



“BUNDLED WIND POWER PROJECT BY GIRIRAJ ENTERPRISES”



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

Project Title	Bundled Wind Power Project By Giriraj Enterprises
Version	02
Report ID	BELL_CDM_2021_IND Bundle WPP Giriraj_VCS_VER

Report Title	Verification Report “Bundled Wind Power Project By Giriraj Enterprises”
Client	M/s Giriraj Enterprises
Pages	42
Date of Issue	24-September-2021
Prepared By	LGAI Technological Center, S.A.(Applus+ Certification)

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Summary:

LGAI Technological Center, S.A. (Applus+ Certification) has performed the verification of the project “Bundled Wind Power Project By Giriraj Enterprises.” VCS ID 1669, against VCS Standard Version 4.1. The scope of verification includes confirming the implementation of the monitoring plan of the registered VCS PD (version 02) dated 28/03/2016 and the application of the monitoring methodology “Grid-connected electricity generation from renewable sources”, ACM0002, Version 17.

The verification is consisted of three phases: i) desk review of the project; ii) remote visit and interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted following Applus+ certification internal quality procedures.

During the verification process 05 CARs, 01 CL and 00 FARs were raised. All the findings have been closed satisfactorily and the same has been discussed in Appendix 4.

Applus+ certification confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements. The emission reductions from the project activity “Bundled Wind Power Project By Giriraj Enterprises” in India during the period 01-January-2021 to 30-June-2021 (including both days) amount to 83,279 tonnes of CO₂e.

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1 INTRODUCTION

1.1 Objective

M/s Giriraj Enterprises has contracted LGAI Technological Center, S.A. (Applus+ Certification) to perform the periodic verification of the 'Bundled Wind Power Project By Giriraj Enterprises' in India (hereafter called project). This project has already been registered as a VCS project (VCS ID 1669). The objective of this verification is a thorough and independent assessment of registered project activities against the applicable VCS requirement by the DOE. 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 of this project was based on the registered project description & monitoring report /4/ and supporting documents submitted by the project proponent to the verification team. The documents were reviewed against the following guidance and protocols:

VCS standard Version 4.1, Issued: 19-September-2019; Updated: 22-April-2021 /16/

Approved baseline and monitoring methodology ACM0002 ver. 12.1.0 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"/14/

VCS Program Guide, Version 4.0, dated 19-September-2019 /17/

CDM VWS for project activities version 02.0 /22/

CDM PS for project activities version 02.0 /21/

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 verification team verified the complete monitoring data for all the parameters of the monitoring plan and confirms that the reported emission reductions are free from any type of material errors. Therefore, Applus+ certification confirms that the verification is conducted with reasonable level of assurance.

1.4 Summary Description of the Project

The project activity involves electricity generation by wind electric convertors and supplying the generated electricity to the state Grid. The project being a renewable energy generation activity, it leads to removal of fossil fuel dominated electricity generation. The project activity results in reductions of greenhouse gas (GHG) emissions that are real, measurable, and verifiable and also plays beneficial role in the mitigation of climate change.

During the time of registration the total installed capacity of the project was 112.5 MW. After that it was downsized to 96 MW which was approved in the second monitoring period. Further to this, the 3 MW WTG from the total capacity of 12 MW at Vejalpar site, Morbi, Gujarat has been sold upon permission from Gujarat Energy Development Agency (GEDA). The reason for that was internal restructuring within the organization of Giriraj Enterprises. So, the project capacity stood at 93.0 MW in the last monitoring period (01-March-2020 to 31-December-2020). Further to this, the project activity has downsized to the project is 90 MW (From 01-January-2021 to 31-January-2021) in January 2021 and 88.5 MW (From 01-February-2021 onwards. to 30-June-2021) (Please refer deviation request for capacity reduction); so the project capacity presently stands at 88.5 MW; which involves operation of Wind Turbine Generators (WTGs) in Madhya Pradesh and Gujarat states of India. The details of the project are given below:

Project developer	Rated Power of WTG	Installed capacity(MW)	Project Location	State
M/s Giriraj Enterprises	1.5 MW	30	HatuniyaSite,Mandsaur	Madhya Pradesh
		22.5	Dewas Site, Dewas	Madhya Pradesh
		21	Dhar Site, Dhar	Madhya Pradesh
		6.0 MW (From 01-January-2021 to 31-January-2021)	Vejalpar Site, Morbi	Gujarat

		4.5 MW (From 01-February-2021 to 30-June-2021)		
		10.5	Vejalpar Site, Morbi	Gujarat
-	Total	88.5		

This information was verified during remote assessment and found to be in line with the details provided in the registered PD /01/.

The WTGs have been commissioned between 31-03-2015 and 31-03-2017. The same was verified against the registered VCS PD/01/ and commissioning certificates/11/.The emission reductions from the project activity during the period 01-January-2021 to 30-June-2021 (including both days) amount to 83,279 tonnes of CO₂e.

2 VERIFICATION PROCESS

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

2.1 Method and Criteria

Verification was conducted using Applus+ Certification procedures in line with the requirements CDM validation and verification standard for project activities, Version 02.0 for the project activity and “VCS standard version 4.1 and program guideline version 4.0” 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. The project activity does not fall under category “grouped projects”, hence any sampling methods not to be employed by the validation/verification body for the verification of GHG emission reductions or removals generated by the project.

