14.1 MW GRID CONNECTED WIND ENERGY PROJECT IN TAMILNADU BY ITC LIMITED.

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Summary:

Verification purpose: ITC Limited has commissioned the LGAI Technological Center, S.A. (Applus+ Certification) to carry out the verification of the project "14.1 MW Grid Connected Wind Energy Project in Tamil Nadu by ITC Limited" (VCS ID 538). The project is located at Theni and Tirunelveli district of Tamilnadu. The total installed capacity of the project activity is 14.1 MW comprises of total 9 WTGs in which 5 WTG of 1.5 MW (Suzlon make) and 4 WTG of 1.65 MW (Vestas make). The electricity generated from the PA is being used for captive consumption at its packaging and printing facility located at Tiruvottiyur, Chennai, Tamil Nadu, India through Wind Energy wheeling Agreement with the Tamil Nadu State Electricity Board(TNEB) for each WTGs. The project activity has been commissioned on dated 20-September-2008 and continuous operational since commissioning. Thus, the project has contributed to reduction of GHG emissions by displacing fossil fuel dominated grid-based electricity with renewable energy – wind energy based renewable electricity.

Start date of the project activity is 20-September-2008. This is the day on which the first phase of project activity was commissioned and started emission reductions. An undertaking has been submitted by PP for double counting confirming that no GHG reduction will be claimed in any other GHG mechanism for current monitoring period. Project activity undergoes continued operation and no major breakdown had taken place except routine maintenance/shutdown.

The current monitoring period covered the period from 01-October-2011 to 13-March-2017(inclusive both days), under the crediting period of 20-September-2008 to 19-September-2018. During the current verification period, the project activity has supplied 149,601 MWh of electricity, and thus contributing to the GHG reductions 138,703tCO$_2$e.

A risk-based approach has been followed to perform this verification activity. In the course of verification, 06 Corrective Action requests (CAR), 02 Clarification Requests (CLs) and 00 Forward action requests (FARs) were raised and successfully closed. The review of the Monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and PP have provided VVB with sufficient evidence to verify the fulfilment of the stated criteria of VCS.

LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred to as Applus+ Certification) has been appointed by 'ITC Limited' to perform the verification of the "14.1 MW Grid Connected Wind Energy Project in

Tamil Nadu by ITC Limited" under VCS standard 4.3 and project guide version 4.2. The objective of this verification activity is to have an independent third party for the assessment of the project design, monitoring report and Verification report and to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. In particular; the project's baseline, monitoring plan is assessed against the applied methodologies "AMS.I.D- Consolidated baseline methodology for grid-connected electricity generation from renewable resources (version 13). The project's compliance with the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS program guide 4.2 and VCS standard, version 4.3

- *CDM Validation and Verification Standard for project activities, version 03.0/9/*
- *VCS standard version 4.3/8/*
- *VCS program guide version 4.2/8/*

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified carbon units (VCUs).

The scope of the verification is the independent and objective review of the monitoring report (MR). The MR is reviewed against the relevant criteria (see above) and decisions by the CDM Executive Board and VCS executive board, including the approved baseline and monitoring methodology. The verification was based on the guidance given in the CDM Validation and Verification Standard for the project activities, version 03.0, review against registered VCS-PD/CDM PDD and Final Validation report, VCS program guide, version 4.2 and standard version 4.3.

The VVB has employed a risk-based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the MR. The main focus of the assessment team is to identify the significant risks for the project implementation and the generation of VCUs. The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring report combined.

The only purpose of the verification is its usage during the issuance process as part of the VCS project cycle. Therefore, LGAI Technological Center S.A. (Applus+ Certification) can't be held liable by any party for decisions made or not made based on the verification opinion, which will go beyond that purpose.

The verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. No sampling procedure applied for remote audit or document verifications. The entire documents checked/plant verification conducted to arrive at positive verification conclusions.

CONTENTS

1 INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. (Hereinafter referred as Applus+ Certification) has been appointed by ITC Limited to perform the verification of the project entitled "14.1 MW Grid Connected Wind Energy Project in Tamil Nadu by ITC Limited" under VCS standard version 4.3 and program guide version 4.2. The objective of this verification activity is to have an independent third party for the assessment of the project design, monitoring report and final verification report and to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. In particular; the project's baseline and monitoring plan is assessed against applied methodologies –

- AMS.I.D (version 13) "Consolidated methodology for grid-connected electricity generation from renewable sources"/10/
- The project's compliance with the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS program guide, version 4.2 and standard version 4.3.
- CDM Validation and Verification Standard for project activities, version 03.0/9/
- CDM Project Standard for project activities, version 03.0/9/

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of estimated verified carbon units (VCUs).

1.2 Scope and Criteria

The scope is defined as an independent and objective review of the Monitoring report (MR) prepared as per the registered VCS-PD/CDM PDD and applied methodology AMS.I.D (version 13)/10/. The MR is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board and VCS standard, version 4.3 and VCS Program guide version 4.2, including the approved baseline and monitoring methodologies applied. The verification was based on the requirements in the CDM validation and verification standard for project activities, Version 03.0/9/, CDM Project Standard for project activities, version 03.0 /9/and VCS program guide, version 4.2/8/ and standard version 4.3/8/.

The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for

improvement of the Monitoring report. In line with Guidelines for Application of materiality in verifications, the verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction calculation spread sheet. There are no material errors, overestimation of ER, omission or misstatement. The verification team has reviewed all the documents like commissioning certificate, Energy generation records, fuel records etc.

1.3 Level of Assurance

The verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. The entire documents checked/ remote audit verification conducted to arrive at positive verification conclusions.

1.4 Summary Description of the Project

The total installed capacity of the project is 14.1 MW wind power generation consisting 9 Wind Turbine Generators (WTGs) of in which 5 WTG of 1.5 MW and 4 WTG of 1.65 MW. The WTGs are located in Villages: Thiruvambalapuram, Kasthurirengapuram, Udhayathooruram of Tirunelveli district and Poomalaikundu G. Usilampatti and Vallalnathi of Theni District in the state of Tamil Nadu. The electricity generated from the PA is used for captive consumption by PP (ITC Limited) at its packaging and printing facility located at Tiruvottiyur, Chennai, Tamil Nadu, India through Wind Energy wheeling Agreement with the Tamil Nadu State Electricity Board (TNEB) for each WTGs. The project activity was commissioned on dated 20-September-2008.

The project activity helps to reduce the supply demand gap in the state and also helps in contributing to the sustainable development by using wind energy as the source of power generation and reduction of GHG Emissions. In the project site, there are other wind projects owned by other customers connected to the same substation. There is an apportioning procedure which is approved by the state nodal agency for apportioning the electricity to each and every customer.

During the Current Monitoring Period from 01-October-2011 to 13-March-2017(First and last date included) the project activity has supplied 149,601 MWh of electricity, and thus contributing to the GHG reductions of 138,703 tCO_2e.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification Process: The project assessment is based on the Clean Development Mechanism Validation and Verification Standard for project activities, version 03.0 and VCS standard 4.3

and VS program guide, version 4.2 and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS project activity are appointed.

Once the project is received by the assessment team, the members of the assessment team carried out:

- A desk review of the monitoring Report against the registered PD;
- Follow-up interviews with project participant;
- The resolution of outstanding issues and the issuance of the final verification report and opinion.

The prepared verification report and other supporting documents then undergo an internal quality control at the HQ (Accredited office) before being submitted to the VCS executive board.

In order to ensure transparency, assumptions must be clear and stated explicitly and background material must also be referenced. LGAI Technological Center, S.A. (Applus+ Certification) has developed a specific checklist customized for the project. The checklist demonstrates, in a transparent manner, the project criteria (requirements), discussion on each criterion by the assessment team, and the results from verifying the identified criteria.

Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGAI Technological Center S.A. (Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGAI Technological Center S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGAI Technological Center S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT)
- Technical Expert (TE)
- Technical Reviewer (TR)

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Jitendra Mohan Singh	LA/TE	YES	YES	NA	YES
Ms. Karen Vega	AiT/TEiT	YES	NO	NA	NO

Denny Xue	TR	YES	YES	NA	NA

The complete list of CVs is included as Appendix 3 of this report.

Document review

The Monitoring Report (version 01)/5/ submitted by the PP was reviewed against the approved methodology, registered VCS PD/ CDM PDD, final validation report and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in this report below in Appendix 1.

