 7	728	KAB05700	Secure	0.5s	E3V055	27/10/2010	Feb 2010 to Oct 2010
			TN902590	Secure	0.2s	E3M025	22/11/2011	Oct 2011 to Nov 2011
			TN902590	Secure	0.2s	E3M025	06/04/2014	Nov 2012 to April 2014
			4321903	Genus	0.2s	03D-183 (DLMS)	08/05/2017	April 2015 to April 2016
8	NSL-8	755	04862925	Elster	0.5s	ALPHA D+	27/10/2010	Feb 2010 to Oct 2010

			TN902591	Secure	0.2s	E3M025	06/04/2014	Oct 2011 to April 2014
			4321905	Genus	0.2s	03D-183 (DLMS)	08/05/2017	April 2015 to April 2016
9	NSL-9	690	04862925	Elster	0.5s	ALPHA D+	27/10/2010	Feb 2010 to Oct 2010
			TN902592	Secure	0.2s	E3M025	06/04/2014	Oct 2011 to April 2014
			4322619	Genus	0.2s	03D-183 (DLMS)	08/05/2017	April 2015 to April 2016

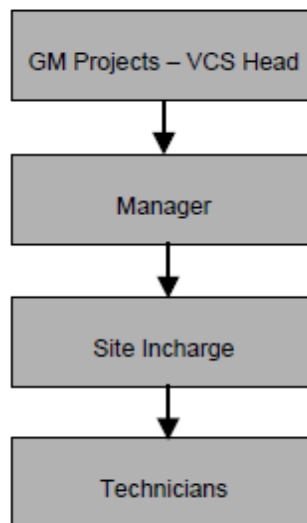
There are delay addressed by applying required error factors (i.e. Export and Import values) for the entire respective months which is conservative and is in line with the requirements of VVS for PA version 1.0, para 369(a) of CDM.

3. Billing:

A daily generation report is prepared by site personnel. As discussed the meters are capable of storing readings, which is submitted to the state electricity board along with the cumulative meter reading for the wind farm. This is maintained by the state authorities. These readings are used to determine line losses as well as power exported to the grid.

Monitoring roles and responsibilities

The operational and management structure implemented by NSL is as follows:



The General Manager (GM) is the head of the VCS team and would be responsible for coordinating with the manager and ensures that the monitoring is carried out in a transparent and accurate manner. The manager coordinates with the site in charge and the technicians and takes care of all the day to day activities of the plant and is responsible for testing the equipment, billing and archiving the data. The site in charge and the technicians are responsible for recording the operation and downtime hours of the project activity.

The monitoring team is also responsible for the following:

- Overall maintenance of the WTGs
- Calculation of actual creditable emission reduction in the most transparent and relevant manner
- For claims and settlement of electricity payment from the state utility every month
- Renewal of contracts with OEMs, insurance etc
- Periodical meter checking, calibration etc
- Meet the training needs of the personnel other than from the O&M contract at site
- Extracting, checking and Maintenance of data both manual and electronic form and preservation for the entire crediting period

The authority and responsibility of project overall project coordination in relation to the VCS validation would be with the project proponent.

Procedures for internal audit and Management review:

An internal audit of the project activity would be done on an annual basis by a special audit team. The audit team would comprise competitive persons who would be appointed by the General Manager in charge.

The audit team after the audit would submit their observations to the Manager for his review and necessary action. The Manager would instruct the VCS team to take the required corrective action if any, suggested by the audit team.

Procedures for corrective actions for better future monitoring and reporting:

