"BUNDLED WIND POWER PROJECT BY SEMBCORP GREEN INFRA LIMITED IN INDIA"

Document Prepared by LGAI Technological Center, S.A. (Applus+ Certification)

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Summary:

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Green Infra Wind Energy Limited to conduct the verification of the project - "Bundled Wind Power Project by Sembcorp Green Infra Limited in India", VCS ID 1856 regarding the relevant requirements of VCS programme guidelines and standard (VCS standard version 4.5, & VCS program guide version 4.4). The scope of verification includes confirming the implementation of the monitoring plan of the registered joint VCS PD&MR (version 02) dated 23/12/2019 and the application of the monitoring methodology "Grid-connected electricity generation from renewable sources", ACM0002, Version 19. The monitoring period covers under this verification are from 01/08/2022 to 31/08/2023 (both days included).

The project activity involves installation of 95.5 MW wind power project in state of Gujarat and Andhra Pradesh, India and supplying the electricity to the Indian grid. Thus, the project aims to displace electricity produced by fossil fuel power plants harnessing wind energy. The energy produced is supplied to the Indian grid. Therefore, the project reduces greenhouse gas emissions and thereby contributes to sustainable development.

A risk-based approach has been followed to perform this verification. During verification, 02 Corrective Action request (CARs), 00 Forward Action request (FARs), and 02 Clarification request (CLs) was raised and successfully closed.

The review of the Monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, on-site visit, follow-up interviews and project owners have provided LGAI Technological Center S.A. (Applus+ Certification) with sufficient evidence to verify the fulfillment of the stated criteria of VCS.

LGAI Technological Center S.A. (Applus+ Certification) confirms that the project is implemented in accordance with the registered joint VCS PD&MR /01/. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the project's GHG emissions, and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the emission reductions from the project activity "Bundled Wind Power Project by Sembcorp Green Infra Limited in India" during the period 01/08/2022 to 31/08/2023 (including both days) amount to 205,831 tons of CO_2e.

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1 INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. (Hereafter referred as Applus+ Certification) has been contracted by Green Infra Wind Energy Limited, to undertake the verification of the renewable energy project titled "Bundled Wind Power Project by Sembcorp Green Infra Limited in India" (VCS ID-1856) The verifiers have reviewed the GHG data collected to date for the monitoring period from 01/08/2022 to 31/08/2023 (both days included) covered in this verification. The objective of this verification is a thorough and independent assessment of registered project activities against the applicable VCS requirement by the VVB. The verification process shall determine whether the proposed project activity complies with the requirements of latest VCS guidelines, applicability conditions of the selected methodology, relevant host country regulations and guidance issued by the VCS Board.

1.2 Scope and Criteria

The scope of verification is to assess the claims and assumptions made in the VCS monitoring report (MR) against the VCS criteria, including but not limited to, VCS standard, applied methodology and other relevant rules and requirements established for VCS project activities.

The Verification is not meant to provide any consulting towards the project participants. However, stated requests for clarification and/or correction actions request may have provided inputs for improvement of the project design.

1.3 Level of Assurance

The level of assurance of the verification report falls under reasonable assurance engagements. Reasonable assurance is a high level of assurance regarding material misstatements, but not an absolute one.

Reasonable assurance includes the understanding that there is a remote likelihood that material misstatements will not be prevented or detected on a timely basis. To achieve reasonable assurance, the auditor needs to obtain sufficient appropriate audit evidence to reduce audit risk to an acceptably low level. This means that there is some uncertainty arising from the use of sampling, since it is possible that a material misstatement will be missed.

The evidence used to achieve a reasonable level of assurance is specified in section 2.3 and 2.4 of this report. Materiality for the project is 5%, however the assessment team has verified 100% data (no sampling plan is applied), hence it is sufficient to meet the materiality requirements of the project.

1.4 Summary Description of the Project

The project activity consists of three sub-projects developed by Green Infra Wind Energy Limited (GIWEL) and Green Infra Wind Solutions Limited in Gujarat and Andhra Pradesh state in India. There is total 56 WTGs are installed for the project activity reaching the total capacity as 95.5 MW. The details of all 3 sub-projects are provided under the below table:

Item	Project developer	Location	Number of WTGs	Capacity (MW	Commissioning date(s)
Sub- Project- 1	Green Infra Wind Energy Limited	District: Amreli and Rajkot State: Gujarat	11 of 2 MW Capacity each	22	02/03/2017 to 28/06/2017
Sub- Project- 2	Green Infra Wind Energy Limited	District: Surendra Nagar State: Gujarat	12 of 2 MW Capacity each	24	31/03/2017 to 30/06/2017
Sub- Project- 3	Green Infra Wind Solutions Limited	District: Kurnool State: Andhra Pradesh	33 of 1.5 MW Capacity each	49.5	30/03/2017
Total (MW)				**95.5**	

This Greenfield project activity is aimed at cleaner production of electricity by displacing coal-generated electricity, thus resulting in carbon emission reductions. This is achieved by selling the electricity produced at these wind farm sites to Indian grid.

The WTGs installed for sub-project-1 and 2 (Gujarat location) are supplied by INOX Wind Limited and the WTGs for sub-project-3 (Andhra Pradesh location) are supplied by ReGen Powertech Pvt Ltd. The WTG suppliers are responsible for operation and maintenance of WTGs at respective site locations. Location of the project WTGs was verified through GPS Map (https://www.google.co.in/maps) and found consistent with the data provided in the registered VCS PD & MR /01/.

The first WTG was commissioned on 02/03/2017 and the last WTG on 30/06/2017. The same was verified against the registered VCS PD & MR/01/ and commissioning certificates/12/. The emission reductions from the project activity during the period 01/08/2022 – 31/08/2023 (including both days) amount to 205,831 tonnes of CO_2e.

The verification team has physically verified the equipment's installed at site and SCADA monitoring system during the site visit. Based on the assessment of the documents, the assessment team can confirm that the project activity is fully functional and implemented as described in the registered joint VCS PD&MR /01/.

2 VERIFICATION PROCESS

The registered VCS project is undergoing fifth verification period, the approach adopted to ensure the quality of emission reductions is described in the following sections.

2.1 Method and Criteria

The verification approach consists two phases.

In the first phase, Applus+ Certification completed a strategic review and risk assessment of the project's activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the verification Report.

At the end of this phase, Applus+ Certification produced a Verification Checklist which, based on the risk assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

In the second phase using the Verification checklist, Applus+ Certification verified the implementation of the monitoring plan and the data presented in the VCS MR/05/ for the period in question. This involved on-site visit & interviews of project proponent representative's and a desk review of the Monitoring Report. This verification report describes the findings of this assessment.

