

VERIFICATION OF “GROUPED WIND POWER PROJECT IN INDIA”



EPIC Sustainability Services Pvt. Ltd.

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Summary:

EPIC Sustainability Services Pvt. Ltd. (hereinafter called ESSPL) has conducted the fifth verification of the VCS project entitled “Grouped Wind Power Project in India” (VCS registry Number 429).

The verification includes confirming the implementation of the monitoring plan of the registered VCS-PD and the application of the monitoring methodology as per Consolidated baseline methodology for grid-connected electricity generation from Renewable Sources” ACM 0002 – Version 10, EB 47. The verification was done based on Verified Carbon Standard (VCS) version 3.4 for the period starting from 1st November 2011 to 31st December 2013.

Project activity deals with the generation of electricity using wind energy by means of Wind Turbine Generator (WTG). The project utilizes wind energy for generating electricity which otherwise would have been generated through alternate fuels (fossil fuel) based power plants, contributing to reduction in specific emissions (emissions of pollutant/unit of energy generated) including GHG emissions.

The verification scope is defined as a periodic independent review and ex post determination by the Validation Verification Body (VVB) of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases

1. Desk review of the registered project document including the baseline and the monitoring plan;
2. Physical site inspection and follow-up interviews with project stakeholders;
3. Resolution of outstanding issues and the issuance of the final verification report including verification opinion.

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using EPIC’s internal procedures. On the basis of the physical site inspection of the project activity and review of the documents submitted by the project participant, the Verification team confirms that, for the VCS verification period from 01/11/2011 to 31/12/2013, the project has been implemented as planned and described in the registered VCS PD. The necessary equipment’s, installed for generating emission reductions in the project activity, runs reliably and the measuring equipment’s, essential for the measurement of electricity generated from the power plant have been verified to be calibrated in line with the calibration procedures in the validated Project Document.

This verification report pertains to the VCS monitoring period starting from 01/11/2011 to 31/12/2013 (including both days). one Corrective Action Requests (CARs) and Two Clarification Requests (CLs) were raised during this verification activity. All the CARs/CLs have been successfully closed by the verification team based on the satisfactory response from the project participant. The verification team confirms that total GHG reductions achieved during the current monitoring period are **2,20,512** tCO₂e and that emission reductions are calculated without material misstatements.

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1 INTRODUCTION

1.1 Objective

MITCON Consultancy & Engineering Services Ltd. has contracted EPIC Sustainability Services Pvt. Ltd.(ESSPL) to verify the Verified Emission Reduction (VERs) of the project “Grouped Wind Power Project in India” (hereafter referred to as “the Project”), which is located in states of Maharashtra, Rajasthan, Gujarat, Karnataka and Tamil Nadu for the Monitoring period from 01/11/2011 to 31/12/2013, for its fifth VCS Verification.

The verification scope is defined as a periodic independent review and ex post determination by the Validation Verification Body (VVB) of the monitored emission reductions in GHG emissions during the defined verification period leading to the certification of the greenhouse gas (GHG) emission reductions achieved by the project activity. The verification scope consisted of the following:

1. Review of the Implementation of the project activity in conformance with the requirements of the Project Document
2. Verification of the Monitoring systems in line with the requirements of the Project Document and assessment of their functionality
3. Assurance that the emission reductions generated by the project are verifiable and credible

The verification was carried out based on the requirements of the VCS standard version 3.4^{/1/} and VCS Validation Verification Manual version 3.1^{/2/} based on information made available to EPIC and a written assurance is provided on the GHG emission reductions achieved for the period specified.

1.2 Scope and Criteria

The scope of the verification covers independent objective review and ex-post determination of the monitored GHG emission reductions by the project activity “Grouped Wind Power Project in India”.

The VCS Verification is based on verification of information in the VCS PD, the Project's baseline study and Monitoring Report (MR) and other relevant documents. The information in these documents is reviewed against VCS Standard Version 3.4 requirements, and other latest guidelines issued by VCSA.

The specific scope of the verification work involves:

- I. To verify that the project activity is implemented as per the project details of the validated project document (VCS PD) dated ^{/3/}.

- II. To assess whether the emissions reductions determined are in conformance with the monitoring plan of the PD and the approved methodology “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” ACM 0002 – Version 10, EB 47”.
- III. To express a conclusion whether reported data are accurate, complete, consistent, and transparent with a reasonable level of assurance and free of omission or material error, based on the review of the reported data and emission reduction calculations.

The project is assessed against the verification requirements of VCS standard version 3.4 including the criteria that the emission reductions are real, measurable, transparent and conservative. The approach adopted by EPIC’s verification team is risk-based, drawing on an understanding of the risks associated with reporting of GHG emissions data and the controls in place to mitigate these.

The verification scope is defined as an independent and objective review of the voluntary emission reductions not meant to provide any consulting towards the client. However, stated requests for forward actions and/or corrective actions may provide input for improvement of the Project monitoring towards reductions in the GHG emissions. The work carried out by ESSPL is free from any conflict of interest.

The request for issuance of Verified Carbon Units (VCUs), verified and certified by ESSPL, shall be made by the project proponent to the VCS registry in accordance with the most recent version of the “VCS Guidance Document: VCS Project Registration and VCU Issuance process”. In view of the above, ESSPL’s responsibility is limited only to verification and certification of the GHG emission reductions achieved during the specified period.

1.3 Level of Assurance

In line with requirements of VCS standard version 3.4 and as per ISO 14064-3:2006 paragraph A.2.3.2, a “reasonable level of assurance” is defined for the verification of the project.

This implies that, based on the process and procedures conducted, review of the VCS-PD, the VCS Monitoring Report (MR), supporting evidences made available to the verifier and information collected through performing interviews and during the on-site assessment, ESSPL confirms that the GHG assertion in the monitoring report.

- is materially correct and is a fair representation of the GHG data and information, and
- is prepared in accordance with VCS requirements, the validated VCS PD and the approved methodology for information pertaining to GHG quantification, monitoring and reporting.

The verification work is carried out as per this requirement and details are presented in the Verification statement in section 2 below.

1.4 Summary Description of the Project

This project is set up to produce clean power from the wind electric converters which leads to reduced greenhouse gas (GHG) emissions as it displaces electricity from fossil fuel based

electricity generation plants. It is a bundled wind power project with the total capacity of “Grouped Wind Power Project in India”^{13/}. The project activity which was conceptualised as registered consisted of 72 project promoters which comprised installation of total 111 No’s WTGs ranging from 0.225 to 1.5 MW The aggregate capacity of project was 74.9 MW consisting 68.875 MW grid-connected and 6.025 MW captive renewable electricity generations.

Further as M/s Jsons Foundry Private Limited & M/s Western Precicast Pvt. Ltd have withdrawn their eight WTGs for Tamil Nadu site relating to capacity of 1.8 MW (8 X 0.225 MW) during monitoring period July 2010 to Oct 2011, the project activity consists of total 103 numbers of WTGs of 73.10 MW. The details of the project activity are as below:

Sr. No.	Name of Project Promoter	WTG Unique ID No.	GPS coordinates	WTG location-Village	District
1	Pragati Agencies	G-316	17°01’N 74°35’E	Dahiwadi	Sangli
2	Umang Textiles	W-06	17°08’N 74°59’E	Nagaj	Sangli
3	Ankur Textiles	W-19	17°08’N 74°59’E	Shelkewadi	Sangli
4	Vandana Textiles	W-20	17°08’N 74°59’E	Kundlapur	Sangli
5	Sun Irrigation System (P) Ltd.	W-18	17°08’N 74°59’E	Shelkewadi	Sangli
6	Jathar Textiles Pvt Ltd.	W-22	17°08’N 74°59’E	Kundlapur	Sangli
7	B. C. Chadrashekhhar	W-26	17°08’N 74°59’E	Kundlapur	Sangli
8	B.C. Shivakumar	W-52	17°08’N 74°59’E	Garjewadi	Sangli
9	Aerolex Cablenet	G-324	17°08’N 74°59’E	Jarandi	Sangli
10	B. S. Channabasappa& Sons	G-334	17°08’N 74°59’E	Tisangi	Sangli
11	Air Control (India) Pvt. Ltd.,	GP-99	16°46’N 73°86’E	Sonawade	Sangli
12	Bengal Cardboard Industries & Printers Pvt. Ltd.	K-318	20°98’N 73°86’E	Aichale	Dhule
13	Chaphekar Engineering Pvt. Ltd.	GP-42	16°46’N 73°86’E	Shirsatwadi	Sangli
14	Economic Explosives Limited.	K -505	16°36’N 74°25’E	Vavad	Nandurbar
15	Jsons Founry Private Limited	GP102	17°01’N 74°35’E	Sonawade	Sangli
16	Jsons Founry Private Limited	GP101	17°01’N 74°35’E	Sonawade	Sangli
17	Jsons Founry Private Ltd.	GP31	17°01’N 74°35’E	Charan	Sangli
18	Western Precicast Pvt Limited	K -437	21°11’N 74°13’E	Chakla	Nandurbar
19	Metal Link Alloys Limited	K -258	16°46’N 73°86’E	Amkhel	Dhule
20	Naik Sea Foods Limited	K -308	20°98’N 74°31’E	Aichale	Dhule
21	RDS Construction Company	K -322	20°98’N 74°31’E	Aichale	Dhule
22	Silverline Investment Co. Pvt. Ltd.	K-317	20°98’N 74°31’E	Aichale	Dhule
23	Sushila Overseas,	W-23	17°01’N 74°31’E	Shelkewadi	Sangli
24	Vostok (Fareast) Securities	K-309	20°98’N 74°31’E	Aichale	Dhule