Follow-up interviews

A remote audit was conducted by LGAI Technological Center S.A. (Applus+ Certification) who performed interviews, telephone conferences with project stakeholders to confirm selected information and to resolve issues identified in the document review. The detail is provided in this report in the below sections.

Resolution of Clarification and Corrective Action Request

The objective of this phase of the Verification was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ Certification positive conclusion on the Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the Appendix 2.

The final MR (Version 03)/5/ on dated 13-July-2022 submitted by the project participant serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Internal quality control

As final step of a verification of the final documentation including the final verification report and the checklist have to undergo an internal quality control by the technical review committee, i.e. each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one to avoid any conflict of Interest.

After confirmation of the project owners, the positive verification opinion and relevant documents are submitted to the VCS secretariat through the VCS web-platform.

2.2 Document Review

The details of the document observed during the verification process are listed below in Appendix 1 of this report.

2.3 Interviews

The key personnel interviewed are summarised in the table below:

Sr. No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Dalmia	Prakash	PP representative (ITC Limited)	25-May-2022 (Via MS Team)	Project Implementation, JMR & invoicing procedure, calibration, grievance mechanism	Jitendra Mohan Singh Ms. Karen Vega
2.	Prashath	Jaya	Site In-charge (O & M) PP representativa			
3.	Subbian	Ranjith Babu	Site In-charge (O & M) PP representative			
4.	Kumar	Danesh	Site In charge (PP representative)			
5.	Kadali	Chnadra Mouli	Consultant Infinite solutions		Monitoring Report, Emission Reductions calculation	

2.4 Site Inspections

The verification team has not performed the onsite visit for the verification of this project activity. The exemption for conducting an onsite visit for this project activity is allowed by VERRA, as the VCS has not a specific requirement to preform the site visits, however, an adequate level of assurance has been achieved during the verification processes. The reason for not conducting the onsite visit is the assessment for verification has been conducted during the COVID-19 pandemic, hence, this fact sums to the necessity of avoiding traveling to the site, given the restrictions in the countries in which the assessment team is based, and the ones applicable in the host country of the PA, apart from globally applied restrictions to its personnel and contractors during the pandemic.

The VVB has taken alternative measures for ensuring a reasonable level of assurance while conducting the Verification process, using standard auditing techniques and advanced communication solutions in order to be able to interview the relevant stakeholders and to cross-check the relevant documentation, implementation of the project activity and its design,

monitoring performance, equipment in the project activity, etc. (all the evidences and processes of cross-check are detailed within this Verification Report). The interviewed personnel and the scope and mean of interview are listed in above Section 2.3 of this Verification Report.

Technical details & metering/monitoring arrangement verified through onsite photographs, name plates and calibration certificates shared by PP. All the documents were cross checked to ensure conservative estimation of emission reduction.

During the remote audit on dated 25-May-2022, the PP representatives were questioned about the implementation of the project activity. Several topics like the verification of commissioning date of WTGs, the generation, recording, and monitoring of the data and the error accountability were discussed. To cross check the information provided by PP, various documents like technical specifications, commissioning certificates/1/, Energy Wheeling Agreement/2/, JMR issued by state utility TANGEDCO/3/, calibration certificates/17/, etc. were also verified.

During the remote audit, the PP representatives/ O & M personal were questioned about the implementation of the project activity. Several topics like the verification of commissioning date of meters, the generation, recording, and monitoring of the data and the error accountability were discussed. Various documents like the JMR issued by state utility TANGEDCO/3/ the complete monitoring period, on-site Photographs includes WTG plates/19/, meter specifications, key technical specifications of the major equipment like panel etc. provided to assessment team were verified through MS Team (video conferencing) to establish the current status and the implementation of the Project Activity

2.5 Resolution of Findings

The objective of this phase of the verification was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for LGAI Technological Center S.A. (Applus+ Certification)'s positive conclusion on the project design and Monitoring report. The Corrective Action Requests and Clarification Requests raised by LGAI Technological Center S.A. (Applus+ Certification) were resolved during communications between the Client and LGAI Technological Center S.A. (Applus+ Certification) to guarantee the transparency of the validation process, the concerns raised and responses given are summarized below in the Appendix 2.

The final MR Version 03 on dated on 13-July-2022 submitted by project participant serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Project design document and Monitoring report	00	03	00
Description of project activity	01	00	00

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Application of selected baseline and monitoring methodology and selected standardized baseline			
- Applicability of methodology and standardized baseline	00	00	00
- Deviation from methodology	00	00	00
- Clarification on applicability of methodology, tool and/or standardized baseline	00	00	00
Project boundary	00	00	00
Establishment and description of baseline scenario	00	00	00
Demonstration of additionality	00	00	00
Emission reductions	00	01	00
Calibration details	01	01	00
Monitoring plan	00	00	00
No Net harm assessment	00	00	00
Local stakeholder consultation	00	01	00
Others (please specify)- - Regarding double counting Declaration - ER Sheet - Supporting documents	01	00	00
Total	**02**	**06**	**00**

The list of findings and their resolution is presented in Appendix 2 of this report.

2.5.1 Forward Action Requests

No FAR was raised from previous validation or/and during this verification process.

2.6 Eligibility for Validation Activities

This section is not applicable for present verification, as Applus+ Certification holds the accreditation for Validation of projects under this Sectoral Scope.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project activity is also registered under CDM (UNFCC Ref. No. 3035)[1] with crediting period from 14-March-2010 to 13-march-2017 (Renewable) which is expired now. PP has claimed CERs under CDM for the MP from 14-March-2010 to 30-September-2010 and from 01-October-2010 to 30-September-2011. The project activity has been registered under VERRA with VCS ID 538 (https://registry.verra.org/app/projectDetail/VCS/538).

[1] https://cdm.unfccc.int/Projects/DB/DNV-CUK1255509409.35/view

The current monitoring period covered the period from 01-October-2011 to 13-March-2017 is under VCS verification. An undertaking dated 06-June-2022 has been submitted by for no double counting for the same monitoring period. Further, VVB confirms that the project activity is not participating in any other form of environmental credits. Also, the project activity is not registered for REC benefits. The same was verified through REC website https://www.recregistryindia.nic.in/

3.2 Methodology Deviations

The project activity has applied correct methodology which are as per the registered CDM PDD. Verification team confirmed that there is no request for methodology deviation applied neither during this monitoring period nor during previous monitoring periods.

3.3 Project Description Deviations

The project participant has sought project description deviation in calibration frequency from once in year as mentioned in CDM PDD to once in 5 years during the current monitoring period in accordance with the approved TNEB order Memo Reference no. Memo. No.CE/Comml/EE/R&C/AEE2/F.MP. No.18/2012/D43/dt.07.03.14 accordingly. VVB has checked the TNEB MEMO /19/ which confirmed the calibration frequency of meters should be once in five years from 2014 onwardsThe calibration frequency considered prior to 2014 during current monitoring period is once in a year. Thus, project description deviation in calibration frequency acceptable to VVB.

Further, PP has requested deviation in accuracy class of meters from 0.5s to 0.2d installed in 2014 prior to change of calibration frequency and accuracy class of meter as per TNEB Memo as described below:

Main meter serial number 04941038 associated with WEG HTSC No. 2687, installed on dated 27-September-2008, replaced with pre-calibrated meter Sr. No. 14190248 dated 11-February-2014 with accuracy 0.2s.

Main meter serial number 04940883 associated with WEG HTSC No. 2666 , replaced by pre-calibrated meter Sr.No.14190303) dated 11-February-2014 with accuracy of 0.2s.

For WEG HTSC No. 2666, check meter serial number 04954765 associated with WEG HTSC No. 2666, replaced by pre-calibrated meter Sr. No.14190334 on dated 11-February-2014 with accuracy 0.2s.

Since, replaced meters are with better accuracy, thus acceptable to VVB.

The change in calibration frequency and accuracy class of meters does not have any impact on ER calculations as during monthly reading state electricity board official check the meter conditions. VVB confirms that, same verified from calibration certificate/meter change certificates and cash memo /19/. VVB confirms that the deviation sought by the PP do not have impact on the scale, methodology, additionality, monitoring & emission reductions of the project activity and thus accepted by the VVB

3.4 Grouped Project

The project does not involve any addition of new project activity and thus the project do not fall under grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the remote audit, it was concluded that the project has been implemented as per registered CDM PDD/VCS PD/7/. The same has been verified from the commissioning certificate/1/, statutory clearances submitted. During the current monitoring period it was observed that no unforeseen situation evolved which can impact the operation of the project activity. Scheduled maintenance was carried out as per the instruction of the manufacturer and the same is acceptable to the assessment team.