Verification schedule is described in the below table:

Sr. No	Date	Milestones
1	14/09/2023	Contract signed
2	30/09/2023	Desk review
3	11/12/2023	Site visit (Gujarat)
4	19/12/2023	Site visit (Andhra Pradesh)

5.	17/01/2024	Draft verification report

2.2 Document Review

The verification is performed primarily as a document review of the registered joint VCS PD&MR /01/, previous MR and Verification report/2.1/ and associated documents as stated in detail in appendix 1 of this document. The assessment is performed by a verification team using a protocol. The cross checks between information provided in the Monitoring report, joint VCS PD&MR and information from sources other than those used, if available, the team's sectoral or local expertise and, if necessary, independent background investigations.

2.3 Interviews

The site visit for the project location, by the assessment team, was conducted on 11/12/2023 and 19/12/2023, and the following stakeholders were interviewed.

S N	Name	Organization
1	Mr. Rajeev Kumar Singh	Manager, Green Infra Wind Energy Limited
2	Mr. Jayesh Bavalva	DM, Green Infra Wind Energy Limited
3	Mr. Harish Bamniya	Sr. Engineer, Green Infra Wind Energy Limited
4.	Mr.Vishal Kaushik	HSE, SGIL
5.	Mr.Nagarajan T.	SGIL, QHSE (Andhra site)
6.	Mr. Manikaran C.	Manager , Green Infra Wind Energy Limited (Andhra site)
7	Mr.Nagaraj BS.	DM, Green Infra Wind Energy Limited(Andhra site)

Interviews with local stakeholders:

The verification team has interviewed the local stakeholders, and they were questioned for various topics as summarized below.

a) Effect of project on their livelihood and income
b) Any problem related to project installation in nearby areas.
c) Are they happy with the benefits and development as CSR activity of the PP?
d) General feedback about the project
e) Do they know about the grievance and feedback back register/mechanism?
f) Any feedback; Concern (C) Positive (P) and Negative (N)

S. No.	Name of stakeholder	Village	Feedback (Positive/Negative/Concerns)

Location: Rajkot and Surendra Nagar **district**, Gujarat			
1	Naresh Maheshwari	Kalasar	Positive
2	Raja Bhai Rabari	Kalasar	Positive
3	Dilip Senghani	Lilapur	Positive
4	Satyam Patel	Hirana	Positive
5	Shantilal Buchiya	Jepur	Positive
6	Govind Singh Jadeja	Vadadhra	Positive
7	Prakash Maheswari	Vadadhra	Positive
8	Dilip Singh Jadeja	Vadadhra	Positive
Location: Kurnool district, Andhra Pradesh			
1	E. Prakash	Vantupalli	Positive
2	P. Shafi	Devanakonda	Positive
3	Mallikarjuna.G	Palledeoddi	Positive
4	Pawan Kalyan. B	K. Venkatapuram	Positive
5	Gajendra. G	K. Venkatapuram	Positive

2.4 Site Visits

The onsite visit was undertaken by the verification team member Ravi Kant Soni (Lead Auditor) at respective locations, to carry out the following.

a) An assessment of the implementation and operation of the registered project activity as per the registered VCS RCP PD and VCS MR.

b) A review of information flows for generating, aggregating, and reporting the monitoring parameters.

c) Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the PD.

d) A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources.

e) A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PD, the applied methodology including applicable tool(s), and, where applicable, the applied standardized baseline.

f) A review of calculations and assumptions made in determining the GHG data and emission reductions.

g) An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

The objective of this step is to identify, discuss and conclude on the issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions. This is done based on the desk review and interaction with site personnel over phone. The verification team prepares and/or updates a verification protocol (internal document) that records the conformities and non-conformities, which may be of following types;

CAR (Corrective Action Request) is raised if one of the following occurs:

Non-compliance with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;

Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;

Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants. Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. All CARs and CLs raised by the Applus+ Certification during verification shall be resolved prior to submitting a request for issuance.

FAR (Forward Action Request) is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period.

During the current verification, 02 Corrective Action request (CARs), 00 Forward Action request (FARs), and 02 Clarification request (CLs) was raised and successfully closed. All the findings that are raised and communicated to project participant during the verification are included under Appendix 3. The section also includes the response, if provided, by the project participants and an assessment by the verification team if it was closed out or otherwise.

2.5.1 Forward Action Requests

The project activity is undergoing fifth verification, there were no FARs raised during the validation or previous verification/02.1/.

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

Project activity is undergoing periodic verification, validation of project description deviations identified during the current monitoring period is provided under section 3.3 of this report.

3.1 Participation under Other GHG Programs

The project activity is registered under the VCS only (VCS Project ID 1856) and is not registered under any other emissions trading program or any other mechanism that includes GHG allowance trading. PP also confirms that net GHG emission reductions or removals generated during this monitoring period shall not be used for compliance under any such programs or mechanisms. This was confirmed through a declaration/15/ submitted by the PP and hence accepted by the assessment team.

The PP has submitted the declaration/15/ which states that the net GHG emission reductions generated by the project activity will not be used for compliance with any other emissions trading program or to meet binding limits on GHG emissions for the same monitoring period.

3.2 Methodology Deviations

There is no methodology deviation identified during the current monitoring period.

3.3 Project Description Deviations

There is no project deviation identified during the current monitoring period.

During the **previous monitoring periods** , approved one project deviation taken place: -

Deviation 1:

There is typo error identified with reference to the specification of the energy meters installed at Gujarat location (sub project -1), as per the registered JPD, the meters manufacture name was mentioned as “Secure”, however the meters installed are of “EDMI” make. Hence, PP has considered this correction in the registered JPD as project deviation during previous monitoring period.

Deviation 2:

The procedure for calculation of net electricity supplied to the grid was introduced in case where the billing cycle dates don't match with monitoring period start and/or end date.

In such cases, the net electricity exported to the grid would be calculated as follows:

D = (A/B) *C

Where:

A = Difference of number of days which are not matching of billing period and monitoring period.

B = Number of days of the billing period/ month which was not matched with the monitoring period.

C = Net Electricity supplied to the grid for that given billing period/ month

The assessment team can confirm that the deviations identified during the previous monitoring periods are appropriately described and justified and the project remains in compliance with the VCS rules. Also, the deviation does not have an impact on the applicability of the methodology, additionally or the appropriateness of the baseline scenario.