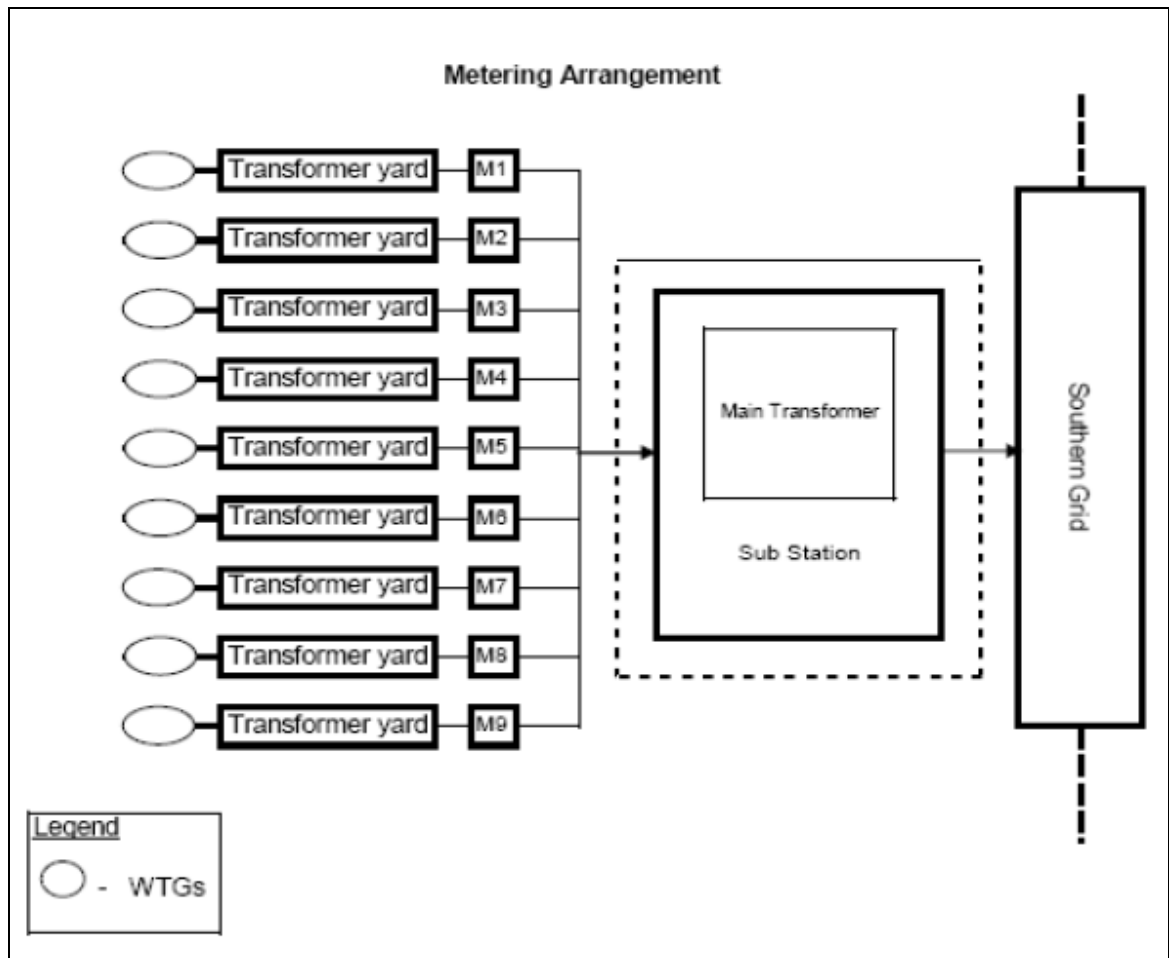
Errors or deviations will be identified during the annual internal audits. The VCS team Head (i.e., General Manager in charge) would take up these matters during the annual VCS team meetings (that normally would happen a few days after internal audit reports are prepared and submitted). The root cause of these errors would be discussed and appropriate action would be taken for better future monitoring and reporting. The corrective actions may include:

- Training of monitoring personnel where ever required
- Replacement or repair of equipments

Procedures for maintenance of monitoring equipments:

- The Site Engineer would conduct a physical inspection of all the energy meters once a month
- Any maintenance requirements would be immediately attended
- The energy meters will undergo a preventive maintenance one a year
- The responsibility of maintenance will be with the Site Engineer
- Maintenance history card would be maintained for all energy meters

The schematic diagram of the project activity is as given below:



4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants connected to the Southern Grid that are displaced by the project activity. The Baseline Emissions would be calculated using the formula

$$BE_y = EG_{BL,y} \times EF_{CO_2}$$

Where,

BE_y is Baseline Emissions in year y (tCO₂e/y)

$EG_{BL,y}$ is Energy Baseline in year y, kWh

EF_{CO_2} is CO₂ Emission Factor in year y; t CO₂ / kWh

Baseline Emissions = 189,295 MWh x 0.9269 tCO₂/MWh = 175,420 tonnes of CO₂

4.2 Project Emissions

As per methodology, for wind power projects PEy = 0 tonnes of CO₂

4.3 Leakage

As per the methodology, no leakage is considered from the project activity.