Sr. No.	Name of Project Promoter	WTG Unique ID No.	GPS coordinates	WTG location-Village	District
	Pvt. Ltd.				
25	Shree Ambica Auto Sales & Service	G-87	17°11' N 74°21'E	Jarandi	Sangli
26	Unirose Textile Processors Pvt. Ltd.	W-60	16°51' N 74°35'E	Tisangi	Sangli
27	B. S. C. Textiles	W-62	16°51' N 74°35'E	Tisangi	Sangli
28	P. Vijaya Kumar	W-30	16°51' N 74°35'E	Wagholi	Sangli
29	B. C. Umapathy (smaller HUF)	W-34	16°51' N 74°35'E	Nagaj	Sangli
30	P. Mohan Lal	W-33	16°51' N 74°35'E	Wagholi	Sangli
31	S. K. Veerbhadrappa & Co	W-04	16°51' N 74°35'E	Shelkewadi	Sangli
32	SreeVeerbhadrashwara Rice & Flour Mill	W-47	16°51' N 74°35'E	Garjewadi	Sangli
33	GEM Lab. Pvt. Ltd.	K-252	20°58' N 74°19'E	Amkhel	Dhule
34	GEM Lab. Pvt. Ltd.	J-119	20°58' N 74°19'E	Panhalipada	Dhule
35	Sri Anjaneya Cotton Mills Pvt. Ltd.	K-255	20°59' N 74°19'E	Amkhel	Dhule
36	Sri Anjaneya Cotton Mills Pvt. Ltd.	K-261	20°59' N 74°19'E	Amkhel	Dhule
37	Harshita Sales Corporation.	W-54	16°51' N 74°35'E	Garjewadi	Sangli
38	Ushahkal Nursing Home	W-15	16°51' N 74°35'E	Nagaj	Sangli
39	Mahabal Auto Ancillaries Pvt Ltd	G-360	16°52' N 74°34'E	Birenwadi	Sangli
40	Mahabal Metals Pvt. Ltd	K-536	21°11' N 74°13'E	Akrale	Nandurbar
41	MahalaxmiInfraprojects Limited	K-340	21°11' N 74°19' E	Gangapur	Nandurbar
42	Agarwal Packaging Pvt. Ltd.	G-206	16°59' N 74°07' E	Kundalpur	Sangli
43	Agarwal Packaging Pvt. Ltd.	GP-36	16°59' N 74°07' E	Panumbre	Sangli
44	Choudhary Exports	J-082	20°54' N 74°47' E	Jamde	Dhule
45	Runwal Developers Pvt. Ltd	K-06	21°11' N 74°19' E	Khori	Dhule
46	Runwal Developers Pvt. Ltd	K-12	21°11' N 74°19' E	Khori	Dhule
47	Kulkarni Power Tools Ltd.	J-078	21°16' N 73°56' E	Jamde	Dhule
48	P.M.P. Textiles Spinning Mills Limited	497	11°00' N 76°09'E	Anthiyur	Coimbatore
49	RCR Eco-Power	1163	08°16' N 77°42'E	Veppilankulam	Tirunelveli
50	RCR Eco-Power	1163	08°16' N 77°42'E	Myvadi	Tirunelveli
51	RCR Eco-Power	1202	08°16' N 77°42'E	Myvadi	Tirunelveli
52	RCR Eco-Power	2156	08°16' N 77°42' E	Thandayarkulam	Tirunelveli
53	RCR Eco-Power	2442	08°16' N 77°42' E	Kulayaneri	Tirunelveli
54	Shankarlal	2149	08°16' N 77°42' E	Veppilankulam	Tirunelveli
55	B. S. C. Textiles	1870	08°16' N 77°42' E	Veppilankulam	Tirunelveli

Sr. No.	Name of Project Promoter	WTG Unique ID No.	GPS coordinates	WTG location-Village	District
56	B. S. C. Textiles	1871	08°16' N 77°42' E	Perungudi	Tirunelveli
57	B. S. C. Textiles	2116	08°16' N 77°42' E	Perungudi	Tirunelveli
58	P. Vijaya Kumar	1904	08°16' N 77°42' E	Perungudi	Tirunelveli
59	P. Vijaya Kumar	1496	08°16' N 77°42' E	Thandayarkul um	Tirunelveli
60	O. B. Agarwal	2147	08°16' N 77°42' E	Veppilankulum	Tirunelveli
61	Radha-Mohan Processors	1872	08°16' N 77°42' E	Veppilankulum	Tirunelveli
62	Swadeshi Dyeing & Bleaching Mills Private Limited	1875	08°16' N 77°42' E	Veppilankulum	Tirunelveli
63	B. S. Channabasappa& Sons	1874	08°16' N 77°42' E	Veppilankulum	Tirunelveli
64	B. S. Channabasappa& Sons	1873	08°16' N 77°42' E	Veppilankulum	Tirunelveli
65	B. S. Channabasappa& Sons	2117	08°16' N 77°42' E	Veppilankulum	Tirunelveli
66	P. Mohan Lal	1740	08°16' N 77°42' E	Thandayarkul um	Tirunelveli
67	P. Mohan Lal	1505	08°16' N 77°42' E	Thandayarkulu m	Tirunelveli
68	Operational Energy group India (P) Pvt Ltd	1242	08°16' N 77°42'E	Veppilankulum	Tirunelveli
69	Operational Energy group India (P) Pvt Ltd	1242	08°16' N 77°42'E	Veppilankulum	Tirunelveli
70	Mahalingashetty& Co. Ltd.	D 62	10°21' N 77°57' E	Rajampatti	Dindigul
71	Sri Venkatachalapathy Spinning Mills Pvt. Ltd.	1602	08° 44' N 77°42'E	Karuvantha	Tiruneveli
72	Sri Venkatachalapathy Spinning Mills Pvt. Ltd.	16093	08° 44' N 77°42'E	Karuvantha	Tiruneveli
73	Choudhary Exports	1191	11° 21' N 77°44'E	Govindpuram	Erode
74	Ramraj Handlooms	1176	08°10' N 77°34' E	Karungulam	Tirunelveli
75	Ramraj Handlooms	1057	09°48' N 77°19' E	Uthupalayam	Erode
76	Ramraj Handlooms	1961	08°18' N 77°27' E	Azhagiapandi apuram	Tirunelveli
77	N. Sumati	401	10°58' N 77°17' E	Sellakarachal	Coimbatore
78	K. R. Nagarajan	400	10°58' N 77°17' E	Sellakarachal	Coimbatore
79	Air Control (India) Pvt. Ltd.,	SEL/600 /07-08/0906	21°63' N 69°06'E	Kuchhadi	Porbandar
80	Badawe Engineers Pvt. Ltd.	SEL/600 /07-08/0922	21°63' N 69°6' E	Kuchhadi	Porbandar
81	Pragati Glass Pvt. Ltd.,	SEL/125	22°46'N 70°06'E	Lamba	Jamnagar