The electricity generated from the project activity is wheeled through the grid for captive consumption at its packaging and printing facility located at Tiruvottiyur, Chennai, Tamil Nadu in India.

There was no major breakdown reported during the monitoring period as verified from the Plant Log sheets/18/ submitted by PP. Only Schedule maintenance was carried out as per instruction of manufacture and the same

Project location is confirmed by the assessment team through interview with PP during remote audit and assessment of monitoring report. Assessment team also checked the technical details of the project site containing latitude and longitude of the project site and confirmed that the details as mentioned in the registered CDM PDD/7/ are correct.

The WTG locations and commissioning dates are provided in following table.

WTG ID (Location ID)	HTSC No.	Village	District	Latitude(⁰N)	Longitude(⁰E)
R-432	2666	Kasthurirengapuram	Tirunelveli	N 08⁰ 16'59.1''	E77⁰ 46'42.6''
R-436	2665	Udhayathoor	Tirunelveli	N 08⁰ 15'0.8''	E77⁰ 44'13.1''
R-435	2672	Udhayathoor	Tirunelveli	N 08⁰ 14'23.6''	E77⁰ 44'25.7''
R-300	2682	Thiruvambalapuram	Tirunelveli	N 08⁰ 15'01.4''	E77⁰ 43'31.0''
R-142	2687	Udhayathoor	Tirunelveli	N 08⁰ 15'21.3''	E77⁰ 45'10.5''
122	T 04	Vallalnathi	Theni	N 9⁰ 56'07.5''	E77⁰ 32'58.8''
147	T 05	G.Usilampatti	Theni	N 9⁰ 56'01.0''	E77⁰ 32'58.8''
234	T 06	Poomalaikundu	Theni	N 9⁰ 53'19.2''	E77⁰ 26'23.4''
637	T 07	Poomalaikundu	Theni	N 9⁰ 53'39.0''	E77⁰ 26'89.1''

The start date of the project is 20-September-2008. This is the date on which first phase of WTGs was commissioned and project started emission reduction which is in line with VCS Standard version 4.3. All the Vestas WEGs are connected to Kamachipuram and Kandamanur substation and Suzlon WEGs are connected to Udhayathoor substation of TNEB.

Assessment team checked the Commissioning certificates/1/and confirmed that the dates of Commissioning for each WTG are correct. The commissioning dates of WTGs are as follows:

WTG ID	HTSC No.	Capacity (MW)	Date of Commissioning
R-432	2666	1.5	20-Sep-2008
R-436	2665	1.5	20-Sep-2008
R-435	2672	1.5	24-Sep-2008
R-300	2682	1.5	26-Sep-2008
R-142	2687	1.5	27-Sep-2008
122	T04	1.65	23-Sep-2008
147	T05	1.65	23-Sep-2008
234	T06	1.65	30-Sep-2008
637	T07	1.65	30-Sep-2008

The assessment team confirmed that there is no proposed or actual change to the project design during this monitoring period except to the changes in contact details of PPs. The technical details were checked by the verification team with technical specification of WTGs/11/ and found consistent. The specification of the WTG is as follows:

Parameters	Value
Make	Suzlon
Model	Suzlon S 82/1500kW
Capacity	1.5 MW
Diameter	82 m
No of Rotor Blades	3
Orientation	Upwind / Horizontal axis
Rotational Direction	Clockwise
Rotor Blade material	GRP
Rotor Swept area	5281 m2
Hub Height	78.5 m
Regulations	Pitch regulated
Cut in wind speed	4 m/sec
Rated wind speed	14 m/sec
Cut out wind speed	20 m/sec
Vestas V82/1650KW	
Model:	**V 82/1650kW**
Make	Vestas
Capacity	1.65 MW
Diameter	82 m

Area swept	5281 m
Nominal revolutions	14.4 rpm
Number of blades	3
Rotor Blade material	
Air brake	Full blade pitch by separate hydraulic pitch cylinders
Cut in wind speed	3.5 m/sec
Nominal wind speed	13 m/sec
Cut out wind speed	20 m/sec

The assessment team confirmed through interview with O & M personnel during remote audit that there are no changes into the project design during this monitoring period. It was found that the monitoring plan was implemented as per the requirement of the CDM PDD /7/ & approved monitoring Plan and applied methodologies. The organisational role and responsibility as mentioned in the registered CDM PDD/7/ is followed. The calibration frequency of meter in monitoring plan of registered CDM PDD was once in year prior to 2013, therefore calibration delayed in meters were identified from There were delayed in calibration of old main meters and check meters located at Kamachipuram and Kandamanur substation from 14-September-2012 to 30-Sept.-2012 (HTSC No 2687, 2672, 2666) , from 29-May-2013 to 13-Sept-2013 (HTSC No.2682) and meter located at substation Udhayathoor substation from 18-September-2012 to 01-October-2012 (HTSC No. T04,T05,T06 ,T07), The observed error in calibration of meter were within permissible error. PP has applied maximum permissible error of 0.5% for the complete delayed period and thus acceptable to VVB. Further, PP has sought project description deviation in calibration frequency from once in year to five years for the period from 214 to end of MP in accordance with the TNEB MEMO No.CE/Comml/EE/R&C/AEE2/F.MP. No.18/2012/D43/dt.07.03.14. VVB has checked the TNEB MEMO /19/ 2014 Onwards and confirmed that deviation sought by PP is in line with TNEB MEMO /19/, Thus, project description deviation in calibration frequency acceptable to VVB. emergency preparedness as mentioned in the registered CDM PDD/7/ is followed onsite and no discrepancies were found regarding the same.

The Project participant contribution from the project activity towards sustainable development in accordance to host country: The same has been described in Section 1.11 of MR.

The project activity fulfilled the contribution of sustainable development to the host country by implementing environmentally friendly technology and creating employment opportunities to the local community. Same is confirmed during remote audit. PP has demonstrated SDG contributions in the section 1.11 of the MR. However, according to the Appendix 2- the document history mentioned in the VCS Standard Version 4.3 (latest version), Project Proponent is required to demonstrate contributions to a minimum of three SDGs, effective immediately for all projects registered on or after 20-January-2023. Projects registered before 20 January 2023 shall

demonstrate contributions to at least three SDGs by 20 January 2025[2]. Since this project is registered before 20-January-2023, SDG reporting is not required for the project activity.

The project is not involved in other form of GHG emission program except CDM mechanism. VVB confirms through review of project activity web page under CDM 3035[3] and confirms that PP has not claimed CERs under CDM for current monitoring period. VCUs generated from this verification will not be used for other trading program to avoid any kind of double counting. The same is confirmed by the PP during the verification remote audit. Verification team also conducted independent review regarding the same and found that the statement of the PP is accurate and project is not involved in any other kind of GHG trading for the present verifications/monitoring period.Verification team hereby also confirms from the declaration made by PP the projects are not registered under the any other scheme except CDM (UN Ref. No. 3035)[4], Other environmental or GHG credits (i.e., GS4GG, GCC etc.) & REC mechanism of India and the same is cross-checked at https://recregistryindia.nic.in.

The assessment team observed that the project is in line with the registered CDM PDD and applied methodologies and thus no clarification/deviation is sought.