3.4 Grouped Project

Not applicable. The project activity is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

This project activity involves installation of its WTG's to generate electricity from wind energy. The installed capacity of the project activity is 95.5 MW consisting of 56 WTG's (23 WTGs of Inox wind having capacity of 2 MW each and 33 WTGs of ReGen having capacity of 1.5 MW each) in the states of Andhra Pradesh and Gujarat, which was verified through commissioning certificates/12/.

Details of the individual sub-project implemented under the project activity is provided in below table:

Site Location	Sub-Project	WTG Supplier and Model	WTG Capacity	No. of WTGs	Total Capacity at each Site

(Rojamal Site) Amreli/Rajkot, Gujarat	Sub Project -1	INOX Wind Limited Model-DF100-92 M)	2 MW	11	22 MW
(Sadla Site) Surendra Nagar, Gujarat	Sub Project- 2	INOX Wind Limited Model-DF113-92 M)	2 MW	12	24 MW
(Karadikonda Site) Kurnool, Andhra Pradesh	Sub Project- 3	ReGen Powertech Pvt Ltd Model- V87	1.5 MW	33	49.5 MW
TOTAL				**56**	**95.5 MW**

This wind power project will reduce the GHG emissions generated by the current generation energy mix in India's Power Grid, which is dominated by fossil fuel-based grid connected power plants. The power generated through the proposed project activity being supplied to Indian grid through a contractual arrangement (PPA) with the Gujarat Urja Viks Nigam Limited (GUVNL) and Andhra Pradesh Southern Power Distribution Company Limited (APSPDCL) for the project sites located in Gujarat and Andhra Pradesh state respectively.

The technical specification of the project activity equipment's has been checked physically and are found to be consistent with the mentioned under section 3.1 of MR. The status of the project activity is verified through the SCADA system/19/, indicating the real-time generation data and hence it is confirmed that the project is fully functioning.

The monitoring plan of registered VCS PD & MR/01/ includes the monitoring parameter "Net electricity supplied to the grid by the project activity ($EG_{facility,y}$).

Monitoring procedure- Gujarat location (sub project-1 and sub project-2):

The assessment team has observed during the site visit that the project WTGs are connected to various clusters at the site for the purpose of metering. Each cluster has dedicated main and the check meter at 33 kV. In all the clusters, only WTGs of project activity are connected, and no WTGs of other project developer are there in the clusters. Similarly, the WTGs of other project developers (non-project activity) in the wind farm are also connected to separate clusters having exclusive dedicated metering arrangement at 33kV at project site. All the cluster meters (for the project activity and non-project activity are further connected to 220 kV Sadla substation (sub project-2) and 220 kV Sukhpur substation (sub project-1), operated and managed by INOX Wind Limited.

There is one set of energy meters installed for each sub-project at the respective pooling substations and are under control of respective state utility (GUVNL), sealed in presence of both the state utility official & representative of PP.

Joint Meter Reading at both the locations is being taken jointly by the officials of state utility and project participant's representative (O&M contractor) on monthly basis and accordingly monthly share certificate is being prepared.

Net electricity supplied to the grid by each project developer in the wind farm is calculated by the state utility (GEDA) using apportioning procedure, adjusting the transmission loss between metering point at 33kV and the metering points at respective pooling substations for both the sites. Post apportioning separate "share certificate" for each project developer is issued by the state utility that indicate the net electricity supplied to the grid by the individual project activity.

Apportioning procedure used in the calculation of net electricity supplied to the grid is correctly described in section 4.3 of the MR/05/ and in section 4.3 of the registered PD/06/. This was also verified by interviewing the site personnel deployed at respective sites /19/.

Values of the parameter "Net electricity supplied to the grid by project" i.e. $EG_{facility,y}$ is directly sourced from the monthly "Share certificates" issued by GETCO/09/ that indicates the share of electricity for project activity received at the respective pooling sub-stations. The measurement results are cross checked with records of invoices and it is in line with applied methodology. Thus, this parameter is considered in emission reduction calculations.

The Share certificates are prepared and endorsed by GETCO, an external government agency and the PP has no influence in the entire procedure. Hence, the data issued by the state electricity board through the Share certificate is deemed authentic.

During the on-site visit the assessment team has verified that, the WTGs belonging to the project activity are connected to the grid through an appropriate power evacuation system. Appropriate metering system and calculation procedures are transparently described in the monitoring plan to enable accurate determination of emission reductions achieved by the project activity.

Monitoring procedure- Andhra Pradesh location (sub project-3):

The assessment team has observed during the site visit that there are 33 WTGs (1.5 MW each) installed for the sub project-3 and clusters of WTGs are made for metering and each cluster have exclusive dedicated metering arrangement at project site (33 kV metering points).

The electricity export and import by the project activity is taken from the summation of the joint meter readings (JMR) noted from the cluster meters connecting 33 turbines of the project activity.

Project WTGs along with non-project WTGs are further connected to 33/220 kV Karadikonda pooling substation. There are 2 energy meters installed at Karadikonda pooling substation, electricity exported and imported by all the WTGs (project and non-project) recorded through these meters, this is verified through the physical inspection of site and the review of JMRs (indicates the meter serial numbers) issued by the state utility.

Transmission loss between metering point at 33kV and the metering point at 220 kV is applied to the meter reading taken at meters connected at 33 KV for the project activity.

Net electricity supplied to the grid is calculated using the following formula:

$EG_{facility,y}$ =Export – Import – Transmission loss

Value of net electricity supplied to the grid is directly sourced from the monthly JMRs issued by the state utility. These values (mentioned in "JMRs") are the main source to calculate the baseline emission by this project activity and same is in line with the information provided in registered monitoring plan /01/.

The net electricity supplied to the grid by project activity is being measured continuously by energy meters of accuracy class 0.2s located at the pooling substation and recorded at least monthly basis. This is in line with methodology and is accepted. The measurement results are cross checked with records of invoices and it is in line with applied methodology. Thus, this parameter is considered in emission reduction calculations.

Joint Meter Reading at the metering points is being taken jointly by the officials of state utility and project participant's representative (O&M contractor) on monthly basis and accordingly monthly JMR is being prepared. The monitoring methodology applies consistently the choice of the option selected for monitoring of baseline emissions. The monitoring plan provide procedures for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period. This is checked through discussion with the project participant during the on-site visit.