Sr. No.	Name of Project Promoter	WTG Unique ID No.	GPS coordinates	WTG location-Village	District
		0/06-07/0237			
82	Siddharth Infra Tech Pvt. Ltd (Siddharth Construction)	SEL/600 /07-08/0904	21°63' N 69°60' E	Kuchhadi	Porbandar
83	Agarwal Enterprises	SEL/600 /07-08/0979	21°38' N 69°36' E	Visawada	Porbandar
84	Agarwal Enterprises	SEL/600 /07-08/0980	21°38' N 69°36' E	Visawada	Porbandar
85	Unique Sugars Ltd.	SEL/150 0/06-07/0441	23°11' N 68°54' E	Suthri	Kutch
86	Jaychandra Agro Industries Pvt. Ltd.	SEL/600 /06-07/0443	23°11' N 68°59' E	Sandhan	Kutch
87	Shree Ram Hotels	J-363	26°55' N 70°39' E	Pohra	Jaisalmer
88	ChhabraSyncotex Ltd	J-414	26°53' N 71°00' E	Sadiya	Jaisalmer
89	ChhabraSyncotex Ltd.	J-166	26°55' N 70°51' E	Barabaug	Jaisalmer
90	ChhabraSyncotex Ltd.	J-367	26°55' N 70°39' E	Pohra	Jaisalmer
91	Sona Processors (India) Ltd.	J-370	26°55' N 70°39' E	Pohra	Jaisalmer
92	Delhi Rajasthan Transport Co. Ltd.	J-141	26°55' N 70°51' E	Barabaug	Jaisalmer
93	Metro Cement and Mines Pvt. Ltd.	J-160	26°55' N 70°51' E	Barabaug	Jaisalmer
94	SarvodayaSuitings Ltd	J-49	26°91' N 70°90' E	Baramsar	Jaisalmer
95	SarvodayaSuitings Ltd	J-43	26°91' N 70°90' E	Baramsar	Jaisalmer
96	Free India Energy Ltd	J225	22°28' N 70°04' E	Soda	Jaisalmer
97	S C Shettar and Sons	K-303	15°12' N 75°53' E	Kappatgudda	Gadag
98	Swarna Constructions	K-304	15°12' N 75°53' E	Kappatgudda	Gadag
99	Suresh Kumar Sharma (HUF)	K-229	15°25' N 75°38' E	Kappatgudda	Gadag
100	BEML Limited	K-317	15°25' N 75°38' E	Bidnahal, Kappatgudda hills	Gadag
101	BEML Limited	K-318	15°25' N 75°38' E		Gadag
102	BEML Limited	K-319	15°25' N 75°38' E		Gadag
103	BEML Limited	K-320	15°25' N 75°38' E		Gadag

The Project harnesses renewable energy resource, displacing non-renewable natural resource usage thereby leading to sustainable social, economic and environmental development in the region.

The verification is done against the claimed total emission reductions of **2,20,512 tCO₂ e** achieved during the monitoring period (01/11/2011 to 31/12/2013, including first and last day).

2 Verification Process

2.1 Method and Criteria

The overall verification process, beginning from the Contract Review to Verification report, certification statement & opinion, was conducted using internal procedures of EPIC Sustainability Services Pvt. Ltd. (ESSPL). The project is already validated as a VCS project and hence the VCS verification was based on criteria as per VCS Standard 3.4.

The project activity applies approved baseline and monitoring methodology Consolidated baseline methodology for grid-connected electricity generation from Renewable Sources” ACM 0002 – Version 10, EB 47.^{/4/}

For verification of emission reductions the following steps were undertaken:

- Completeness check of the Monitoring Report and desk review of the supporting documents
- Onsite inspection conducted during 20th -24th June 2014.
- Resolution of findings and preparation of Final Verification Report

The team members involved in the VCS verification of the project activity are as follows:

Team member	Qualification	Competency	Document review	Site Visit	Resolution of issues	Technical Review
Mr. A. Prabu Das	Lead Auditor	TA 1.2 – (Renewables)	Yes	Yes	Yes	NA
Dr. Shilpy Singla	Auditor	TA 1.2 – (Renewables)	Yes	Yes	Yes	NA
Dr. G. Vishnu	Auditor & Evaluator	TA 1.2 – (Renewables)	Yes	Yes	Yes	NA
Mr. R. Vijaya Raghavan	Technical Reviewer	TA 1.2 – (Renewables)	Yes	NA	NA	Yes

2.2 Document Review

On receipt of the monitoring report from the PP, the completeness of information was checked as per VCS standard version 3.4^{/1/}. A desk review of the following documents was done:

- The validated VCS PD dated 13th November 2009^{/3/}
- The Monitoring Report , Version 01 dated 19th June 2014^{/7/}
- The revised Monitoring Report, Version 07 dated 18th October 2014^{/8/}

- The emissions reduction calculation sheets^{/9/ /10/}
- Other external documents like monthly billing invoices for the period from 01/11/2011 to 31/12/2013 for all WTGs^{/5/},
- Joint Meter Readings taken monthly for the period from 01/11/2011 to 31/12/2013 for all WTGs^{/6/}
- Commissioning certificates of all the turbines^{/11/}
- Grid emission factor from CEA database Version 04^{/15/}
- Calibration certificates for the WTGs^{/17/}

A complete list of all documents reviewed is attached in Appendix I of this report

2.3 Interviews

Multiple level interviews were conducted to assess understanding of project requirements and to determine if monitoring conducted in the field was implemented in accordance with the requirements in the validated PD.

The following list of persons were interviewed on the relevant topics by the verification team which visited onsite and office on 20th -24th June 2014.

Name	Company	Topics covered
Mr. Vivek Rajmane	Site Incharge, SISL (Maharashtra)	Project Description Monitoring Procedure
Ms. Tanushree Bagh	South pole Carbon Asset Management Ltd.	Project Description CDM requirements Calculation of ERs
Mr. H. Arumugam	O & M Personnel (Tamil Nadu)	QA/QC procedures
Mr. D. Reginald	Engineer, Suzlon Energy Limited (Tamil Nadu)	Operational procedures Monitoring Plan implementation Archiving of data Calibration
Mr. M.Vinu	Assistant Engineer, Suzlon Energy Limited (Tamil Nadu)	Data collection

The following sampling procedure has been adopted in order to verify the whole project based on which the On-site audit was conducted.

The total of 111 installed WTGs was divided into the following categories:

- Based on Location - States of Gujarat, Rajasthan, Maharashtra, Karnataka, and Tamil Nadu

- Based on Grid Connectivity – NEWNE Grid- States of Gujarat, Maharashtra, and Rajasthan
- Based on Grid Connectivity - Connected to the Southern Grid - States of Karnataka, and Tamil Nadu
- Capacity of the WTGs in MW - 0.225, 0.25, 0.35, 0.5, 0.6, 0.75, 0.85, 1.25, and 1.5 MW

The following WTGs were selected for sampling:

Sr. No.	Name of Project Promoter	WTG Unique ID No.	WTG location- Village	District	State
1	B.C. Shivakumar	W-52	Garjewadi	Sangli	Maharashtra
2	Harshita Sales Corporation.	W-54	Garjewadi	Sangli	Maharashtra
3	Unirose Textile Processors Pvt. Ltd.	W-60	Tisangi	Sangli	Maharashtra
4	B. S. C. Textiles	W-62	Tisangi	Sangli	Maharashtra
5	Shankarlal	2149	Veppilankulum	Tirunelveli	Tamil Nadu
6	P. Vijaya Kumar	1496	Thandayarkulum	Tirunelveli	Tamil Nadu
7	O. B. Agarwal	2147	Veppilankulum	Tirunelveli	Tamil Nadu
8	Radha-Mohan Processors	1872	Veppilankulum	Tirunelveli	Tamil Nadu
9	Swadeshi Dyeing & Bleaching Mills Private Limited	1875	Veppilankulum	Tirunelveli	Tamil Nadu
10	B. S. Channabasappa& Sons	1874	Veppilankulum	Tirunelveli	Tamil Nadu
11	B. S. Channabasappa& Sons	1873	Veppilankulum	Tirunelveli	Tamil Nadu
12	B. S. Channabasappa& Sons	2117	Veppilankulum	Tirunelveli	Tamil Nadu
13	P. Mohan Lal	1740	Thandayarkulum	Tirunelveli	Tamil Nadu
14	P. Mohan Lal	1505	Thandayarkulum	Tirunelveli	Tamil Nadu

15	Air Control (India) Pvt. Ltd.,	SEL/600/07-08/0906	Kuchhadi	Porbandar	Gujarat
16	Badawe Engineers Pvt. Ltd.	SEL/600/07-08/0922	Kuchhadi	Porbandar	Gujarat
17	Siddharth Infra Tech Pvt. Ltd (Siddharth Construction)	SEL/600/07-08/0904	Kuchhadi	Porbandar	Gujarat

Sampling is done according to the VCS program guidelines 2007.1/14/ and to the IAF (International Accreditation Forum) guide to ISO/IEC guide 66:1999/13/ rounded ($\sqrt{x}$); with 111 WTGs = 11.