Assessment team confirms following during the verification remote audit:

1. Start date of the project is 20-September-2008
2. An undertaking letter/16/ has been submitted by PP for no double counting with any other GHG program. PP also has given a written declaration that project will not claim other form of GHG credit for the concerned monitoring period.
3. Assessment team confirms that this verification under VCS covers the activity from 01-October-2011 to 13-March-2017 (inclusive of both dates). VCS crediting period is of 10 years (fixed) with 20-September-2008 as the start date and crediting period end date as 19-September-2018.
4. GHG credits from 01-October-2011 to 13-March-2017 will be claimed under VCS only. At any point of time during the crediting period, the project proponent will abide by the "Double Counting".
5. Assessment team checked and found that the Project proponent of the project activity is as below for the current monitoring period:

Organization name	*ITC Limited*
Contact person	*Mr. Prakash Dalmia*
Title	*Divisional Manager*

[2] https://verra.org/wp-content/uploads/2022/01/VCS-Summary-of-Effective-Dates-2022-01.pdf
[3] https://cdm.unfccc.int/Projects/DB/DNV-CUK1255509409.35/view
[4] https://cdm.unfccc.int/Projects/DB/DNV-CUK1255509409.35/view

Address	*SBU- Packaging & Printing, Greenways Tower, 3rd Floor, No. 119, St. Mary's Road, Abhiramapuram, Chennai- 600018, India*
Telephone	*+ 9144 42081503*
Email	*prakash.dalmia@itc.in*

6. The estimated emission reduction achieved from the project activity for the current monitoring period is 197,365 tCO_2e (36,182 tCO_2e/365 days x 1991 days), whereas actual emission reductions achieved are 138,703tCO_2e, which is 29.72% lower than estimated emission reductions. As actual VCUs are lower than estimated value for the MP which is due to climatic factors affecting wind power generation and not in the control of project participants,

Finding: CL01, CL02 CAR 01 & CAR 02 were raised and successfully closed. Please refer Appendix 4 for more information.

4.2 Safeguards

4.2.1 No Net Harm

No potential environment or socio-economic matter was found during the discussion with PP during remote audit. The project is renewable energy project and thus no negative impact observed onsite as confirmed by PP during remote audit.

The project activity promotes environmental and socio-economic well-being as it results in zero GHG emissions due to installation and operation of clean, renewable energy technology for electricity generation. The report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013 clearly mentioned that wind-based power project activity operations do not result in direct air pollution, noise pollution.

However, assessment team still conducted the No net harm assessment for some of the parameters and the result is described below:

Sr. No.	Indicator	Assessment team opinion
1	Air quality	The project generates clean energy which replaces the fossil fuel intensive electricity generation. Also report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013 clearly mentioned that wind plant operations do not result in direct air pollution.

Sr. No.	Indicator	Assessment team opinion
		Therefore, it is validated that mitigation measures were robustly implemented on ground for air quality issues project will have a positive impact on air quality.
2	Soil condition	There are negligible impacts envisaged during operation of the project activity being wind power-based power project. For mitigating the impacts during construction, various mitigation measures were taken which is validated from the plant records of PP and the interview with local villagers. It was also confirmed that, the vegetation planted at project site helps to reduce soil erosion. The same is confirmed during the discussion with stakeholders during remote audit. Therefore, it can be concluded that the project has no effect on soil conditions during its operation because it has no waste coming out.
3	Biodiversity	During the verification remote audit, it was observed that the condition of ground vegetation is good and no rare species is found in the around area. The project site is not on the migration route of migratory bird nor is the project affecting aquatic life. With the implementation of Project, the green cover has increased at the Project site; the biodiversity in the vicinity will be improved with the vegetation improvement.
4	Employment Generation	The project activity employed local population as skilled workers as well as security guards. The personnel employed by the project activity are also provided trainings and exposed to various awareness programs therefore a positive indicator has been accepted.
5	Livelihood of the poor	The project is associated with infrastructure development like roads in the nearby areas and promoting economic activities like grants to local school and communities' temples etc. Also, project employed local villagers as guards for the security of power project.

4.2.2 Local Stakeholder Consultation

Project participant has kept a grievance register at project site & sought comments/grievances/suggestions from local stakeholders including local community, government agencies and NGOs which is accessible to stakeholders to provide their feedback on the project as a part of ongoing communication with stakeholders in line with requirement of clause 3.16.17 of VCS Standard, ver. 4.3. However, no comments/grievances/suggestions have

been received from the aforementioned stakeholders during the current monitoring period. Project participant has also submitted the copy of register and the same has been checked by the verification team and confirms that during the current monitoring period, no any grievances received. Verification team confirmed the same during the remote audit and document review.

4.3 AFOLU-Specific Safeguards

Not applicable since this is not an AFOLU project.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the MR. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan of the CDM PDD and MR.
Findings	CL 01, CL 02 and CAR 05 raised and successfully closed. Please refer Appendix 4 for more information.
Conclusion	Baseline emission: The baseline Emissions for a given year is calculated by multiplying the energy baseline (EB) with the grid emission factor of the grid. Formula Used: - $BE_y = EG_y \times EF_y$ Where; Where: BE_y = Baseline emissions in year y (tCO_2) EG_y = Net electricity supplied to grid by the project (MWh) EF_y = *Emission factor of the grid i.e.* Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (Version 01.1) (tCO_2/MWh). **Ex-ante fixed parameters:** The baseline emission factors are sourced from the registeredCDM PDD. Combined margin CO_2 emission factor ($EF_{grid,CM,y}$) is 0.92718 tCO_2/MWh. The calculation approach was in line with the registered VCS PD/CDM PDD. Values of ex-ante parameters are as follows: $EF_{grid,OM,y}$ = Calculated as per "Tool to calculate the emission factor for an electricity system, version 01.1" as 3-year generation weighted average using data for the years 2005-06, 2006-07 and 2007-2008. The data are obtained from "CO_2 Baseline Database for Indian Power Sector" version 04, published by the Central Electricity Authority, Ministry of Power, Government of India.

The value of OM is 0.9985 which is found to be consistent with the registeredCDM PDD/7/.

$EF_{grid,BM,y}$ = The Build Margin emission factor is sourced from Central Electricity Authority: CO_2 Emission Database CEA CO_2 Baseline database Version 04, published by the Central Electricity Authority, Ministry of Power, Government of India.The value 0.713 tCO_2/MWh which found to be consistent with the registered CDM PDD/7/.

The combined margin emissions factor is calculated as follows:

$EF_{grid,CM,y}$= $EF_{grid,OM,y}$* W_{OM} + $EF_{grid,BM,y}$* W_{BM}

Where:

$EF_{grid,BM,y}$= Build margin CO_2 emission factor in year y (tCO_2/MWh)

$EF_{grid,OM,y}$= Operating margin CO_2 emission factor in year y (tCO_2/MWh)

W_{OM} = Weighting of operating margin emissions factor (0.75)

W_{BM}= Weighting of build margin emissions factor (0.25)

After calculation, the Combined Emission factor is obtained as 0.92718 tCO_2/MWh.

Monitored Parameter: As per registered CDM PDD, the following monitoring parameter is monitored:

EG_y = Net electricity supplied to the grid by the project

The electricity exported and imported by individual WEGs is measured through main and check meters installed at the grid interconnection points and thus net electricity exported to the grid from individual WEGs is recorded on a monthly basis. Monthly meter readings are taken by Tamil Nadu Generation and Distribution corporation Limited (TANGEDCO) and TANGEDGO issue monthly Energy Generation Statement/3/ to PP which contain net electricity export and to grid and import from grid.

PP has soured the electricity export, import and net electricity export directly from the monthly generation statement/3/. The details of meters installed at substations are as follows:

The details of Meters are as follows:

WTG Unique ID	Type	Make	Serial No.	Accuracy Class
Energy Meters - Kamachipuram and Kandamanur substation				
2687	Main Meter	Elster	04941038	0.5s
		L&T	14190248	0.2s
	Check Meter	Elster	04954747	0.5s
		L&T	1419030	0.2s
2682	Main Meter	Elster	04940888	0.5s
		Premier	TN903759	0.2s
	Check Meter	Premier	TNB04617	0.5s
		Premier	TN903784	0.2s
2672	Main Meter	Elster	04941044	0.5s
		Premier	TN903272	0.2s

	Check Meter	Elster	04954859	0.5s
		Premier	TN903293	0.2s
2666	Main Meter	Elster	04940883	0.5s
		L&T	14190303	0.2s
	Check Meter	Elster	04954765	0.5s
		L&T	14190334	0.2s
2665	Main Meter	Elster	04959607	0.5s
		Premier	TN903269	0.2s
	Check Meter	Elster	04954763	0.5s
		Premier	TN903770	0.2s
Energy meters - Udhayathoor substation				
T04	Main Meter	Elster	04955020	0.5s
	Check Meter		TNB04029	0.5s
T05	Main Meter	Elster	04955019	0.5s
		Wallaby	HT02120972	0.2s
	Check Meter	Elster	TNB04030	0.5s
T06	Main Meter	Elster	04955022	0.5s
	Check Meter	Secure	TNB04031	0.5s
T07	Main Meter	Elster	04955021	0.5s
	Check Meter	Secure	TNB04032	0.5s