The VCS MR/04/ has been reviewed to check that the procedure for data uncertainty, emergency preparedness, roles and responsibility, operational and management structure are mentioned in the MR. The monitoring plan completely describes all measures to be implemented for monitoring all parameters required. The monitoring plan described the positioning of the equipment. Calibration frequency for Energy meters is once in 5 years. Also, CEA Notification/16/

No. 502/70/CEA/DP&D dated 17/03/2006 which is considered as national standard mentions that "All interface meters shall be tested at least once in five years." Hence calibration frequency once in 5 years considered for the project activity is found to be appropriate.

Contribution of project activity to sustainable development:

The National CDM Authority (NCDMA), which is the Designated National Authority (DNA) for the Government of India (GOI) under the Ministry of Environment, Forest, and Climate Change (MoEFCC), has mentioned four indicators for the sustainable development:

- Social well being
- Environmental well being
- Economic well being
- Technological well being

The project's contribution towards sustainable development has been assessed as under the below table:

Sr.No	Sustainable Indicator	VVB assessment
1	Social well being	There are several job opportunities were created to local people during erection, commissioning, and maintenance of the wind power project. This may result to a social balance in the region. The frequency of visiting to villages and nearby areas by skilled, technical and industrialist has increased due to installation /site visit/operation and maintenance work related to WTGs at plant site. This directly and indirectly positively effects the economy of nearby populace.
2	Environmental well being	Wind power is one of the cleanest renewable energy powers and does not involve any fossil fuel (https://www.eia.gov/energyexplained/wind/wind-energy-and-the-environment.php). There are no GHG emissions. The impact on land, water, air and soil is negligible. Thus, the project activity contributes to environmental well-being without causing any negative impact on the surrounding environment.
3	Economic well being	The project activity has generated permanent and temporary employment opportunity within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and lifestyle of the area.

		The assessment team has virtually interviewed the PPs representatives, site personnel and observed that almost all the personnel were unemployed before taking up the job with the project developer. In general, the project activity has delivered the following economic benefits: I. Employment opportunities II. Reduce rate of migration to urban area III. Improvement of a rural economy
4	Technological well being	The project activity is step forward in harnessing the untapped wind power potential and further diffusion of the technology in the region. The project activity leads to the promotion and demonstrates the success of wind projects in the region which further motivate more investors to invest in wind power projects. Hence, the project activity leads to technological well-being.

In view of the above assessment, the assessment team has considered that the project activity profoundly contributes to the sustainable development.

The information relating to the project implementation, provided in the Monitoring Report /04/ is consistent with that stated in the joint VCS PD&MR /01/. The data and variables provided in the monitoring report are the same as stated in the joint VCS PD&MR /01/. Total emission reductions achieved under this monitoring period 01/08/2022 to 31/08/2023 (including both days) is 205,831 tCO2e.

Monitoring of SDGs:
During the current monitoring period, following SDGs are monitored:

Goal 7. *Ensure access to affordable, reliable, sustainable, and modern energy for all*

SDG Target: 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

SDG Indicator: 7.2.1 Renewable energy share in the total final energy consumption

Relevant Parameter: Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh, $EG_{PJ,y}$

Means of verification	

Criteria/Requirements	VVB assessment
Measuring /Reading /Recording frequency	The parameter is continuously measured and recorded monthly basis in line with the approved monitoring plan.

	Data source	This parameter is recorded on monthly basis in the JMRs issued by state utility.
	How were the values in the monitoring report verified?	Cumulative value for entire monitoring period is reported in the monitoring report and monthly values are in the ER calculation sheet. The monthly values were verified from the "JMRs" issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 217,236 MWh.
	If applicable, has the reported data been cross-checked with other available data?	Monthly reported values of $EG_{PJ,y}$ for the current monitoring period were further cross-checked with the Invoice /09/ to state utility and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, all the stakeholders, namely, the Grid Authority (APSPDCL/GETCO), and the Gamesa/Inox (O&M Contractor), implemented the adequate QA/QC procedures.
Findings	No issues identified and hence finding was not raised for this section	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Goal 8. Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all

SDG Target: 8.5.2 Unemployment rate, by sex, age and persons with disabilities

SDG Indicator: Implementation of the renewable energy power generation project activity has generated direct and indirect employment.

Relevant Parameter: Number of employments generated

Means of verification	**Criteria/Requirements**	**VVB assessment**

	Measuring /Reading /Recording frequency	This is a sustainable development parameter to monitor the total number of employment opportunities created. Total number of jobs created for the local population is monitored on annual basis or at least once in monitoring period.
	Data source	The records for the employments maintained by HR division.
	How were the values in the monitoring report verified?	Total number of jobs created by the project is 46 during the current monitoring period. This is verified from the HR records that all guards belong to the local areas/22/. Also, most of the staff of GIWEL is from the local areas however it does have some senior personal from outside. Therefore, the assessment team is in opinion that the project activity contributes to the livelihood of the poor.
	If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the HR records maintained by the project proponent and interviewing the site staff during the site visit.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The HR department monitors and maintains the up-to-date records of total number of jobs created, necessary QA/QC processes in place.
Findings	No finding was raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the sustainability monitoring plan (as per measurement methods and procedures to be applied). The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Goal 13. Take urgent action to combat climate change and its impacts.

SDG Target: 13.2 Integrate climate change measures into national policies, strategies, and planning.

SDG Indicator: 13.2.2 Total greenhouse gas emissions per year

Relevant Parameter: Emission reductions achieved (tCO2)

Means of verification	

Criteria/Requirements	VVB assessment
Measuring /Reading /Recording frequency	Emission reductions achieved due to implementation of the solar power plant is monitored once during each monitoring period.
Data source	Monthly JMRs & ER calculation sheet.
How were the values in the monitoring report verified?	The value is calculated in line with the procedure as described in registered PD. Value of this parameter for the current monitoring period is 205,831 tCO_2.
If applicable, has the reported data been cross-checked with other available data?	Not applicable
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	No separate QA/QC procedures is required.

Findings	No issues identified and hence finding was not raised for this section
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

The audit history table is provided below:

Audit Type	Period	Program	VVB Name	Number of years
Joint Validation and Verification	02/03/2017 to 31/12/2018	VCS	LGAI Technological Centre, S.A. (Applus+ Certification)	9 month

Verification	01/01/2019to 31/07/2020	VCS	Earthood Services Pvt Ltd	1 year 6 months
Verification	01/08/2020 to 31/07/2021	VCS	Earthood Services Pvt Ltd	1 year 0 months
Verification	01/08/2021 to 31/07/2022	VCS	LGAI Technological Centre, S.A. (Applus+ Certification)	1 year 0 months
Verification	01/08/2022 to 31/08/2023	VCS	LGAI Technological Center S.A. (Applus+ Certification)	1 year 1 months (undergoing issuance)
Total	02/03/2017 to 31/08/2023	-	-	5 years,4 months

The assessment team has checked the information about the audit history as provided in the above table and confirmed that the information provided are accurate.