Calculation review has been done for all the WTGs, however the minimum sampling number for the grouped project was for 17 WTGs which is more than the minimum number required for sampling considering the total number of WTGs in the bundle is 103.

The approach selected is in line with the registered validation report^{/12/} by Swiss Association for Quality and management Systems (SQS).

2.4 Site Inspections

The physical site inspection was performed by the verification team to cover the scope on:

1. Verification of physical location of the site and confirm the boundaries of the project activity
2. Implementation and operation of the project activity as per the description in the validated PD.
3. Recording and monitoring of data in line with the applied monitoring methodology ACM0002. Version 10.

2.5 Resolution of Findings

Based on the site inspection and review of records including the monitoring plan, a list of non-conformities; (Corrective Action Requests (CAR) –1 No.s and Clarification Requests (CLs) – 2) No.s were raised. The non-conformities could be related to lack of adherence to the VCS standard version 3.4 requirements, non-conformance to the monitoring plan of as defined in the VCS validated PD or where evidence provided is found insufficient to prove conformity. They could also be mistakes in applying data/ assumptions and in calculation of emission reductions.

- If information made available is insufficient to transparently arrive at the stated conclusion, a Clarification request (CL) is raised and communicated to the project proponent.

- Observations may also be raised which are for the benefit of future verification period (FAR). These, however, have no impact upon the completion of the current verification activity.
- On receipt of response from the project developer, the adequacy with compliance with VCS requirements is checked along with a revised monitoring report. Closure of comments raised occurs only if the response provided and correction made fully complies with the stated requirements of the methodology applied.

The list of CARs/ CLs raised and the response provided and reasons for closure are provided in Appendix-2.

2.5.1 Forward Action Requests

No forward action request is raised.

2.6 Eligibility for Validation Activities

Not applicable as the project activity has already been validated as per VCS standard 2007.1.

3 Validation Findings

Not applicable as the project activity has already been validated as per VCS standard 2007.1

3.1 Participation under Other GHG Programs

Not applicable as the project is participating only under VCS GHG program and also verified from the letter of undertaking^{16/} submitted by the PP.

3.2 Methodology Deviations

The project activity has already been validated as per VCS standard 2007.1. The project activity has applied ACM0002 Version 10. No methodology deviation is involved.

3.3 Project Description Deviations

The following deviations have been observed during this verification period. Following project promoters have sold their WTGs to BMC Company in March 2013 as summarised below which was verified from the letter of undertaking provided by MITCON:

Sr. No.	Project Promoters	WTG ID	Capacity	Location of WTG
1	Shankarlal	2149	0.225	Village: Veppilankulum District: Tirunelveli State: Tamil Nadu
2	B. S. Channabasappa & Sons	1874	0.225	
3	B. S. Channabasappa & Sons	1873	0.225	
4	B. S. Channabasappa & Sons	2117	0.225	

Further, the calibration certificates of the WTGs have been submitted and reviewed. The verification team has accepted the project deviation of applying the CEA guidelines for energy meter calibration which is the standard as issued by national regulatory authority of India. This approach is as per the Project standard guideline version 04, para 56(f) which states that “In cases where neither the selected methodology, nor the Board’s guidance specify any requirements for calibration frequency for measuring equipments, project participants shall ensure that the equipment’s are calibrated either in accordance with the local/national standards, or as per the manufacturer’s specifications. If local/national standards or the manufacturer’s specifications are not available, international standards may be used.

In the absence of the implementation of periodic calibration, the energy meters are subjected to CEA guidelines applicable to India, dated 17-03-2006 which state that “All interface meters shall be tested at least once in five years. These meters shall also be tested whenever the energy and other quantities recorded by the meter are abnormal or inconsistent with electrically adjacent meters. Whenever there is unreasonable difference between the quantity recorded by interface meter and the corresponding value monitored at the billing center via communication network, the communication system and terminal equipment shall be tested and rectified.”

As per this guideline the verification team has reviewed the validity of the calibration certificates (valid for a period of 5 years) as indicated in Appendix II of the Monitoring report. In case where the calibration is not valid, a correction factor is applied as per CDM validation and verification standard Version 07.0, i.e. VVS para 282 and 283. The application of this correction factor is conservative as It is to be noted that the Electricity has been billed and invoice has been raised as per energy meter readings and the electricity board have also paid the PP the bills for the monitoring period submitted for verification. No adjustments have been made due to the energy readings due to erroneous readings and full payment has been effected by the State Electricity board.

These changes have no impact on the following in relation to the implementation of project and its conformance to VCS 3.4 requirements:

- The applicability of the methodology.
- Additionally.
- The appropriateness of the baseline scenario.

3.4 Grouped Project

Not Applicable as the project activity is not a grouped project.

4 Verification Findings

4.1 Project Implementation Status

Discussion

As per the registered VCS PD^{/3/} the implementation of the project activity was carried out between the year 2005 and 2008. The first WTG was commissioned on 14th March 2004 and last one in 05th August 2008 as mentioned in the monitoring report^{/7/}. This was verified against the respective commissioning certificates^{/11/}.

The verification team has critically reviewed the implementation and operation of the project activity and found satisfactory the implementation apart from the delay in calibration for which appropriate correction factor and project deviation has been applied in the calculation of emission reductions.

Material discrepancies were not observed during the site visit with respect to the project implementation and the project description provided in the registered VCS PD.

Opinion:

The project activity has total aggregate capacity of 73.10 MW consisting of total 103 No's WTGs ranging from 0.225 to 1.5 MW. The same was verified during the site inspection and found to be correct confirming the implementation of the project activity. The implementation and operation of the project activity is also line with the registered VCS PD.

The calculation of Net Electricity was in line with the approach mentioned in the registered VCS PD^{/3/}, The verification team has checked the apportioning procedure calculation carried out by the authorised officers of the state utility and found the same to be correct and appropriate.

The verification team verified from the validation report^{/12/} and previous verification reports^{/13/} and confirms that the monitoring of the energy generation from the project activity is being carried out with energy meters located at the point of billing located either at the WTG yard itself or at the respective substations to which the WTGs are connected. The meters are of high accuracy class (0.2s and 0.5s) and monitor the electricity (export and import from the grid) on continuous basis with at least hourly measurement.

A Joint Meter Reading (JMR) report is prepared by the representatives of (buyer) and (seller) which become the basis for the monthly invoice raised towards net electricity supplied and calculation of the baseline emissions. The verification team confirms that monitoring requirement of the net electricity supplied to the grid is being met by the project participant.

Further, the verification team confirms that monitoring equipment's are running reliably and monitoring plan provided in the registered PD is being followed by the project participant. Further the following verifications as applicable to this section of the verification report are outlined below:

- It was verified whether the GHG emission reductions or removals generated by the project have become included in an emissions trading program or any other mechanism that includes GHG allowance trading. The Project has applied for GHG emission reductions under VCS scheme only. The same was verified by analysis of databases pertaining to GHG programs and confirmed by review of the undertaking letter issued by the PP to this effect during the verification process^{/16/}

- The project has not received or sought any other form of environmental credit, or has become eligible to do so since the validation. This is verified from the interviews conducted with the PP and the letter of undertaking^{/16/}.
- The project has not participated or been rejected under any other GHG programs since validation or previous verification. This is verified from the interviews conducted with the PP, review of the GHG program databases and the letter of undertaking^{/16/}.

The verification team is of the opinion that the project has been implemented as described in the project description and in line with VCS Standard ver 3.4 requirements.