4.4 Net GHG Emission Reductions and Removals

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
Year 2010	34,653	0	0	34,653
Year 2011	31,994	0	0	31,994
Year 2012	38,597	0	0	38,597
Year 2013	29,757	0	0	29,757
Year 2014	23,149	0	0	23,149
Year 2015	15,286	0	0	15,286
Year 2016	1,984	0	0	1,984
Total	175,420	0	0	175,420

APPENDIX I: < POWER EXPORTED AND POWER IMPORTED BY WTGS OF NSL>

Month	EG Gross,y (Gross Electricity export to the grid by the project during the year y.) (kWh)	EG import,y (Electricity imported from the grid by the project during the year y) (kWh)	EG net,y (Net electricity supplied to the grid (MWh)	Baseline Emissio n Factor (tCO2/M Wh)	Baseline emissio ns (tCO2)	Project emissi ons (tCO2)	Leakag e emissi ons (tCO2)	Emissio n Reducti ons (tCO2)
Mar.10	704,946	32,835.36	672.11	0.9269	622	0	0	622
Apr.10	1,508,611	26,507.88	1,482.10	0.9269	1,373	0	0	1,373
May.10	1,751,908	28,192.26	1,723.72	0.9269	1,597	0	0	1,597
Jun.10	5,966,299	6,042.06	5,960.26	0.9269	5,524	0	0	5,524
Jul.10	6,365,966	637.38	6,365.33	0.9269	5,900	0	0	5,900
Aug.10	7,268,762	3,280.32	7,265.48	0.9269	6,734	0	0	6,734
Sep.10	6,993,680	1,278.36	6,992.40	0.9269	6,481	0	0	6,481
Oct.10	3,365,603	17,796.54	3,347.81	0.9269	3,103	0	0	3,103
Nov.10	3,390,156	17,264.00	3,372.89	0.9269	3,126	0	0	3,126
Dec.10	253,860	45,024.00	208.84	0.9269	193	0	0	193
SubTotal	37,569,791	178,858	37,391	0.9269	34,653	-	-	34,653
Jan.11	751,076	33,604.00	717.47	0.9269	665	0	0	665
Feb.11	902,548	28,052.00	874.50	0.9269	810	0	0	810
Mar.11	691,164	26,888.00	664.28	0.9269	615	0	0	615
Apr.11	1,425,888	29,584.00	1,396.30	0.9269	1,294	0	0	1,294
May.11	1,773,068	26,328.00	1,746.74	0.9269	1,619	0	0	1,619
Jun.11	4,874,576	3,864.00	4,870.71	0.9269	4,514	0	0	4,514
Jul.11	6,577,548	1,004.00	6,576.54	0.9269	6,095	0	0	6,095
Aug.11	6,607,488	2,264.00	6,605.22	0.9269	6,122	0	0	6,122
Sep.11	5,195,508	2,060.00	5,193.45	0.9269	4,813	0	0	4,813
Oct.11	4,641,171	2,241.16	4,638.93	0.9269	4,299	0	0	4,299
Nov.11	753,175	44,659.74	708.52	0.9269	656	0	0	656
Dec.11	569,977	38,271.34	531.71	0.9269	492	0	0	492
SubTotal	34,763,187	238,820	34,524	0.9269	31,994	-	-	31,994
Jan.12	664,885	35,744.50	629.14	0.9269	583	0	0	583
Feb.12	686,260	35,012.85	651.25	0.9269	603	0	0	603
Mar.12	1,134,108	30,673.10	1,103.43	0.9269	1,022	0	0	1,022
Apr.12	1,521,259	36,624.00	1,484.63	0.9269	1,376	0	0	1,376
May.12						0	0	