	During the current monitoring period, Main meter serial number 04941038 associated with WEG HTSC No. 2687, installed on dated 27-September-2008, replaced with pre-calibrated meter Sr. No. 14190248 dated 11-February-2014 with accuracy 0.2s. Main meter serial number 04940883 associated with WEG HTSC No. 2666, replaced by pre-calibrated meter Sr.No.14190303) dated 11-February-2014 with accuracy of 0.2s. Check meter serial number 04954765 associated with WEG HTSC No. 2666, replaced by pre-calibrated meter Sr. No.14190334 on dated 11-February-2014 with accuracy 0.2s. The meter repayment and calibration of meter was verified from the meter changes report issued by TNEB. Further, Main Meters and Check meter have been replaced with new Main and Check meters as per Memo of Tamil Nadu Generation and Distribution Corporation Ltd(TNEGDCOL)/19/ from 2014 onwards accuracy class 0.2s, better than old meters thus acceptable to VVB. Since, calibration frequency of meters was yearly till 2013, thus delayed in calibration of old meters identified from 18-September-2012 to 01-October-2012. The observed error in next calibration is within permissible Limited and therefor, PP has applied maximum permissible error factor of 0.5% for the complete month of delayed period. During the current monitoring period, quantity of net electricity generation supplied by the project is 149,601 MWh. The verification team has checked Monthly generation statement issued by state utility TANGEDCO/3/and found correct. The cross-check process is not provided in monitoring plan of registered CDM PDD/7/, however, VVB has cross verified the consumption/HT Bills /4/and found consistent. net electricity generation supplied to the grid is used for captive consumption by project participant through wheeling agreement/13/ with state utility and wheeling charges applied in form of percentage, which is 5% and when wind energy is in excess of the consumption balance energy is banked. and banked charges is 5% of energy banked. Further, PP has used conservative value of net electricity exported to grid for emission reductions calculation. The calculation of baseline emissions is as below, $BE_y = EG_y \times EF_y$ BE_y= 149,601 MWh x 0.92718 tCO_2 /MWh BE_y= 138,703tCO_2e (round down) **Project emissions:** The project activity involves in harnessing wind power. Hence, in line with the applied methodology, project emissions are zero.

	Leakage emissions: The project activity involves in harnessing wind power. Hence, in line with the applied methodology, leakage emissions are zero. Thus, Emission Reductions are: The emission reductions (ER_y) by the Project activity during a given year y is the difference between baseline emissions (BE_y), project activity emissions (PE_y) and leakage, as follows $ER_y = BE_y - PE_y - LE_y$ $= 138{,}703\ tCO_2 - 0-0$ $= 138{,}703\ tCO_2e$ Verification team confirms that the monitoring has been carried out in accordance with the monitoring plan contained in the registered CDM PDD/7/. Verification team confirmed that the GHG emission reductions and removals have been quantified correctly in line with the registered CDM PDD/7/.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means of verification	The verification team checked the shutdown/break down log for the monitoring period. During the verification of remote audit, the energy meters are also checked. The Calibration details of the monitoring meters are also checked with calibration certificates.
Findings	CAR 05 was raised and successfully closed. Please refer Appendix 4 for more information.
Conclusion	The metering arrangement is energy meters (main and check) at the substation. These meters record several parameters including electricity exported & imported. The electricity meters located at the sub-station are being used by state electricity board (TANGEDCO) for monthly energy generation statement. Verification team found that since metering arrangement, monitoring practice, accuracy class, calibration interval is under control of state electricity board, the PP does not have control over this process. The calibration frequency of meters was yearly till 2013. From 2014 onwards, the frequency for calibration has changed from once in a year to once in every 5 years. The calibration frequency of meters is once in a year as per project registered CDM PDD. The calibration frequency of meter in monitoring plan of registered CDM PDD/7/ was once in year prior to February-2014. However, PP has sought project description deviation in calibration frequency from once in year to once in five years for the period from 2014 to end of MP in accordance with the TNEB MEMO No. CE/Comml/EE/R&C/AEE2/F.R&C/D70-1/12 dt 12-March-2012 MP. No.18/2012/D43/dt.07.03.14 from 2014 onwards. VVB has checked the

	TNEB MEMO /19/ and confirmed that deviation sought by PP is in line with TNEB MEMO /19/. The calibration details of meters provided in **Appendix 6** of this report. Verification team confirms through review of calibration certificate that main meters and check meters are of accuracy class of 0.5s prior to 11-February-2014 and 0.2s after 2014, There were delayed in calibration of old main meters and check meters located at Kamachipuram and Kandamanur substation from 14-September-2012 to 30-Sept.-2012 (HTSC No 2687, 2672, 2666) , from 29-May-2013 to 13-Sept-2013 (HTSC No.2682) and meter located at substation Udhayathoor substation from 18-September-2012 to 01-October-2012 (HTSC No. T04,T05,T06 ,T07). The observed error in next calibration is within permissible Limited. PP has applied maximum permissible error factor of 0.5% in export and import of electricity and calculated net electricity export to grid which for the complete month of delayed period as a conservative approach. Thus, acceptable to VVB. The responsibilities and authorities of project management, data handling and recording, measurement methods and QA/QC procedure have been systematically established and formalized and the same was verified during the remote audit. Remote audit and interview with site personnel also confirms that the operational and organizational chart as mentioned in registered VCS PD/ CDM PDD is as per the site practice and thus assessment team confirms that the details are correct. The shutdown / break down reports/18/ are checked and found that the plant undergone scheduled maintenance and break down. Assessment team checked the routine maintenance log book and confirmed that it does not have any impact on project design and monitoring procedures. No unforced error observed. Assessment team confirmed that data/ information used for determining GHG reductions and removals were sufficient in quantity and of appropriate quality. Calibration certificates of meters/ QA/QC procedure checked and found to be appropriate.

4.6 Non-Permanence Risk Analysis

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Not applicable	Not applicable	Not applicable	Not applicable

5 VERIFICATION CONCLUSION

Applus+ Certification has been engaged by ITC Limited to perform periodic verification of the "14.1 MW Grid Connected Wind Energy Project in Tamil Nadu by ITC Limited".

The management of the project participant/owner is responsible for the preparation of the GHG emissions data and the reported/estimated GHG emissions reductions on the basis set out within the project's Monitoring Plan in the CDM PDD and MR and the approved methodologies.

Our Verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board and VCS Standard version 4.3. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- the project is operated as planned and described in the project document;
- the monitoring plan is as per the applied methodology;
- the monitoring process in Monitoring Report is as per the CDM PDD
- the development and maintenance of records and reporting procedures are in accordance with the monitoring plan
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.
- A reasonable level of assurance was achieved during the verification.
- No limitation observed for the present verification
- Project complies with the verification criteria for projects and their GHG emission reductions or removals set out in VCS program guideline version 4.2 and VCS Standard version 4.3.
- Project has been implemented in accordance with the project description and subsequently validated deviations

Verification period: From 01-October-2011 to 13-March-2017 (first and last date included).

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

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
1-October-2011 to 31-Decemeber-2011	3,591	0	0	3,591
Janaury-2012 to 31-Decememebr-2012	35,009	0	0	35,009

01-Janaury-2013-31-Decememebr-2013	26,393	0	0	26,393
01-Janaury-2014 to 31-Decememebr-2014	24,483	0	0	24,483
01-Janaury-2015 to 31-Decememebr-2015	17,651	0	0	17,651
01-Janaury-2016 to 31-Decememebr-2016	28,343	0	0	28,343
01-Janaury-2017 to 13-March-2017	3,233	0	0	3,233
Total	**138,703**	0	0	**138,703**

The estimated emission reduction achieved from the project activity for the current monitoring period is 197,365 tCO_2e (36,182 tCO_2e/365 days x 1991 days), whereas actual emission reductions achieved are 1,38,703 tCO_2e(round down value), which is 29.72% lower than estimated emission reductions. As actual VCUs are lower than estimated value for the MP which is due to climatic factors affecting wind power generation and not in the control of project participants,