The project participant has calculated the baseline emissions based on net electricity supplied to the grid from the project activity from 1st November, 2011 to 31 Dec. 2013. The baseline grid electricity emission factor value based on the CEA database available for NEWNE Grid and Southern Grid has been fixed ex ante at the time of validation of the project activity. The value of net electricity supplied to the grid was also cross-checked with invoices raised by the PP against the respective State Electricity Board for electricity exported to the grid. The net electricity supplied to the grid from the project activity for the current verification period from 1st November 2011 to 31st Dec. 2013 is 2,41,969 MWh. In order to calculate the monthly accrued baseline emissions, project participant multiplied the net electricity supplied to the grid by the baseline grid electricity emission factor of 0.906 tCO₂/MWh which is applicable for NEWNE Grid and 0.927 tCO₂/MWh which is applicable for Southern Grid.

The project participant has rounded down the accrued monthly baseline emissions for the current verification period. The verification team confirms that the total accrued baseline emissions for the current verification period starting from 1st November 2011 to 31st Dec. 2013 are 2,20,512 tCO₂ (rounded down) and the formula applied for the computation of the baseline emissions are correct and meets the requirements of the applied methodology ACM0002 version 10 and Tool to calculate emission factor for an electricity system, Version 1.1^{/18/}.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

The project activity applies the monitoring methodology ACM0002 version 10^{/4/}, which is properly implemented in the monitoring plan mentioned in the MR^{/2/} as well as being followed on-site. The monitoring mechanism is effective and reliable and inline to the monitoring methodology. An intense review of the MR^{/2/} was carried out along with which personnel involved at various levels of operation of the project activity were interviewed to confirm the implementation of the defined process. As per the VCS PD^{/3/}, parameters being monitored for this particular project activity are :

EGy	Net Electricity Generation
Monitoring Equipment	This is recorded by the state utility owned energy meters; these meters record both energy exported and energy imported by the WTGs of the project activity. Therefore, Net Electricity Export to grid = Electricity export to grid – Electricity import from grid – Electricity Losses, if any (Transmission and Distribution losses)

	apportioned by SEB based on the monitored values. For Maharashtra & Rajasthan: Having derived the electricity exported in to the grid ($G_{1\text{export}}$) and electricity imported from the grid ($G_{1\text{import}}$) for each WTG, the net electricity export ($G_{1\text{net export}}$) is derived as follows: $(G_{1\text{net export}}) = G_{1\text{export}} - G_{1\text{import}}$ The sum total of the net electricity export ($G_{1\text{export}} + G_{2\text{export}} + G_{3\text{export}} + \dots + G_{X\text{export}}$) value is reported/recorded in the monthly credit report/ generation report form which is used for billing electricity utility. This is the value which is referred as Electricity generated by the project activity and used for calculating emission reductions for the project. For Gujarat: Electricity generation is measured continuously by main meter located adjacent to the WTG in the switchyard and recorded monthly by state utility in presence of representative of client. There is transmission loss between the individual WTG and substation. This loss is proportionally divided among the WTGs connected to the meter on the basis of the prorata reading taken at the individual WTG meter. The final share certificate issued to the project proponent is based on the electricity generated minus losses. This is issued by state utility. The billing will be on monthly basis project proponent raise invoice and submit to GUVNL for payment based on Joint meter reading (certificate of share of electricity) certified by state utility at the end of each month for the energy supplied. For Tamil Nadu: The TNEB meter will be the main source for monitoring net export to the grid. Monthly reading from the TNEB meter will be recorded by the engineers of the state utility in presence of the O & M contractor who represents PP. Subsequently the statement will be prepared at TNEB (HTSC) metering point. $EG(\text{Net export by project activity}) = EG_{\text{JMR,export}} - EG_{\text{JMR,import}}$ For Karnataka: Net electricity export to grid is directly taken from certificate for share of electricity generated by wind farm.
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Measuring/ Reading/Recording frequency	Continuous measurement and monthly recording
Data collection	The data is obtained from the JMRs/ Credit reports issued by the respective state electricity utility.
Verified value, Unit	2,41,969 MWh
Cross checks	The values mentioned in the ER spread sheet ^{/5/} verified from the generation reports are cross-checked with the invoices ^{/12/} raised by the PPs for the payment.
QA/QC procedures	In the absence of the implementation of periodic calibration, the energy meters are subjected to CEA guidelines applicable to India, dated 17-03-2006 which state that “All interface meters shall be tested at least once in five years. These meters shall also be tested whenever the energy and other quantities recorded by the meter are abnormal or inconsistent with electrically adjacent meters. Whenever there is unreasonable difference between the quantity recorded by interface meter and the corresponding value monitored at the billing center via communication network, the communication system and terminal equipment shall be tested and rectified.” As per this guideline the verification team has reviewed the validity of the calibration certificates (valid for a period of 5 years) as indicated in Appendix II of the Monitoring report. In case where the calibration is not valid, a correction factor is applied as per CDM validation and verification standard Version 07.0, i.e. VVS para 282 and 283.

Discussion:

The onsite monitoring of parameters is found to be in line with the requirements of registered monitoring plan in the VCS PD^{/3/}. The general conditions set out for metering, recording, meter readings, meter inspections, test & checking and communication are defined by the respective state regulatory boards. Each meter is inspected and sealed by an official from state utility who also takes the meter reading and then translates it in the “Certificate for share of electricity/ Credit report” format^{/14/}, which indicates the net electricity exported. This forms the basis for the calculation of emission reductions.

The calibration certificates^{/17/} were reviewed for the WTGs and was found to be appropriate as per the recommended periodicity. In some cases as there was delay in the calibration for some of the PPs involved in the project at some point or the other (details are provided in annexure I) and therefore a conservative approach has been applied in the calculation of emission

reductions. The correction factor as applicable for 0.2 and 0.5 (meter accuracy class) in the generation was required to be adopted as per “Guidelines for assessing compliance with the calibration frequency requirements”, EB 52, Annex 60^{/14/}.

However, in the project case where there has been a delay in calibration or where calibration could not be traced a correction factor was applied twice the accuracy class of the energy meter.

Since the state executive board has remunerated the PP for the electricity supplied by the WTG as recorded by the meters, this has been accepted as a conservative approach. This was checked from the JMRs^{/6/} issued by the state utility and invoices^{/5/} raised by the PP. The values taken and calculation approach has been accepted by the verification team.

Assessment of Data and Calculation of GHG emission reductions: Emission reductions (ER) are calculated for the period 01/11/2011 to 31/12/2013 (including first and last day)

As per ACM0002, emission reduction is calculated as follows:

$$BE_y = EG_y * EF_y$$

For Maharashtra, Gujarat, and Rajasthan (NEWNE grid) State (01/11/2011 to 31/12/2013 vintage)

$$BE_y = 1,80,645 * 0.906$$

$$BE_y = 1,63,664 \text{ t CO}_2\text{e}$$

For Karnataka and Tamil Nadu State (01/11/2011 to 31/12/2013 vintage)

$$BE_y = 61,324 * 0.927$$

$$BE_y = 56,848 \text{ t CO}_2\text{e}$$

Total baseline emission for the project activity (01/11/2011 to 31/12/2013 vintage) is as follows:

$$BE_y = 2,20,512 \text{ t CO}_2\text{e}.$$

Project emission and leakage emissions are taken as zero as per ACM 0002 version 10

Project Emissions

Project emissions are considered to be zero which is acceptable and in line with requirements of ACM 0002 version 10.

Leakage Emissions

The project activity is a Greenfield project. The equipment's installed in the project activity are new and hence leakage is not applicable.

Emission Reductions

Based on the above-reported values of the baseline emissions and project emissions, the emission reductions accrued for the current verification period are 2,20,512 tCO₂. The verification team confirms that the baseline emissions, project emissions and emission reductions computed by the project participant are conservative and meet the requirements provided in the applied methodology ACM 0002 Version 10. The data and values applied in the monitoring report and emission reduction spread sheet are consistent. The default emission factors used by the project participant for emission reduction calculations are appropriate and in line with the requirements in the VCS PD. A summary of the baseline emissions, project emissions and emission reductions verified for the current verification period is provided in the Table below.