Conclusion:

Assessment team concludes the following:

a. There are no material discrepancies between project implementation and the project description provided in the registered PD/01/.

b. The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling, and analysing the monitored data and parameters) is appropriate.

c. There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/10/.

d. The GHG emission reductions or removals generated by the project have not included in an emissions trading program or any other mechanism that includes GHG allowance trading/15/.

e. The project has not received or sought any other form of environmental credit or has become eligible to do so since validation or previous verification/2.1/.

f. The project is only registered under VCS program and is not participated or rejected under any other GHG programs.

In view of the information's as verified above the assessment team can conclude that the project has been implemented as described in the project description.

4.2 Safeguards

4.2.1 No Net Harm

There is no negative impact to any socio-economic conditions of the region due to the project activity. The type of project activities requires to conduct EIA assessment are categorized under the schedule 1 of Ministry of Environment and Forest notification dated 14/09/2006[1] and further notification number 3067 from MoEF dated 01/12/2009[2] . The proposed project activity does not fall under the listed categories and hence not required an EIA to be done. This project activity will not involve any negative environmental or socio-economic impacts, as the project activity involves generation of power using wind energy which is a clean source of energy. Hence no mitigation measures are required.

4.2.2 Local Stakeholder Consultation

The project activity undergoing fifth verification and as a part of ESIA local stakeholder consultation was appropriately conducted prior to validation to inform the design of the project and maximize participation from stakeholders during the validation.

The PP conducted a consultation meeting with the local stakeholders separately at project locations and details is provided under the below table:

Project Location	Project capacity	Date of meeting	Mode of invitation
District: Rajkot, State: Gujarat	Project-1 (22 MW)	18/12/2016	Public notice and newspaper advertisement
District: Surendra Nagar State: Gujarat	Project-1 (24 MW)	20/12/2016	Public notice and Personal Invitation letter

[1] http://envfor.nic.in/legis/eia/so1533.pdf

[2] http://moef.nic.in/downloads/rules-and-regulations/3067.pdf

District: Kurnool State: Andhra Pradesh	Project-3 (49.5 MW)	23/12/2016	Public notice and Personal Invitation letter

The stakeholders comprised of villagers from nearby villages, employees of Green Infra Wind Energy Limited and those of Suzlon/Inox and contractors working at the site. The stakeholders were invited by letters sent and through public notice. The stakeholders identified by the project participant were local villagers who are the major population of the area, local communities, and project employees, including O&M contractors. The assessment team verified the list of participants who attended the stakeholder meeting and confirms the stakeholders identified were relevant. The assessment team also verified the minutes of meeting to note that no negative comments were received.

The project activity undergoing fifth verification and local stakeholder consultation was appropriately conducted prior to validation to inform the design of the project and maximize participation from stakeholders during the validation.

The project proponent has implemented mechanism for ongoing communication with local stakeholders to allow stakeholders to raise concerns about potential negative impacts during implementation and operation of the project activity. The project proponent has placed a grievance register and a grievance box at the respective site office/21/, where the local villagers can register their concerns.

The assessment team has checked the grievance register maintained at respective site office/21/ and confirmed that no formal complaints were received during the current monitoring period.

4.3 AFOLU-Specific Safeguards

Not applicable to the project activity.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The calculation of the emission reductions is found to be correct. The details of the reported and the verified values for all parameters are listed in section 4.5 of this report.

The monitoring parameter ($EG_{facility,y}$) is directly sourced from monthly share certificates (Gujarat location) and monthly JMRs (Andhra Pradesh) issued by respective state utility. The PP has provided the complete set of data for all the monitored parameter in the ER spreadsheet/06/.

This data has been verified as described in section 4.5 below. The formulae & method used to calculate the baseline emissions, project emissions and leakage are appropriate and in line with the approved methodology ACM0002 version 19.

The PP has calculated the grid emission factor as per the combined margin approach described in the 'Tool to calculate the emission factor for an electricity system', version 07.0. The grid emission factor has been calculated as the weighted average of OM & BM; and has been fixed ex-ante for the entire crediting period. The OM and BM have been obtained from a publicly available source i.e. "CO2 Baseline Database for Indian Power sector", version 13/11/ published by Central Electricity Authority, Ministry of Power, and Government of India. The OM has been determined as the average of the previous 3 years values obtained from the CEA database/11/. The value of BM has been identified directly from the CEA database. The combined margin emission factor was arrived at by applying weights of 75% for OM and 25% for BM, as specified in the tool. The OM and BM have been calculated to be 0.9726 tCO2/MWh and 0.8723 tCO2/MWh respectively. Applying the weights, the grid emission factor has been calculated to be 0.9475 t CO2/MWh.

As per ER excel spreadsheet/06/ submitted by the PP, the net emission reductions for the current monitoring period were verified as 205,831 tCO2e for the current monitoring period. The assessment team able to confirm that the GHG emission reductions and removals have been quantified correctly in accordance with the project description and applied methodology.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

All the data recorded is following the registered VCS PD and Monitoring Report. The assessment team has checked the monthly JMRs for electricity generated and supplied by project activity/09/ for the current monitoring period to verify the values of monitoring parameter reported in ER calculation sheet and found to be consistent. Since the monthly generation reports prepared and issued by state utility, they are found to be reliable and authentic.

The Green Infra Wind Energy Limited is responsible for the operations, maintenance and monitoring of the project activity, whose operation and maintenance activities are ISO 14001:2015 (Environment Management System) and ISO 45001:2018 (Safety Management System) certified/20/. Hence it is confirmed that the management system of the VCS project is in place; with the responsibilities properly identified. The same was also verified during the interview of site personnel.

The monitoring of the project activity is found to be in accordance with the monitoring methodology described in ACM0002, Version 19 /10/. The monitoring mechanism is effective and reliable. During the site visit, personnel involved at various levels of the operation of the project activity have been interviewed to confirm that the plant personnel are conscious of the importance of the monitoring activities. The verification of the plant records \ are also substantiating consistency in recording and reporting of monitored data.

The online monitoring SCADA system/19/ confirms that the monitoring systems have been installed and are operational. The meters comply with appropriate quality standards applicable for the used technology. The accuracy class of the meters installed for the project activity was physically verified and through the registered VCS PD/01/, MR /04/, and calibration certificates/07/, and cross-checked against the PPAs/13/ signed for the project activity, found to be consistent.