APPENDIX I: DOCUMENTS REVIEWED DURING VERIFICATION

No.	Author	Title	References to the document	Provider
1.	NA	Commissioning Certificates of WTGs	Commissioning Certificates of all WTGs issued by GEDA	Project participant
2.	Applus	Contract of the project participant with the DOE A+SH_SYST_TQC_VCS_VER_7722	Dated: 05-January-2022	Project participant
3.	State Utility	Monthly Electricity generation statement issued by TNEB(Joint metering Reports)	JMR records	Project participant
4.	PP	Consumption Bill/HT bills at ITC Manufacturing facility	01-July -2011 to 13-March-2017	Project participant
5.	NA	Monitoring Report, (Initial Version) Monitoring Report, (Final Version)	Version 01, dated 06-June-2022 Version 03 dated 13-July-2022	Project participant
6.	NA	Emission Reduction sheet (Initial) Emission Reduction sheet (Final)	Version 01, dated 06-June-2022 Version 03 dated 13-July-2022	Project participant
7.	NA	Registered CDM PDD	Version 03 dated 06-July-2009	UNFCCC / VERRA
8.	VERRA	VCS Standard VCS Programme guide	Version 4.3 Version 4.2	VERRA
9.	UNFCCC	CDM validation and verification standard for project activities, Version 03.0 CDM Project Standard for project activities, version 03.0	UNFCCC CDM web site	UNFCCC
10.	UNFCCC	AMS.I.D: Grid-connected electricity generation from renewable sources	Version 13	UNFCCC
11.	Vestas /Suzlon	Technical specifications of WTGs	-	Project participant
12.	PP	Single line diagram and meter locations / Layout	-	Project participant
13.	NA	Energy Wheeeling Agreement for all 9 WTGs	For all 9 WTGs	Project participant
14.	NA	Remote auditing for verification of measuring and monitoring procedure,	25-May-2022	Project participant

No.	Author	Title	References to the document	Provider
		• Video recordings & snapshots of the project site/equipment's • Interviews and data/log review		
15.	NA	Organization structure/chart	-	Project participant
16.	NA	Declaration of No Double Counting	06-June-2022	Project participant
17.	NA	Calibration Certificates/ TNEB Order Memo	Calibration Certificates of all Meters	Project Participant
18.	NA	Plant log sheet	01-October -2011 to 13-March-2017	Project participant
19.	PP	TNGEDCO Memo for revision in calibration frequency of meters	Memo No. CE/Comml/EE/R&C/AEE2/ F.MP.No.18/2012/D43/dt. 07-March-2014	Project Participant

APPENDIX 2: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS(CAR/CL/FAR)

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	-	Section no.	-	Date : DD/MM/YYYY
Description of FAR				
N/A.				
Project participant response				Date : DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: DD/MM/YYYY
NA				

Table 2. CL from this verification

CL ID	01	Section no.	4.4	Date: 06-May-2022
Description of CL				
The data recording cycle in JMR and data cycle provided in ER sheet is not consistent. PP is requested to clarify how data has been considered for emission reductions calculation.				
Project participant response				Date: 13-June-2022
PP has revised the ER sheet and followed the consistency.				
Documentation provided by project participant				
1. Updated ER Sheet				
DOE assessment				Date: 01-July-2022
Data recording cycle now made consistent with the JMR. For mismatch in JMR period and monitoring period PP has taken daily generation value of Suzlon and to obtain the actual generation as per the conservative approach. CL is closed.				

CL ID	02	Section no.	4.4	Date: 01-July-2022
Description of CL				
In Appendix 1 of MR, PP has mentioned that “from the year 2014 onwards the frequency for calibration has changed from once in a year to once in every 5 years”. However, VVB has not found the reference of approved project description deviation for the same in in monitoring report. PP is requested to clarify				

Project participant response	Date: 13-July-2022
PP has mentioned the necessary changes in respective section in monitoring report	
Documentation provided by project participant	
1. Updated Monitoring Report 2. Tamil Nadu Generation and Distribution Corporation Ltd memo: Memo.No.CE/Comml/EE/R&C/AEE2/F.MP.No.18/2012/D43/dt.07.03.14	
DOE assessment	**Date:** 18-July-2022
PP has applied for deviation in section 3.2.2 of revised monitoring report as the calibration frequency has been changed once in a year to once in five years as per the Tamil Nadu Generation and Distribution Corporation Ltd memo. VVB team has verified the same with submitted memo issued by state utility and found correct. Thus, **CL closed**.	

Table 3 CAR from this verification

CAR ID	01	Section no.	4.1	Date: 06-June-2022
Description of CAR				
During desk review of submitted documents and MR, verification team observed following inconsistencies: • *Title of project is not in line with title mentioned in registered CDM PDD and at VERRA website* • *PP has submitted Monitoring Report in old version of MR template (Version 4.0). PP is requested to provide MR in latest version (Version 4.1) of VCS MR template.* • *The relevant implementation dates (e.g., dates of construction, commissioning, and continued operation periods) is not described in Section 1.1 of MR.* *Corrective action is sought.*				
Project participant response				**Date:** 13-June-2022
• PP has revised the MR, now it is in-line with the registered CDM PDD. • PP has revised the MR template as per the latest version. • PP has updated the revised MR.				
Documentation provided by project participant				
1. Updated ER Sheet 2. Updated MR Version 03				
DOE assessment				**Date:** 01-July-2022
• Title of project updated in revised MR is now in-line with title mentioned in registered CDM PDD and at VERRA website. Thus, **CAR is closed**. • PP has revised the monitoring report template as per latest available VCS MR template version 4.1, Thus accepted to VVB team and **CAR is closed**. • In Section 1.1 of revised MR, PP has now included relevant implementation dates (e.g., dates of construction, commissioning, and continued operation periods). However, summary description is more than one page which is not inline as per requirement of VCS MR filling guideline version 4.1. Thus, CAR is Open.				
Project participant response				**Date:** 13-July-2022
PP has updated the revised MR which is inline with the VCS Version 4.1				

Documentation provided by project participant	
1. Updated MR Version 03	
DOE assessment	**Date:** 18-July-2022
PP has now updated the section 1.1 of revised MR and made description in one page as per requirement of VCS MR template version 4.1. Thus, **CAR is closed**.	

CAR ID	02	**Section no.**	4.1	**Date: 06**-June-2022
Description of CAR				
During the review of monitoring report, Verification team observed the followings: • *The version number of applied methodology and Tools mentioned in monitoring report is not consistent with the registered CDM PDD which is part of project VCS documentation.* • *Version Number of VCS standard mentioned in MR is not the latest version* • *VCS PD is not available on VERRA website. PP to clarify the same.*				
Project participant response				**Date:** 13-june-2022
• PP has revised the MR and it is consistent as per the registered CDM PDD • PP has followed the latest version of MR • PP has followed the registered CDM PDD during previous verifications hence the same can be available on VERRA website.				
Documentation provided by project participant				
1. Updated Monitoring Report				
DOE assessment				**Date:** 01-July-2022
• PP has now updated the version of applied methodology and tool in revised MR which is now consistent with the CDM PDD version 03 dated 06-July-2009.Thus accepted to VVB team, **CAR is closed.** • VCS PD has now mentioned latest VCS standard version number in revised MR, the latest applicable version of VCS standard version i.e., version 4.3 updated in MR. Thus, **CAR is closed**. • Only CDM PDD is available at the VERRA website as a registered PD. VCS PD and VCS Validation report is not found on VERRA website. PP is requested to provide the same CAR Open				
Project participant response				**Date:** 13-July.2022
PP has followed the registered CDM PDD as a base document on VERRA website.				
Documentation provided by project participant				
1. Updated Monitoring Report				
DOE assessment				**Date:**18-July-2022
• As confirmed by PP all parameter monitored as per the registered CDM PDD and validation report only available on VERRA project webpage. There were no VCS PD for current monitoring period. Thus, **CAR is closed.**				

CAR ID	03	**Section no.**	4.1	**Date: 06**-June-2022
Description of CAR				
PP is requested to submit declaration regarding avoidance of double counting of emission reductions in the other GHG trading programmes and REC mechanism of India. Further, details of any GHG credits claimed under such programs need to be provided.				
Project participant response				**Date:** 13-June-2022

PP has submitted the declaration regarding avoidance of double counting to DoE.
Documentation provided by project participant
No double counting declaration
DOE assessment **Date:** 01-July-2022
PP has submitted "No Double Counting" undertaking dated 06-June-2022 and confirmed that no double counting of GHG reduction will be claimed for current monitoring period from other GHG trading programme and REC mechanism of India to the DOE. Thus, **CAR is closed.**