Period	Baseline Emission tCO ₂	Project Emission tCO ₂	Leakage Emission tCO ₂	Emission reductions tCO ₂
01/11/2011 to 31/12/2011	7,975	0	0	7,975
01/01/2012 to 31/12/2012	1,11,383	0	0	1,11,383
01/01/2013 to 31/12/2013	1,01,154	0	0	1,01,154
Total	2,20,512	0	0	2,20,512

the emissions are rounded down as a conservative estimate

The verification team is of the opinion that the GHG emission reductions and removals have been quantified correctly in accordance with the project description and requirement of the applied methodology.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The verification team confirms that a complete set of data for this monitoring period was available to be verified and was in accordance with the approved monitoring plan. The ex-post parameter to be monitored is the Net Electricity supplied to the grid by the project activity which is justified as follows:

Parameter	Source and nature	Reliability	Justification by verification team
Quantity of net electricity generation supplied by the project plant to the grid for this monitoring period (MWh)- $EG_{\text{facility},y}$	Monthly Generation Reports signed by the Plant personnel of respective State Electricity Boards of Maharashtra, Gujarat, Rajasthan, Tamil Nadu and Karnataka crosschecked with the Monthly JMR reports signed by the State electricity boards (internal and external)	High	The data is highly reliable as it is based on continuously monitoring using high accuracy class (0.2s and 0.5s) energy meters. A set of main and check meter is installed for all the feeders.

The data parameter used for the determination of Emission Reductions are discussed in section 4.2, all the data provided matches the recorded data and is in compliance with the monitoring report.

Based on the above information it is observed that the calibration frequency requirements of once in five years are met from date of installation of energy meters with regard to the current verification period for all the energy meters for all units. Further, as the replacement meters were of the same make and accuracy class there was no material impact on the emissions recorded.

Hence the verification team is of the opinion that with the data available there was sufficient quantity and appropriate quality with which the GHG reductions were determined and assessed.

4.4 Non-Permanence Risk Analysis

Non-Permanence risk analysis is applicable to AFOLU projects and hence is not applicable to the project activity.

5 VERIFICATION CONCLUSION

ESSPL's verification approach basically included the desk review of the project design (as stated in the validated VCS PD dated 13/11/2009); monitoring report version 07 dated 18th October 2014; approved baseline and monitoring methodology ACM0002, version 10, site verification of the reported emission reductions and resolution of outstanding issues and issuance of final verification report. The verification team also requested for the evidences, relevant information and explanations that were considered necessary to give a reasonable assurance of the reported emission reductions during the period from 01/11/2011 to 31/12/2013.

In ESSPL's opinion, the GHG emission reductions for " Grouped Wind Power Project in India" for the period from 01/11/2011 to 31/12/2013 are fairly stated in the monitoring report, version 07, dated 18th October 2014. The GHG emissions were calculated correctly on the basis of approved baseline and monitoring methodology ACM0002. Version 10 and the monitoring plan as included in the validated VCS PD, dated 13/11/2009. Based on the VCS Verification conducted, ESSPL is of the opinion that the project complies with the Verification criteria for projects set out in VCS Version 3.4.

The project was assessed for implementation being inline to the project description and calculation of the GHG emission reductions caused by the project activity. The information provided by the project proponent was verified with the support of information provided and the evidence collected at the on-site inspection and is found to be correctly stated.

Monitoring period:

From 01/11/2011 to 31/12/2013

Based on the information provided, verified and assessed, ESSPL is able to certify the following statement:

Verification period: From [01-11-2011] to [31-12-2013]

Verified GHG emission reductions and removals in the above verification period:

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)
01/11/2011 to 31/12/2011	7,975	0	0	7,975
01/01/2012 to 31/12/2012	1,11,383	0	0	1,11,383
01/01/2013 to 31/12/2013	1,01,154	0	0	1,01,154
Total	2,20,512	0	0	2,20,512

Prepared by	Approved by
	
MR. A. PRABU DAS	MR. K. SUDHEENDRA
(LEAD AUDITOR)	(HEAD-OPERATIONS)

LIST OF REFERENCES:

REF NO.	DOCUMENT TITLE
/1/	VCS standard version 3.4
/2/	VCS Validation Verification Manual version 3.1
/3/	Validated VCS PD Version 3 dated 13/11/2009
/4/	Approved Methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources (Version 10)
/5/	Monthly billing invoices raised to respective State Electricity Boards for the states of Maharashtra, Gujarat, Rajasthan, Tamil Nadu and Karnataka by PP
/6/	The monthly joint meter reading (JMR) report generated and signed by the buyer for all the WTGs
/7/	Monitoring Report version 01 dated 19 th June 2014
/8/	Revised Monitoring Report, Version 07, dated 18 th October 2014
/9/	Emissions reduction calculation sheet Version 01
/10/	Emissions reduction calculation sheet Version 03
/11/	Commissioning certificates for all the WTGs
/12/	Validation report, report no P27829 dated 17 th November 2009
/13/	Previous Verification Reports (Reports for the First, Second, Third and Fourth Verifications available at VCS registry) https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=429&lat=17.016667&lon=74.583333&bp=1
/14/	Certificates for share of electricity and credit reports for the period 01/11/2011 to 31/12/2013
/15/	Grid emission factor from CEA database Version 04
/16/	Letter of undertaking from the PP
/17/	Calibration Certificates for the WTGs as per Annexure 1
/18/	Tool to calculate emission factor for an electricity system, Version 1.1

ANNEXURE 1: DETAILS OF CALIBRATION FOR WTGs

S.No	Name of PP	Old meter Sr. No.	New meter Sr. No.	Accuracy Class	Calibration Details (validity based on CEA guidelines, 2006)		
					2011	2012	2013
1	Pragati Agencies	4738049	4738050	0.2	13/06/2011	valid up to 12/06/2016	
2	Umang Textiles	14796419	14796420	0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
3	Ankur Textiles			0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
4	Vandana Textiles			0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
5	Sun Irrigation System (P) Ltd.			0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
6	Jathar Textiles Pvt. Ltd.			0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
7	B. C. Chadrashekhar	4738049	4738050	0.2	13/06/2011	valid up to 12/06/2016	
8	B.C. Shivakumar	4738049	4738050	0.2	13/06/2011	valid up to 12/06/2016	
9	Aerolex Cablenet	4738051	4738047	0.2	13/06/2011	valid up to 13/06/2016	
10	B. S. Channabasappa & Sons	4738049	4738050	0.2	13/06/2011	valid up to 12/06/2016	
11	Air Control (India) Pvt. Ltd.	4939178	4939179	0.2	Valid up to 03/05/2014		
12	Bengal Cardboard Industries & Printers Pvt. Ltd.	4725778	4725803	0.2	17/09/2011	25/09/2012	29/06/2013
13	Chaphekar Engineering Pvt. Ltd.	13813603	13813604	0.2	20/06/2011	08/10/2012	22/08/2013
14	Economic Explosives Limited	4860905	4890568	0.2	17/09/2011	05/10/2012	30/07/2013
15	Jsons Foundry Private Limited	4939178	4939179	0.2	Valid up to 24/03/2014		
16				0.2			
17		13813603	13813604	0.2	20/06/2011	08/10/2012	22/08/2013
18	Western Precicast Pvt Ltd	4961766	4890563	0.2	17/09/2011	04/10/2012	06/08/2013
19	Metal Link Alloys Ltd.	4725793	4725788	0.2	17/09/2011	04/10/2012	12/08/2013
20	Naik Sea Foods Ltd.	4725778	4725803	0.2	17/09/2011	25/09/2012	29/06/2013
21	RDS Construction Company	4725778	4725803	0.2	17/09/2011	25/09/2012	29/06/2013
22	Silverline Investment Co. Pvt. Ltd.	4725778	4725803	0.2	17/09/2011	25/09/2012	29/06/2013
23	Sushila Overseas,	14796419	14796420	0.2	13/06/2011	18/12/2012	Valid upto 17/12/2017
24	Vostok (Fareast)	4725778	4725803	0.2	17/09/2011	25/09/2012	29/06/2013