The supporting records of monthly share certificates and JMRs /09/ issued by the respective state utility and invoices raised to APSPDCL & GUVNL for the entire monitoring period were checked and found to be sufficient to enable verification of emission reductions.

The following parameter has been verified for current monitoring period:

Parameter:

Parameter : Quantity of net electricity generation supplied by the project plant/unit to the grid in year y, **$EG_{facility,y}$ (MWh):**

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The parameter is calculated as following : For sub-project -1 and 2 : As the difference of electricity exported to the grid and imported from the grid by the project. **$EG_{facility,y}$** =Export–Import For sub-project -3 , **$EG_{facility,y}$** =Export–Import – Transmission loss However the input values used in the calculation of the parameter **$EG_{facility,y}$**are monitored continously, measured hourly and recorded monthly.

	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The measuring and reporting frequency is in line with the monitoring plan as outlined in the registered PD/01/ and monitoring methodology/10/.
	Monitoring equipment	Energy meters of accuracy class 0.2s are used, (Calibration details of meter is provided separately in this section, under the heading "Calibration of meters")
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, accuracy class of meter is in line with registered monitoring plan/01/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Accuracy is valid for the entire measuring range.
	Calibration frequency /interval:	The meters are calibrated every 5 years in line with notification by Central Electricity Authority, Govt. of India/16/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan	Yes, calibration interval of meters is 5 years, which is in line with the monitoring plan/01/ and national standards/16/.

	does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, Pending untill the findings are closed or as per the manufacturer's specifications?	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, the calibration is carried out by NABL accredited institution/07/.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, the calibration is valid for entire monitoring period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration has been carried out for a comparable measuring range for whcih measurements have been carried out/07/.
	How were the values in the monitoring report verified?	The values in the monitoring report were verified from the monthly share certificates (for sub-project -1 and 2) and JMRs (for sub-project-3) issued /09/. Final value of electricity supplied to the grid by the project activity is verified as : **Item** | **$EG_{facility,y}$ (MWh)** Sub-project-1 | 46,568 Sub- project-2 | 53,143 Sub- project-3 | 117,525 **Total** | **217,236**

	If applicable, has the reported data been cross-checked with other available data?	Yes, the data has been cross-checked with invoices raised by Green Infra Wind Energy Limited to the concerned state utility /08/
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data ensure correct transfer of data and reporting of emission reductions management. QA/QC processes are in place.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
Findings	CL #1, CL #2 CAR #1 and CAR #2 was raised and resolved.	
Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/10/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.	

Parameters fixed ex ante:

$EF_{grid,OM,y}$: The parameter is described as operating margin CO_2 emission factor of INDIAN Grid and is measured in unit tCO_2/MWh. The value provided in MR i.e. 0.9726 has been verified from PD/01/ and CO2 Baseline Database for Indian Power Sector by Central Electricity Authority (version13)/11/.

$EF_{grid,BM,y}$: The parameter is described as build margin CO_2 emission factor of INDIAN grid which is measured in units tCO_2/MWh. The value provided in MR i.e. 0.8723 has been verified from PD/01/

and CO2 Baseline Database for Indian Power Sector by Central Electricity Authority (version13)/11/.

$EF_{grid,CM,y}$: The parameter is described as combined margin CO_2 emission factor of INDIAN grid which is measured in units tCO_2/MWh. The value provided in MR i.e. 0.9475 has been verified from PD/01/.

Calibration of meters:

The energy meters installed at respective sub-stations are of accuracy class 0.2s as verified during the on-site visit and through the calibration certificates/07/. The installation and working conditions of the meters were checked through calibration certificates, JMRs (indicates the meter serial numbers) and were found to be satisfactory. Details of meters are provided in below table.

Location	Meter Sr. No-	Calibration date	Calibration validity date	Calibration delayed (Y/N)
Sub-project 1 Sukhpur sub-station (33kV/220 kV)	Line-1: GJ-3057-A	22/11/2021	21/11/2026	N
	Line-2: GJ-3058-A	22/11/2021	21/11/2026	N
Sub-project 2 Sadla (Inox) Substation (33kV/220 kV)	Line-1: GJ3819A	22/04/2022	21/04/2027	N
	Line-2: GJ3820A	22/04/2022	21/04/2027	N
Sub-project 3 Karidikonda Pooling Substation (33 kV/220 kV)	Line-1: APX01475	16/11/2021	15/11/2026	N
	Line-2: APX01476	16/11/2021	15/11/2026	N

It is evident from the above table that calibration of all the meters was valid during the current monitoring period, hence no delay in calibration of meters identified. The CEA Notification No. 502/70/CEA/DP&D dated 17/03/2006 and its amendments Notified on 26/06/2010 No. 502/6/2009/DP&D/D-I /16/ which is considered as national standard, mentions that for voltage of 650 V up to 33 kV, 0.5s accuracy class or above is recommended. Hence, the accuracy classes of 0.2s for the energy meters installed at the project activity site are found to be appropriate.

The details of monitoring equipment are involved in the project activity and their calibration details/07/ are mentioned under Appendix-1 of the VCS MR/05/. The CEA Notification No. 502/70/CEA/DP&D dated 17/03/2006/16/ which is considered as national standard mentions that "All interface meters shall be tested at least once in five years." Hence, the stipulated calibration frequency once in 5 years is appropriate.

In view of the above discussion the assessment team able to confirm that evidence used to determine the GHG reductions and removals are sufficient and appropriate with respect to quality and quantity. Hence, the stipulated calibration frequency once in 5 years is appropriate.

GHG Calculations:

The emission reduction as per the applied methodology (ACM0002 version 19) equals the baseline emissions (project emissions and leakage emissions for such project activities is considered zero). The formula provided for the calculation of baseline emissions is:

$BE_y = EG_{PJ,y} * EF_y$

Where,

BE_y is the baseline emissions in year y, tCO_2e

$EG_{PJ,y}$ is the net electricity supplied in MWh

EF_y is the Grid Emission Factor in tCO_2e/MWh

The calculation of the net emission reduction achieved is done using the equation provided below:

Net Emission reduction= $BE_y - PE_y$

Where,

BE_y is baseline emissions

PE_y is project emissions

Baseline Emissions:

The net electricity supplied to the grid by the project activity during the current monitoring period = Project 1 + Project 2 + Project 3

= 217,236 MWh

Thus, BEy = 217,236 MWh * 0.9475 tCO2/MWh

= 205,831 tCO2e (round down value)

As per the applied methodology, emission reductions are calculated as follows:

ERy = BEy-PEy

As per paragraph 36 of the applied methodology ACM0002 v 19.0 "For most renewable energy power generation project activities, PEy = 0, hence

ERy = 205,831 -0

ERy = 205,831 tCO2

The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed. The assumptions, emission factors and default values that were applied in the calculations are justified.