CAR ID	04	**Section no.**	4.2	**Date: 06**-June-2022
Description of CAR				
PP has described mechanism for on-going communication with local stakeholder in Section 2.2 of monitoring report. However, supporting evidence not submitted to VVB.				
Project participant response				**Date:** 13-June-2022
PP has submitted the supporting evidence to DoE as per section 2.2 of MR				
Documentation provided by project participant				
Grievance Register				
DOE assessment				**Date:** 01-July-2022
PP has submitted the supporting evidence of on-going communication with the stakeholders. PP has kept grievance register at plat site for comments/grievances/suggestions for local stakeholders and also submitted copy of grievance registered to VVB. VVB observed that there are no any grievances registered during current monitoring period as verified from the supporting evidences submitted by PP. **CAR is closed.**				

CAR ID	05	**Section no.**	4.4	**Date:** 06-June-2022
Description of CAR				
During review of MR and ER sheet submitted by PP, Verification team observed the followings: • *Data /parameters in Section 4.1 and Section 4.2 of monitoring report is not consistent with the registered project Description.* • *Further, the data of electricity export, Import and net electricity export to grid provided in ER calculation spread sheet is not in line with submitted evidence. PP is requested to provide the data as per JMRs to verify the same.* • *Description of monitoring plan in monitoring report is not in line with the registered project description.* • *Process of cross check of data is not included in ER sheet a and emission reduction sheet is not consistent with registered monitoring plan. PP is request to clarify the same.*				

Project participant response	Date: 13-June-2022
• PP has revised the MR under section 4.1 & 4.2 which is consistent with registered PDD. • PP has revised the ER sheet which is in-line with the JMR data • The description of monitoring plan is now in-line with the registered project description. • The PP has revised the ER sheet which is now consistent with registered monitoring plan.	
Documentation provided by project participant	
1) Revised MR 2) Revised ER 3) JMR	
DOE assessment	**Date:** 01-July-2022
• PP has now updated the Data and Parameter under section 4.1 and 4.2 in revised MR which is now consistent with the registered CDM-PPD available on VERRA website. Hence OK. • PP has provided net export, import and export in different generation record table separately whole month for Suzlon (**Tirunelveli**) and Vestas (**Theni**) site WEGs. However, Export and import data is not in line with the monthly submitted JMRs/data. CAR open. • Description of monitoring plan under section 4.2 of revised MR found not consistent with the registered CDM PDD. Thus, CAR is open. • PP has not included the invoice value or cross check mechanism in ER sheet. PP is requested to clarify. CAR open.	
Project participant response	**Date:** 13-July-2022
• The PP has revised the ER sheet which is now consistent with the monthly JMR data • The monitoring plan under section 4.2 of revised MR is now consistent with registered CDM PDD. • PP has prepared the ER sheet based on the JMR monthly generation report	
Documentation provided by project participant	
1. Updated ER Sheet	
DOE assessment	**Date:** 18-July-2022
• PP has now made values of electricity import and export generation data consistent with JMR provided, and as per the billing cycle provided in JMR issued by state utility. Thus, **CAR is closed**. • PP has revised the section 4.2 of revised MR as per the registered CDM PDD. now monitoring method found consistent with CDM PDD. Thus, **CAR is closed**. • As clarified by PP emission reduction sheet prepared through daily generation report of TNEB there were no crosscheck mechanism used to verify emission reduction value and also found consistent with CDM PDD for current monitoring period and accepted to the VVB team. Thus, **CAR is closed**.	

CAR ID	06	Section no.	4.5	Date: 06-June-2022
Description of CAR				
Accuracy class of meters mentioned in Appendix 1 of monitoring Report is not consistent. Further, PP has not submitted the calibration certificates so compliance of calibration requirement cannot be verified. Corrective action sought.				
Project participant response				**Date:** 13-June-2022
The PP has has submitted the calibration reports to DoE				

Documentation provided by project participant	
Calibration certificates	
DOE assessment	**Date:** 01-July-2022
PP has submitted calibration certificate for current monitoring period. Verification team has checked the same and observed that there is delay in calibration of meter. Further, calibration evidence for Meter Sr. No 14190303 not submitted. Also, supporting evidence for calibration of check meter installed at WEG HTSC No. 2666 not consistent. CAR is Open.	
Project participant response	**Date:** 13-July-2022
PP has followed the delay calibration analysis and updated the error factor for the respective monitoring period. Further, the new meter has been replaced by Sr. No. 14190303 and the meter replacement certificate issued by TANGEDCO for the same has been provided. Check meter has made consistent according to the calibration certificate.	
Documentation provided by project participant	
Meter Replacement Certificate	
DOE assessment	**Date:** 18-July-2022
PP has applied the error factor of 0.5% for WEG HTSC No. 2687,2672, 2666, 2665 connected meters and 0.2% for WEG HTSC No. 2682, T04, T05, T06, T07 connected meters as per the maximum permissible during current monitoring period for delayed period. Assessment team found the emission reduction sheet is now revised and delayed factor applied throughout the calibration delayed month for conservative approach. Further replacement meter calibration certificate now submitted to VVB team and found consistent for 14190303, Also check meter detail of installed HTSC meter 2666 inline with submitted calibration certificate. Thus, CAR is closed.	

APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verificationfindings
1.	Lead Auditor/Technical Expert	OR	Singh	Jitendra Mohan	TQC-Outsourced entity	Yes	No	Yes	Yes
2.	Auditor in trainee/technical Expert in trainee	IR	Vega	Ms. Karen	Applus certification	Yes	No	Yes	Yes

Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer (TR)	EI	Xue	Denny	Applus+ Certification
2.	Approver	IR	Calle de Miguel	Agustin	Applus+ Certification

Short CVs of the Team:

1. **Jitendra Mohan Singh**, has done Advanced MSc in Sustainable Energy Systems and Management from International Institute of Management, University of Flensburg, Germany and B.Tech. in Agricultural Engineering from Allahabad University, India. He has more than (18) years of working experience in different organizations like IARI, IIT Delhi, ICAR, IRADe, CAPART, SMEC and Perenia Carbon and M B Power (Madhya Pradesh) Ltd. in the area of Agriculture, Energy & Environment and Climate Change. He also worked on contract basis (adhoc) as a RIT expert in UNFCCC from 2010 to 2013. Currently. he is empanelled with Applus+ Certification since 2020 and has been involved Verifications of Pas/PoAs as Lead Auditor and Technical Expert for Renewable and non-Renewable as well as Energy Demand.

2. **Ms. Karen Vega**, has a Bachelor's Degree in Environmental Sciences from the University of Barcelona, she has post-graduate studies in renewable energies, and a master's degree in finances. Karen has more than 6 years of experience in the sector of quality, environment, and climate change. Her professional career has been mainly focused, but not limited to, on the sector of validation and verification of GHG emission compensation and mitigation projects, in different countries and under universally recognized standards (CDM-UNFCCC, VS, GS). She has also worked as Sustainability and Environment consultant mainly for the metal coating sector, conducting transversal roles and opening successfully the sustainability department in the company.
   Currently, she works in the CDM Department of Applus + Certification, as CDM Project Activity Manager, being especially involved in technical and management tasks in the DOE to ensure the quality of the performance of different assessments, coordinate the global team, and maintenance of the Accreditations. Karen has attended different CDM, VCS, GS4GG, GCC, ISO 9001, and ISO 14001 training processes. She has conducted consultancy services for ISO 9001 and ISO 14001 implantation in various companies, being in charge from its beginnings until final certification and certificate obtain; in the same way she has conducted Carbon Footprint Analysis and Reports. Karen is currently being qualified as an auditor for ISO 9001, ISO 14001, GHG audits, and CDM renewable projects audits.

3. **Mr. Denny Xue** (Master's Degree in Environmental Engineering, Bachelor's Degree in Thermal Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment, auditing and technical review. He has more than 6 years of work experience in CDM/GS4GG/VCS project assessment and technical review with Applus+. Before he joined Applus+ LGAI, he has been working for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development.

APPENDIX 4: ABBREVIATIONS

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction(s)
CEA	Central Electricity Authority
CL	Clarification Request
CM	Combined Margin
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
PP	Project Participant
TNEB	Tamil Nadu Electricity Board
TANGEDCO	Tamil Nadu Generation and Distribution corporation Limited

APPENDIX 5: DECLARATION OF NO DOUBLE COUNTING

ITC Limited
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Abhiramapuram, Chennai - 600 018. India
Telephone : 91 44 4208 1501 - 1507

Enduring Value

TO WHOMSOEVER IT MAY CONCERN

Date: 06/06/2022

This declaration is in reference to VCS Project activity i.e. "14.1 MW Grid Connected Wind Energy Project in Tamil Nadu by ITC Limited" (VCS ID: 538). The project activity generates electricity through renewable wind energy sources. The project activity involves installation of 9 wind energy generators with the total installed capacity of the 14.1 MW.