	2,940,103	19,935.00	2,920.17	0.9269	2,706			2,706
Jun.12	7,147,381	2,405.20	7,144.98	0.9269	6,622	0	0	6,622
Jul.12	7,179,232	1,161.60	7,178.07	0.9269	6,653	0	0	6,653
Aug.12	6,698,118	1,343.20	6,696.77	0.9269	6,207	0	0	6,207
Sep.12	6,754,673	1,402.60	6,753.27	0.9269	6,259	0	0	6,259
Oct.12	5,588,758	3,205.60	5,585.55	0.9269	5,177	0	0	5,177
Nov.12	1,063,742	37,111.42	1,026.63	0.9269	951	0	0	951
Dec.12	514,736	41,439.22	473.30	0.9269	438	0	0	438
SubTotal	41,893,255	246,058	41,647	0.9269	38,597	-	-	38,597
Jan.13	847,105	33,445.28	813.66	0.9269	754	0	0	754
Feb.13	886,619	30,098.30	856.52	0.9269	793	0	0	793
Mar.13	1,004,878	27,654.46	977.22	0.9269	905	0	0	905
Apr.13	1,177,746	40,018.40	1,137.73	0.9269	1,054	0	0	1,054
May.13	2,290,568	22,425.92	2,268.14	0.9269	2,102	0	0	2,102
Jun.13	6,719,371	2,565.26	6,716.81	0.9269	6,225	0	0	6,225
Jul.13	6,340,692	1,964.16	6,338.73	0.9269	5,875	0	0	5,875
Aug.13	4,725,551	3,165.96	4,722.38	0.9269	4,377	0	0	4,377
Sep.13	3,607,762	8,296.52	3,599.47	0.9269	3,336	0	0	3,336
Oct.13	2,996,090	2,524.68	2,993.57	0.9269	2,774	0	0	2,774
Nov.13	1,529,667	18,539.02	1,511.13	0.9269	1,400	0	0	1,400
Dec.13	226,314	51,221.30	175.09	0.9269	162	0	0	162
SubTotal	32,352,362	241,919	32,110	0.9269	29,757	-	-	29,757
Jan.14	666,726	28,560.04	638.17	0.9269	591	0	0	591
Feb.14	775,008	18,999.04	756.01	0.9269	700	0	0	700
Mar.14	411,624	38,491.56	373.13	0.9269	345	0	0	345
Apr.14	1,202,824	24,398.38	1,178.43	0.9269	1,092	0	0	1,092
May.14	1,304,520	23,100.00	1,281.42	0.9269	1,187	0	0	1,187
Jun.14	4,012,780	3,560.00	4,009.22	0.9269	3,716	0	0	3,716
Jul.14	5,629,180	1,960.00	5,627.22	0.9269	5,215	0	0	5,215
Aug.14	4,755,840	3,060.00	4,752.78	0.9269	4,405	0	0	4,405
Sep.14	3,001,540	6,920.00	2,994.62	0.9269	2,775	0	0	2,775
Oct.14	2,460,960	18,340.00	2,442.62	0.9269	2,264	0	0	2,264
Nov.14	593,580	38,820.00	554.76	0.9269	514	0	0	514
Dec.14	404,620	31,520.00	373.10	0.9269	345	0	0	345

SubTotal	25,219,202	237,729	24,981	0.9269	23,149	-	-	23,149
Jan.15	277,060	34,920.00	242.14	0.9269	224	0	0	224
Feb.15	412,960	21,820.00	391.14	0.9269	362	0	0	362
Mar.15	358,840	32,520.00	326.32	0.9269	302	0	0	302
Apr.15	346,027	25,791.48	320.24	0.9269	296	0	0	296
May.15	305,368	20,981.88	284.39	0.9269	263	0	0	263
Jun.15	1,349,216	16,352.64	1,332.86	0.9269	1,235	0	0	1,235
Jul.15	3,255,376	2,144.28	3,253.23	0.9269	3,015	0	0	3,015
Aug.15	4,936,427	2,505.00	4,933.92	0.9269	4,573	0	0	4,573
Sep.15	2,688,512	19,318.56	2,669.19	0.9269	2,474	0	0	2,474
Oct.15	2,288,474	13,847.64	2,274.63	0.9269	2,108	0	0	2,108
Nov.15	357,204	43,767.36	313.44	0.9269	290	0	0	290
Dec.15	194,090	37,727.44	156.36	0.9269	144	0	0	144
SubTotal	16,769,555	271,696	16,498	0.9269	15,286	-	-	15,286
Jan.16	558,666	27,889.68	530.78	0.9269	491	0	0	491
Feb.16	354,068	30,153.96	323.91	0.9269	300	0	0	300
Mar.16	648,065	30,414.44	617.65	0.9269	572	0	0	572
Apr.16	698,120	27,498.21	670.62	0.9269	621	0	0	621
SubTotal	2,258,919	115,956	2,143	0.9269	1,984	-	-	1,984
Grand Total	190,826,271	1,531,038	189,295		175,420	-	-	175,420

please note "Mar 10" reflect the monitoring data for 'month of February 2010' , this is represented as consistent with energy statement description and title by state electricity board. same is followed all month, hence for last month of this vcs monitoring period shows "April 2016" which is actually data end up-to March 2016 month.