	Securities Pvt. Ltd.						
25	Shree Ambica Auto Sales & Service	4738049	4738050	0.2	13/06/2011	valid upto 12/06/2016	
26	Unirose Textile Processors Pvt. Ltd.	14796419	14796420	0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
27	B. S. C. Textiles			0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
28	P. Vijaya Kumar			0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
29	B. C. Umapathy (smaller HUF)			0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
30	P. Mohan Lal			0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
31	S. K. Veerbhadrappa & Co			0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
32	Sree Veerbhadreshwar a Rice & Flour Mill			0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
33	GEM Lab. Pvt. Ltd.	4725793	4725788	0.2	17/09/2011	04/10/2012	12/08/2013
34		4890562	4863441	0.2	17/09/2011	25/09/2012	28/06/2013
35	Sri Anjaneya Cotton Mills Pvt. Ltd.	4725793	4725788	0.2	17/09/2011	04/10/2012	12/08/2013
36							
37	Harshita Sales Corporation	14796419	14796420	0.2	13/06/2011	18/12/2012	Valid up to 17/12/2017
38	Ushakal Nursing Home	14796419	14796420	0.2	13/06/2011	18/12/2012	Valid upto 17/12/2017
39	Mahabal Auto Ancillaries Pvt. Ltd	4738052	4738053	0.2	13/06/2011	14/12/2012	Valid up to 13/12/2017
40	Mahabal Metals Pvt. Ltd	4860905	4890568	0.2	17/09/2011	05/10/2012	30/07/2013
41	Mahalaxmi Infraprojects Limited	4738079	4738067	0.2	17/09/2011	25/09/2012	29/06/2013
42	Agarwal Packaging Pvt. Ltd.	4725819	4725818	0.2	NO	05/07/2012	Valid up to 04/07/2017
43		13813603	13813604	0.2	20/06/2011	08/10/2012	22/08/2013
44	Choudhary Exports	4890558	4725804	0.2	17/09/2011	25/09/2012	29/06/2013
45	Runwal Developers Pvt. Ltd.	4890619	-	0.2	26/09/2011	Validity up to 25/09/2016	
46		4890557	4738078	0.2	17/09/2011	04/10/2012	28/06/2013
47	Kulkarni Power Tools Ltd.	4725778	4725803	0.2	17/09/2011	25/09/2012	29/06/2013
48	P.M.P. Textiles Spinning Mills Limited	2369490	-	0.2	8/8/2008	Error factor applied from 07/08/2013 to 31/12/2013	
49	RCR Eco-Power	4691173	-	0.5	19/06/2008	NA	NA
50				0.5			
51			-	0.5			
52		4863679	-	0.5			

53		4889996	-	0.5			
54	S.K.Parikh (Shankarlal)	4865454	-	0.5	22/10/2008	NA	NA
55	B. S. C. Textiles	4804657	-	0.5	Valid up to 21/01/2014		
56		4804511	-	0.5			
57		4863797	-	0.5			
58	P. Vijaya Kumar	4804768	-	0.5	Valid up to 6/2/2014		
59		4721812	-	0.5	27/02/2008	Error factor applied from 27/02/2013 to 31/12/2013	
60	O. B. Agarwal	4865447	-	0.5	Valid up to 21/01/2014		
61	Radha-Mohan Processors	4804510	-	0.5	Valid up to 21/01/2014		
62	Swadeshi Dyeing & Bleaching Mills Private Limited	4804507	-	0.5	Valid up to 21/01/2014		
63	B. S. Channabasappa & Sons	4804611	-	0.5	Valid up to 21/01/2014		
64		4804616	-	0.5	Valid up to 21/01/2014		
65		8040602	-	0.5	23/12/2008	Data availability only up to Dec 2012. Error not applied as calibration valid up to 22 Dec 2013	
66	P. Mohan Lal	4726644	-	0.5	7/2/2009	Error factor applied from 07/02/2013 to 31/12/2013	
67		4721936	-	0.5	27/02/2008	Error factor applied from 27/02/2013 to 31/12/2013	
68	Operational Energy group India (P) Pvt Ltd	2110855	-	0.5	30/12/2011	Valid up to 29/12/2016	
69				0.5			
70	Mahalingashetty & Co. Ltd.	4881023	-	0.5	06/12/2011	03/12/2012	02/12/2013
71	Sri Venkatachalapath y Spinning Mills Pvt. Ltd.	TNBO393 7	-	0.5	09/12/2010	Valid up to 08/12/2015	
72		4955010	-	0.5	09/12/2010	Valid up to 08/12/2015	
73	Choudhary Exports`	4726626	-	0.5	NO	22/02/2012	Valid upto 21/02/2017
74	Ramraj Handlooms	4863795	-	0.5	NO	31/03/2012	Valid upto 30/03/2017
75		4954285	-	0.5	NO	02/04/2012	Valid upto 01/04/2017
76		TNU0485 2	-	0.5	NO	10/03/2012	Valid upto 09/03/2017
77	N. Sumati	4889952	-	0.2	NO	27/01/2012	Valid upto 26/01/2017
78	K. R. Nagarajan	4691183	-	0.5	Valid up to 21/09/2014		
79	Air Control (India) Pvt. Ltd.	GJB0110 4	-	0.2	Valid up to 14/06/2014		
80	Badawe Engineers Pvt. Ltd.	GJB0109 9	-	0.2	08/07/2011	21/07/2012	Valid upto 20/07/2017
81	Pragati Glass Pvt. Ltd.,	GJU0392 2	-	0.2	03/07/2011	28/07/2012	Valid upto 27/07/2017
82	Siddharth Infra Tech Pvt. Ltd	GJB0110 1	-	0.2	08/07/2011	21/07/2012	Valid upto 20/07/2017
83	Agarwal	GJB	-	0.2	11/07/2011	19/07/2012	Valid upto

	Enterprises	01392					18/07/2017
84		GJB 01449	-	0.2	11/07/2011	19/07/2012	Valid upto 18/07/2017
85	Unique Sugars Ltd.	GJB 01538	-	0.2	06/06/2011	Valid up to 05/06/2016	
86	Jaychandra Agro Industries Pvt. Ltd.	GJU 04509	-	0.2	19/02/2011	Valid up to 18/02/2016	
87	Shree Ram Hotels	RJB 001114	RJB 00101	0.2	07/03/2011	13/03/2012	Valid up to 12/03/2017
88	Chhabra Syncotex Ltd.	RJU 02406	RJU 02405	0.2	07/03/2011	13/03/2012	Valid up to 12/03/2017
89		RJU 02185	RJB 00254	0.2	07/03/2011	Valid up to 06/03/2016	
90		RJB 001114	RJB 00101	0.2	07/03/2011	13/03/2012	Valid up to 12/03/2017
91	Sona Processors (India) Ltd.	RJB 001114	RJB 00101	0.2	07/03/2011	13/03/2012	Valid up to 12/03/2017
92	Delhi Rajasthan Transport Co. Ltd.	RJB 01150	RJB 01149	0.2	07/03/2011	13/03/2012	Valid up to 12/03/2017
93	Metro Cement and Mines Pvt. Ltd.	RJU 02185	RJB 00254	0.2	07/03/2011	Valid up to 06/03/2016	
94	Sarvodaya Suitings Ltd	RJB 001114	RJB 00101	0.2	07/03/2011	13/03/2012	Valid up to 12/03/2017
95							
96	Free India Energy	RJB0031 6	RJB0031 6	0.2	Valid up to 27/01/2014		
97	S C Shettar and Sons	7041083	7041084	0.2	30/08/2011	02/06/2012	Valid up to 01/06/2017
98	Swarna Constructions	7041085	7041086	0.2	30/08/2011	02/06/2012	Valid up to 01/06/2017
99	Suresh Kumar Sharma (HUF)	6605175	6605176	0.2	16/06/2011	02/06/2012	Valid up to 01/06/2017
100	BEML Limited	7041078	7041079	0.2	30/08/2011	16/06/2012	Valid up to 15/06/2017
101							
102							
103							