The monitoring period is 01-October-2011 to 13-March-2017 (Both dates Inclusive).

ITC Limited hereby declares that: -

1. There is no use of ODA (Official Development Association) funds from Annex-I (Developed) countries.
2. Project is not rejected by any other GHG program.
3. Project has not applied or registered to claim REC benefits or any other GHG mechanism.

Project owner hereby confirms that there would not be double counting of the credits i.e. VCS benefits will only be claimed for the monitoring period.

For ITC Limited

Anand Garg
(Vice President Finance & MIS)

APPENDIX 6: CALIBRATION DETAILS OF METER

Energy Meters - Kamachipuram and Kandamanur substation

WEG HTSC No (WEG ID)	Type	Make	Serial No.	Accuracy Class	Calibration Date	Validity of calibration	Meter fixed on	Delay Period
2687 (R 142)	Main Meter	Elster	4941038	0.5s	14-Sept-2011	13-Sept-2012	27-Sept-2008	14-Sept-2012 to 30-Sept.-2012
					01-Oct- 2012	30-Sept.2013		
					14-Sept-2013	13-Sept-2014		
		L&T	14190248	0.2s	11-Feb.2014	10-Feb-2015	11-Feb-2014	-
	Check Meter	Elster	4954747	0.5s	14-Sept-2011	13-Sept-2012	27- Sep -2008	14-Sept-2012 to 30-Sept.-2012
					01-Oct-2012	30-Sept.2013		
					14-Sept-2013	13-Sept-2014		
		L&T	1419030	0.2s	11-Feb.-2014	10-Feb-2015	11- Feb -2014	-
2682 (R 382)	Main Meter	Elster	4940888	0.5s	14-Sept-2011	13-Sept-2012	26- Sept -2008	29-May-2013 to 13-Sept.-2013
		Premier	TN903759	0.2s	14-Sept.-2013	13-Sept.2014	30-May-2012	
	Check Meter	Premier	TNB04617	0.5s	14-Sept-2011	13-Sept-2012	14- Feb -2011	29-May-2013 to 13-Sept-2013
		Premier	TN903784	0.2s	14-Sept.-2013	13-Sept-2014-	30- May -2012	
2672 (R 435)	Main Meter	Elster	4941044	0.5s	14-Sept-2011	13-Sept-2012	24-Sept-2008	14-Sept-2012 to 30-Sept.--2012
					01-Oct.-2012	30-Sept.-2013		
		Premier	TN903272	0.2s	14-Sept.-2013	14-Sept.-2013	11-Dec-2012	
	Check Meter	Elster	4954859	0.5s	14-Sept-2011	13-Sept-2012	25-June-2009	14-Sept-Sept-2012 to 30-Sept.-2012
					01-Oct.-2012	30-Sept.-2013		
		Premier	TN903293	0.2s	14-Sept.-2013	13-Sept.2014	11-Dec-2012	
2666 (R 432)	Main Meter	Elster	4940883	0.5s	14-Sept-2011	13-Sept-2012	20- Sept -2008	14-Sept-2012 to

					01-Oct.-2012	30-Sept.-2013		30-Sept.-2012
					14-Sept--2013	13-Sept.-2014		
		L&T	14190303	0.2s	11-Feb.2014-	10-Feb-2019	11-Feb-2014	
	Check Meter	Elster	4954765	0.5s	14-Sept-2011	13-Sept-2012	25-June-2009	14-Sept-2012 to 30-Sept.-2012
					01-Oct.-2012	30-Sept.2013		
					14-Sept.-2013	13-Sept.2014		
		L&T	1.4E+07	0.2s	11-Feb.2014-	10-Feb-2019	11- Feb -2014	
2665	Main Meter	Elster	4959607	0.5s	14-Sept-2011	13-Sept.2012	20-Sept-2008	14-Sept – 2012 to 23-Sept-2012
		Premier	TN903269	0.2s	14-Sept-2013	13-Sept-2014	24-Sept-2012	14-Sept – 2012 to 23-Sept-2012
	Check Meter	Elster	4954763	0.5s	14-Sept-2011	13-Sept-2011	25-June-2009	14-Sept-12 to 23-Sept-2012
		Premier	TN903770	0.2s	14-Sept.-2013	13-Sept.2013	24-June-2012	14-Sept – 2012 to 23-Sept-2012

Note:

Meter Sr.No. 04941038 has been replaced with pre-calibrated meter Sr. No 14190248 dated on 11-February -2014,

Meter no. 04954747 has been replaced with pre-calibrated Meter Sr.No.1419030 on dated 11-February-2014,

Meter no. 04940888 has been replaced pre-calibrated Meter Sr. No. TN903759 on dated 30-May-2012,

Meter no TNB04617 has been replaced with pre-calibrated Meter Sr. No. TN903784 on dated 30-May-2012,

Meter no 04941044 has been replaced with pre-calibrated Meter Sr. No. TN903272 on dated 11-December-2012,

Meter Sr. No. 04954859 has been replaced with pre-calibrated Meter Sr. No. TN903293 on dated 11-December-2012,

Meter Sr. 04940883 has been replaced with pre-calibrated Meter Sr. No. 14190303 on dated 11-February-2014,

Meter Sr. No 04954765 has been replaced with pre calibrated Meter Sr. No 14190334 on dated 11-February-2014,

Meter Sr.No.04959607 has been replaced with pre calibrated Meter Sr. No. TN903269 on dated 24-September-2012,

Meter no 04954763 has been replaced with pre calibrated Meter Sr.No.TN903770 on dated 24-September-2012.

Energy meters - Udhayathoor substation

WEG HTSC No	Type	Make	Serial No.	Accuracy Class	Calibration Date	Validity of calibration	Meter fixed on	Delay Period
T04	Main Meter	Elster	4955020	0.5s	18-Sept-2011	17-Sept-2012	22-Aug-2008	18-Sept-2012 to 01-oct-2012
					02-Oct-2012	01-Oct-2013		
					26-Sept-2013	25-Sept-2014		
	Check Meter	Elster	TNB04029	0.5s	18-Sep-2011	17-Sep-2012	22- Aug - 2008	18-Sept-2012 to 01-oct-2012
					02-Oct-201 2	01-Oct-201 3		
					26-Sept-2013	25-Sept-2014		
T05	Main Meter	Elster	4955019	0.5s	18-Sept-2011	17-Sept-2012	22- Aug - 2008	18–Sept-2012 to 01-oct-2012
					02-Oct-2012	01-Oct-2013		
					26-Sep-2013	25-Sep-2014		
		Wallaby	HT02120972	0.2s	31-May-2014	30-May-2019	31-May-2014	-
	Check Meter	Elster	TNB04030	0.5s	18-Sep-2011	18-Sep-2011	22- Aug - 2008	18-Sept-2012 to 01-oct-2012
					02-Oct-2012	02-Oct-2012		
					26-Sept-2013	26-Sept-2014		
T06	Main Meter	Elster	4955022	0.5s	18-Sept-2011	17-Sept-2012	22- Aug - 2008	18-Sept-2012 to 01-oct-2012
					02-Oct-2012	01-Oct-2013		
					26-Sept-2013	25-Sept-2014		
	Check Meter	Secure	TNB04031	0.5s	18-Sept-2011	17-Sept-2012	22- Aug - 2008	18-Sept-2012 to 01-oct-2012
					02-Oct-2012	01-Oct-2013		
					26-Sept.-2013	25-Sept.-2014		
T07	Main Meter	Elster	4955021	0.5s	18-Sept-2011	17-Sept-2012	22- Aug - 2008	18-Sept-2012 to 01-oct-2012
					02- Oct-2012	01- Oct-2013		
					26-Sept-2013	25-Sept-2014		
	Check Meter	Secure	TNB04032	0.5s	18-Sept-2011	17-Sept-2012	22- Aug - 2008	18-Sept-2012 to 01-Oct-2012
					02-Oct-2012	01- Oct-2013		
					26-Sept-2013	25-Sept-2014		

Note : Meter Sr. No 04955019 has been replaced with pre-calibrated Sr. No HT02120972 on dated 31-May-2014