All the data were made available and have monitored as per required monitoring frequency. The means of verification for the values of parameters, used for baseline emission calculation, is described above.

4.6 Non-Permanence Risk Analysis

Not applicable for the project activity.

5 VERIFICATION OPINION

Applus+ Certification contracted by Green Infra Wind Energy Limited, to perform the independent verification of the emission reductions for the VCS project activity "Bundled Wind Power Project by Sembcorp Green Infra Limited in India" (VCS ID- 1856) in India for the monitoring period 01/08/2022 to 31/08/2023 as reported in the Monitoring Report Version 03 dated 25/01/2024. The Green Infra Wind Energy Limited is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

It is our responsibility to express an independent verification statement on the reported GHG emission reductions from the project activity. Applus+ Certification commenced the verification based on the baseline and monitoring methodology ACM0002 version 19, the monitoring plan contained in the registered Joint VCS PD & MR Version 02, dated 01/03/2019 and VCS program guide version 4.4 Monitoring Report Version 03 dated 25/01/2024 as per the process described under Section 2 of this report. Applus+ Certification verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these.

Applus+ Certification planned and performed the verification by obtaining evidence and other information and explanations that Applus+ Certification considered necessary to give reasonable assurance that reported GHG emission reductions are stated.

In our opinion the GHG emissions reductions reported for the project activity for the period 01/08/2022 to 31/08/2023 (both days included) are fairly stated in the Monitoring Report Version 03 dated 25/01/2024. The GHG emission reductions were calculated correctly based on the approved baseline and monitoring methodology ACM0002, Version 19, and the VCS standard version 4.5.

As summary the verification team able to conclude that:

- The project is in line with all relevant host country criteria (India) and all relevant VCS version 4 program guidelines requirements.
- Verification of the GHG statement was conducted in accordance with ISO 14064-3:2019.
- A reasonable level of assurance has been applied.

Verification period: 01/08/2022 to 31/08/2023 (including both days)

Verified GHG emission reductions and removals in the above verification period, broken down by calendar year:

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)
2022 (01/08/2022 to 31/12/2022)	59,835	0	0	59,835
2023 (01/01/2023to 31/08/2023)	145,996	0	0	145,996
Total	205,831	0	0	205,831

Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PD:

Monitoring Period	Ex-ante emissions reductions/removals	Achieved emissions reductions/removals	Percent difference	Justification for the difference
01/08/2022 to 31/08/2023	207,228	205,831	-0.679%	The actual emission reductions for the current monitoring period are 0.679% lower than estimated emission reductions which are mainly due to low availability of wind at site. Wind availability is a natural phenomenon which is beyond the control of PP.
Total	207,228	205,831	-0.679%	-

APPENDIX 1: DOCUMENT REFERENCE

S.No	Title of Document	Version	Date
1.	Registered VCS JPD	02	01/03/2019
1.1	Previous Monitoring Report from 01/01/2019 to31/07/2020	02	10/11/2020
2.	Joint VCS Validation and Verification Report for the monitoring period from 02/03/2017 to 31/12/2018	02	01/03/2019
2.1	Verification Report for the previous monitoring period (2nd Verification)from 01/01/2019 to 31/07/2020	04	04/11/2020
3.	VCS Monitoring Report	01	20/09/2023
4.	VCS Monitoring Report(Final)	03	25/01/2024
5.	ER spread sheet	01	20/11/2023
6.	ER spread sheet (corresponding to the final monitoring report)	02	04/01/2024
7.	Certificates of Calibration for all the meters	-	-
8.	Invoice issued by PP to APSPDCL (sub-project -3, Karadikonda) Kurnool site)	-	-
	Invoice issued by PP to GUVNL (sub-project – 1 & 2, Rojmal & Sadla Site) - Gujarat)		
9.	Monthly share certificates issued by state utility (sub-project – 1 & 2, Rojmal & Sadla Site) - Gujarat))	-	-
	Monthly JMRs issued by (sub-project -3, (Karadikonda) Kurnool site)		
10.	Approved Consolidated Methodology ACM0002	19.0	-
11.	CEA Database	version 13	June 2018

12.	Commissioning Certificates for all the WTGs	02/03/2017 to 30/06/2017	-
13.	Sub project-1 : Power Purchase Agreement between Green Infra Wind Energy Limited and Gujarat Urja Vikas Nigam Ltd (GUVNL)	-	06/12/2016
	Sub-project-2: Power Purchase Agreement between Green Infra Wind Energy Limited and Gujarat Urja Vikas Nigam Ltd (GUVNL)		21/02/2017
	Sub-project-3: Power Purchase Agreement between Green Infra Wind Solutions Limited and Andhra Pradesh Southern Power Distribution Company Limited (APSPDCL)		18/02/2017
14.	VCS webpage for the project, VCS ID 1856; https://registry.verra.org/app/projectDetail/VCS/1856	-	-
15.	Letter of declaration dated from PP regarding not having created or sought any other form of environmental credit for the same period	-	04/01/2024
16.	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17/03/2006 No. 502/70/CEA/DP&D Amendments Notified on 26/06/2010 No. 502/6/2009/DP&D/D-I	-	-
17.	VCS Standard	Version 4.5	29/08/2023
18.	VCS Program Guide	Version 4.4	29/08/2023

19.	on-site visit observations	-	11/12/2023 (Gujarat) 19/12/2023 (Andhra Pradesh)
20.	ISO45001:2018 Certificate issued by TUV NORD	-	19/08/2020
	ISO14001:2015 Certificate issued by TUV NORD		20/04/2019
	ISO 9001:2015 Certificate issued by TUV NORD		16/04/2020
21.	Grievance register/suggestion box placed at respective site office	-	-