ANNEXURE 2: VERIFICATION PROTOCOL

Draft report clarifications and corrective action requests by validation team	Ref. of the CAR / CL / FAR raised	Summary of project owner response	Verification team conclusion								
1. During the site visit, Site incharge informed that B. S. Channabasappa& Sons WTGs sold to BMC company. PP to justify. 2. Machine was not working for P. Mohan Lal. PP to justify 3. As per discussion with site in-charge, WTG for Shankarlal sold to BMC Company 1 year before itself. PP to justify.	CAR-1	1. The undertaking for the sold of WTG by B. S. Channabasappa & Sons to BMC Company has now submitted. 2. There has huge cable theft problem in this region. Hence, WTG was not working condition about 6 to 7 months. 3. The undertaking for the sold of WTG by Shankarlal to BMC Company has now submitted.	1. Undertaking is provided by Mitcon for the sale of WTG by B.S.Channabasappa & Sons to BMC Company which was verified. 2. The reason provided by the PP is found acceptable. 3. Undertaking is provided by Mitcon for the sale of WTG for Shankarlal for BMC Company. Conclusion: CAR 1 Resolved								
PP to provide calibration certificates of the following PPs. For the WTGs in which NO is indicated PP to justify the delay in calibration and explain the approach of estimating conservative emission reductions:- <table><tr><td>Pragati Agencies</td><td>Year 2012, 2013 & 2014</td></tr><tr><td>Umang Textiles</td><td>Year 2013-2014</td></tr><tr><td>Ankur Textiles</td><td>Year 2013-2014</td></tr><tr><td>Vandana Textiles</td><td>Year 2013-2014</td></tr></table>	Pragati Agencies	Year 2012, 2013 & 2014	Umang Textiles	Year 2013-2014	Ankur Textiles	Year 2013-2014	Vandana Textiles	Year 2013-2014	CL-1	The calibration certificate for the PPs has now submitted to the DOE for Verification. Furthermore, calibration certificate of those PPs has not available a project deviation has been applied as the situation is not under the control of the PP and under such conditions, the CEA	The calibration certificates of the WTGs have been submitted and reviewed. The verification team has accepted the project deviation of applying the CEA guidelines for energy meter calibration which is the standard as issued by national regulatory authority of India. This approach is as per the Project standard guideline for calibration as national guidelines can be applied in case methodological requirements
Pragati Agencies	Year 2012, 2013 & 2014										
Umang Textiles	Year 2013-2014										
Ankur Textiles	Year 2013-2014										
Vandana Textiles	Year 2013-2014										

Draft report clarifications and corrective action requests by validation team			Ref. of the CAR / CL / FAR raised	Summary of project owner response	Verification team conclusion
Sun Irrigation System (P) Ltd.	Year 2013-2014			guideline followed commonly has been applied. In cases where the CEA guideline for a 5 year calibration period is not valid the error applied is as per guidelines VVS CDM requirements.	do not specify the periodicity and the local level implementation is not observed. As per this guideline the verification team has reviewed the validity of the calibration certificates (valid for a period of 5 years) as indicated in Appendix II of the Monitoring report. In case where the calibration is not valid, a correction factor is applied as per CDM validation and verification standard Version 07.0, i.e. VVS para 282 and 283. Conclusion: CL 1 Resolved
Jathar Textiles Pvt. Ltd.	Year 2013-2014				
B. C. Chadrashekhar	Year 2012, 2013 & 2014				
B.C. Shivakumar	Year 2012, 2013 & 2014				
Aerolex Cablenet	Year 2012, 2013 & 2014				
B. S. Channabasappa & Sons	Year 2012, 2013 & 2014				
Air Control (India) Pvt. Ltd.	Year 2011, 2012, 2013 & 2014				
Bengal Cardboard Industries & Printers Pvt. Ltd.	Year 2014				
Chaphekar Engineering Pvt. Ltd.	NO Calibration certificate				
Economic Explosives Limited	Year 2014				
Jsons Foundry Private Limited	NO Calibration certificate				
	NO Calibration certificate				
	NO Calibration certificate				

Draft report clarifications and corrective action requests by validation team			Ref. of the CAR / CL / FAR raised	Summary of project owner response	Verification team conclusion
Western Precicast Pvt Ltd	Year 2014				
Metal Link Alloys Ltd.	Year 2014				
Naik Sea Foods Ltd.	Year 2014				
RDS Construction Company	Year 2014				
Silverline Investment Co. Pvt. Ltd.	Year 2014				
Sushila Overseas,	Year 2014				
Vostok (Fareast) Securities Pvt. Ltd.	Year 2014				
Shree Ambica Auto Sales & Service	Year 2012, 2013 & 2014				
Unirose Textile Processors Pvt. Ltd.	Year 2013 & 2014				
B. S. C. Textiles	Year 2013 & 2014				
P. Vijaya Kumar	Year 2013 & 2014				
B. C. Umapathy (smaller HUF)	Year 2013 & 2014				

Draft report clarifications and corrective action requests by validation team			Ref. of the CAR / CL / FAR raised	Summary of project owner response	Verification team conclusion
P. Mohan Lal	Year 2013 & 2014				
S. K. Veerbhadrappa & Co	Year 2013 & 2014				
Sree Veerbhadreshwara Rice & Flour Mill	Year 2013 & 2014				
GEM Lab. Pvt. Ltd.	Year 2014				
	Year 2014				
Sri Anjaneya Cotton Mills Pvt. Ltd.	Year 2014				
	Year 2014				
Harshita Sales Corporation	Year 2013, 2014				
Ushahkal Nursing Home	Year 2013, 2014				
Mahabal Auto Ancillaries Pvt. Ltd	Year 2012, 2013 & 2014				
Mahabal Metals Pvt. Ltd	Year 2014				
Mahalaxmi Infraprojects Limited	Year 2014				
Agarwal Packaging Pvt. Ltd.	Year 2014				

Draft report clarifications and corrective action requests by validation team			Ref. of the CAR / CL / FAR raised	Summary of project owner response	Verification team conclusion
	Year 2014				
Choudhary Exports	Year 2014				
Runwal Developers Pvt. Ltd.	Year 2014				
	Year 2010 -2014				
Kulkarni Power Tools Ltd.	Year 2014				
Jsons Fountry Private Limited	NO				
	NO				
	NO				
	NO				
	NO				
	NO				
	NO				
Western Precicast Pvt. Ltd	NO				
P.M.P. Textiles Spinning Mills Limited	NO				

Draft report clarifications and corrective action requests by validation team			Ref. of the CAR / CL / FAR raised	Summary of project owner response	Verification team conclusion
RCR Eco-Power	NO				
	NO				
	NO				
	NO				
	NO				
S.K.Parikh (Shankarlal)	NO				
B. S. C. Textiles	NO				
	NO				
	NO				
P. Vijaya Kumar	NO				
	NO				
O. B. Agarwal	NO				
Radha-Mohan Processors	NO				
Swadeshi Dyeing & Bleaching Mills Private Limited	NO				

Draft report clarifications and corrective action requests by validation team			Ref. of the CAR / CL / FAR raised	Summary of project owner response	Verification team conclusion
B. S. Channabasappa & Sons	NO				
	NO				
	NO				
P. Mohan Lal	NO				
	NO				
Operational Energy group India (P) Pvt Ltd	NO				
	NO				
Mahalingashetty & Co. Ltd.	Year 2014				
Sri Venkatachalapathy Spinning Mills Pvt. Ltd.	Year 2011,2012, 2013 & 2014				
	Year 2011,2012, 2013 & 2014				
Choudhary Exports`	Year 2012, 2013 & 2014				
Ramraj Handlooms	No				
	No				
	No				
N. Sumati	No				

Draft report clarifications and corrective action requests by validation team			Ref. of the CAR / CL / FAR raised	Summary of project owner response	Verification team conclusion
K. R. Nagarajan	No				
Air Control (India) Pvt. Ltd.	Year 2011,2012, 2013 & 2014				
Badawe Engineers Pvt. Ltd.	Year 2013 & 2014				
Pragati Glass Pvt. Ltd.,	No				
Siddharth Infra Tech Pvt. Ltd	Year 2013, 2014				
Agarwal Enterprises	Year 2013, 2014				
	Year 2013, 2014				
Unique Sugars Ltd.	Year 2012, 2013 & 2014				
Jaychandra Agro Industries Pvt. Ltd.	Year 2012, 2013 & 2014				
Shree Ram Hotels	Year 2012, 2013 & 2014				
Chhabra Syncotex Ltd.	No				
	No				
	No				
Sona Processors (India) Ltd.	No				

Draft report clarifications and corrective action requests by validation team			Ref. of the CAR / CL / FAR raised	Summary of project owner response	Verification team conclusion
Delhi Rajasthan Transport Co. Ltd.	No				
Metro Cement and Mines Pvt. Ltd.	No				
Sarvodaya Suitings Ltd	No				
	No				
Free India Energy	No				
PP to provide the JMR, invoices and other relevant documents of the project activity for the current monitoring period.			CL-2	JMR, invoices of the project activity for the current monitoring period has now submitted to DOE for verification.	JMR and invoices of the project activity for each of the WTGs covering this monitoring period has been verified by the Assessment Team. Conclusion: CL 2 Resolved