APPENDIX 2: ABBREVIATIONS

Abbreviations	Full texts
ABT	Availability Based Tariff
APSPDCL	Andhra Pradesh Southern Power Distribution Company Limited
BEF	Baseline Emission Factor
BM	Build Margin
CAR	Corrective Action Request
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CL	Clarification Request
CMS	Central Monitoring System
CMP	Conference of Parties Serving as Meeting of Parties
CO2	Carbon dioxide
DISCOM	Distribution Company
EB	Executive Board
FAR	Forward Action Request
GHG	Green House Gas
GUVNL	Gujarat Urja Vikas Nigam Limited
ISO	International Standards Organization
JMR	Joint Meter Reading
kW	Kilowatt
kWh	Kilowatt hour
MFR	Multi-Function Relay
MR	Monitoring Report
MWh	Megawatt-hour
PD	Project Description
PLF	Plant Load Factor
PP	Project Proponent
QA/QC	Quality Assurance and Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard
VCSA	Voluntary Carbon Standard Association
VCS PD	VCS Project Description
VCUs	Voluntary Carbon Units

APPENDIX 3: FINDINGS OVERVIEW

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

FAR ID	NA	Section no.	XX	Date :DD/MM/YYYY
Description of FAR				
Not applicable				
Project participant response				**Date :**DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				**Date:** DD/MM/YYYY

Table 2. CL from this verification

CL ID	01	Section no.	2.2	Date : 19/12/2023
Description of CL				
Please submit the following documents: 1. Monthly JMRs and corresponding invoices for the current monitoring period. 2. Commissioning certificate of WTGs 3. PPA signed with the individual consumers. 4. Employment records 5. Training records				
Project participant response				**Date :** 04/01/2024
Monthly JMRs and corresponding invoices for the current monitoring period, Commissioning certificate of WTGs, PPA signed with the individual consumers, employment records and training records have been submitted.				
Documentation provided by project participant				
1. Monthly JMRs and corresponding invoices for the current monitoring period. 2. Commissioning certificate of WTGs 3. PPA signed with the individual consumers. 4. Employment records 5. Training records				
DOE assessment				**Date:** 15/01/2024
The PP has submitted the requested documents and found them to be satisfactory. CL #1 is closed.				

CL ID	02	Section no.	2.2	Date : 19/12/2023
Description of CL				
Section 1.1 MR: History table is complete and name of VVB is incorrect. Information's under section 1.9 & 1.10 of the MR are not provided in line with the MR completion guidelines. Section 1.11 MR: Please describe how the project contributing to sustainable development following the national guidelines.				
Project participant response				**Date :** 04/01/2024
Section 1.1 MR: History table now has been updated and name of VVB has been revised. For Section 1.9 & 1.10: All the related information has been made in-lined with the MR completion guidelines and the sections has been revised. Section 1.11: Now the description for the same has been provided				
Documentation provided by project participant				
Updated MR				

DOE assessment	Date: 15/01/2024
The PP has updated the history table under section 1.1 MR and the name of VVB has been revised, found to be satisfactory. The PP has updated the information under section 1.9 & 1.10 of the MR in-line with the MR completion guidelines and found to be appropriate. The PP has updated section 1.11 of the MR including the contribution of project to sustainable development and found to be satisfactory. CL #2 is closed.	

Table 1. CAR from this verification

CAR ID	01	Section no.	3.3	Date : 19/12/2023
Description of CAR				
1. Section 2.2 MR: The procedures or methods used for engaging local stakeholders (e.g., dates of announcements or meetings, periods during which input was sought) is not described appropriately. 2. Section 3.2.2 MR: Project deviations sought and approved during the previous monitoring period are not described in line with the guidelines provided under clause 3.21.2 of VCS standard v 4.5. 3. Please submit the declaration confirming that the GHG Emission reductions or removals generated by the project activity will not be used for compliance with an emission trading program or to meet binding limits on GHG Emissions.				
Project participant response				Date : 04/01/2024
1. Section 2.2 MR: The procedure and methods have been mentioned in MR and the procedure has been described. 2. Section 3.2.2 MR: The deviation has been described according to 3.21.2 of VCS standard v 4.5 3. The declaration has been submitted				
Documentation provided by project participant				
Updated MR, Declaration				
DOE assessment				Date: 15/01/2024
1. The PP has described the procedures or methods used for engaging local stakeholders under section 2.2 of the MR and found to be appropriate. 2. The PP has described the Project deviations sought and approved during the previous monitoring period under section 3.2.2 of the MR and found to be in line with the guidelines provided under clause 3.21.2 of VCS standard v 4.5. 3. The PP has submitted the declaration confirming that the GHG Emission reductions or removals generated by the project activity will not be used for compliance with an emission trading program or to meet binding limits on GHG Emissions, found to be appropriate. CAR #1 is closed.				

CAR ID	02	Section no.	4.1	Date : 19/12/2023
Description of CAR				
Value of the parameter $EG_{facility,\ y}$ is not mentioned under section 4.2 of the MR. ER sheet: Estimated ERs value is not consistent with the MR. Please submit the calibration certificates of all the energy meters valid for the current monitoring period.				
Project participant response				Date : 04/01/2024
1. The value of the parameter $EG_{facility,\ y}$ has been mentioned. 2. ER values have been made consistent along with MR. 3. Calibration certificates have been submitted.				

Documentation provided by project participant	
Updated MR, calibration certificates	
DOE assessment	**Date:** 15/01/2024
1. The PP has mentioned the value of parameter $EG_{facility, y}$ is under section 4.2 of the MR and found to be correct. 2. The PP has corrected the value of estimated ERs in the MR and found consistent with the ER sheet. 3. The PP has submitted the calibration certificates and the details meters in the MR found to be consistent with the calibration certificates, hence accepted. CAR #2 is closed.	

APPENDIX 4: COMPETENCY STATEMENTS

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

The composition of audit team shall be approved by the 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	Qualification	Coverage of scope	Coverage of technical Area	Financial aspect	Host country Experience	Attendance to the On-Site Assessment
Ravi Kant Soni	Lead Auditor (LA)	Yes (1)	Yes (1.2)	N/A	Yes	Yes
Ravi Kant Soni	Technical Expert (TE)	Yes (1)	Yes (1.2)	N/A	Yes	Yes
Simon Shen	Technical Reviewer (TR)	Yes (1)	Yes (1.2)	N/A	N/A	N/A

Ravi Kant Soni is a certified lead auditor for Lead Auditor ISO 14001:2004&Lead Auditor ISO 14064:2006 GHG Inventory and verification. He has more than 10 years of work experience across Climate Change, Environmental Management & Monitoring, Health & Safety Management, and Statutory Compliance. He was involved in more than 100 CDM validation and verifications activities and Gold Standard, VER projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1 technical area 1.2. He has done Mater in Technology (Energy Management) from a premier institute, School of Energy & Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from M.I.T.S Gwalior Jiwaji University Gwalior, India.

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