Applus+ certification assessed and determined whether the proposed implementation and operation of the project activity, and the steps taken to report emission reductions comply with the criteria and relevant guidance provided by the VCS Board. The validation/verification process consist of the following three phases;

- A desk review of the VCS PD and VCS MR
- Remote visit and follow up interviews with project stakeholders
- The resolution of outstanding issues and issuance of final report and opinion

2.2 Document Review

The verification is performed primarily as a document review of the approved revised VCS PD, previous MR and Verification report 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, VCS PD 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

Due to the current situation with the global COVID-19 pandemic scenario and country wide lock down in most of countries across the globe, an on-site inspection has not been performed by the assessment team. However, the representatives of the PPs and onsite staff of PP were interviewed online via Skype/WhatsApp on 31-August-2021 i.e. personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure. The details of the people interviewed are mentioned in the table below:

S N	Name	Organization
1	Mr. Kailash Bankar	DGM ,PP Representative//Giriraj Enterprises
2	Mr. Sagar Durgavale	Sr. Manager //Giriraj Enterprises

3	Mohammad Moonis	Advisor/Consultant// EKI Energy Services Ltd.
4.	Mr. Barun Sharma	Advisor/Consultant// EKI Energy Services Ltd.
5.	Mr.Kunal Patel	Operational Team //Giriraj Enterprises

The topics covered during interview ranges from general features and implementation of project to technical details of the project like calibration details, monitoring and measuring system and data collection, recording and archiving procedures. The assessment was drawn based on the feedback received during interview coupled with the documentation and remote observations.

2.4 Site Inspections

As discussed in the above section, physical site inspection is not done for the current verification. However, to achieve a reasonable level of assurance, the assessment team has followed the alternative means to substantiate the verification criteria as described in the below table –

Assessment Criteria	Means of verification/source documents	Assessment opinion
Description of project activity	i. Commissioning certificates /9/ ii. PPA signed with SEB/10/ iii. Latest VCS verification report /2.1/. iv. Interview with PP representatives on 31-August-2021	The information's with reference to project capacity, technology, plant equipment's and commissioning dates as provided in section 1.1 of MR are found consistent with the documents.
Compliance of the project implementation with the registered project design document	i. Monthly JMRs signed by SEB and JSWHEL/8/ ii. Geographical co-ordinates (Location of Project activity) verified through Google Map (https://www.gps-coordinates.net/) iii. as well as sharing of live location from PP representative onsite. iv. Latest VCS verification report /2.1/. v. PPA signed with SEB /10/ vi. Interview with PP	Verified documents indicated the following information: • Serial number of energy meters (Main and Check) • Capacity of project • Name of project participant (Ownership of the project activity) Location of power house is verified through Google Map. Daily generation records are verified on sample basis to check the operational status

Assessment Criteria	Means of verification/source documents	Assessment opinion
	representatives on 31-August-2021 vii. Latest photographs of major project equipment's installed at site (i.e. Turbine, generators, energy meters, weir intake, penstock, tailrace etc.)/18/	of project activity. Grid connectivity of the project is confirmed through the PPA. All the information's regarding the project implementation as discuss above are further verified through previous VCS verification report/2.1/ and found consistent.
Compliance of the registered monitoring plan with applied methodologies and standardized baselines	i. Interview with PP representatives on 31-August-2021 ii. PPA signed with SEB /10/ iii. Monthly JMRs signed by SEB and JSWHEL/8/ iv. Invoices raised by project developer to SEB/7/ v. Photograph of all the WTGs, energy meters installed at site and screen shots of online monitoring system/18/	The organizational structure, responsibilities and competencies of the personnel confirmed through interview with PP representatives. Frequency of monitoring of parameters listed under approved monitoring plan is verified through JMRs /Invoices. The methods used for measuring, recording, storing, aggregating, and reporting the data on monitored parameters are verified though PPA and interactions with site personnel. Procedure for data uncertainty, emergency preparedness, roles and responsibility, operational and management structure are mentioned in the MR is confirmed through interview with PP representatives and found satisfactory.
Compliance with the calibration frequency requirements for measuring	i. Calibration certificates of energy meters/6/ ii. Monthly JMRs signed by SEB and JSWHEL/8/	Calibration frequency and energy meter specifications (Sr. No., make, accuracy class) is verified through

Assessment Criteria	Means of verification/source documents	Assessment opinion
instruments	iii. PPA signed with UETCL/10/	calibration certificates, photographs of energy meters and further verified through monthly JMRs and found consistent. Responsibility of calibration and maintenance of energy meters is solely under control of SEB; this is verified through the PPA.
Assessment of data and calculation of emission reductions or net removals	i. Monthly JMRs signed by SEB and JSWHEL/8/ ii. Invoices raised by project developer to SEB/7/ iii. Latest VCS verification report for last verification/2.1/	Monthly values of monitoring parameters used in ER calculation are verified through JMRs and cross verified with the invoices. Methods, formulae and emission factor for calculating baseline emissions have been followed are in accordance with the applied methodology /14/ and as described in the previous approved VCS verification report/2.1/.

It is noteworthy that no sampling plan for verification is applied as 100% data is verified for the current monitoring period. Most of the reference document referred by the assessment team (above table) are either issued /endorsed by grid utility (SEB) Power Grid Corporation of India Ltd., a government agency, hence is deemed authentic.

The assessment team has also used documents such as validation report/2.2/ and verification reports/2.1/ available publicly. Furthermore, the project activity already verified under VCS previously and currently undergoing periodic VCS verification. Hence, based on the information's available through approved documents (VCS verifications), it can be confirmed that project is implemented and being operated as described in the registered PD/1.1/.

The assessment team has verified sufficient appropriate audit evidences, to reduce audit risk to an acceptably low level as requisite to achieve reasonable level of assurance for the current verification.

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 remote assessment. 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.

All the findings that are raised and communicated to project participant during the verification are included under Appendix 4. 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 periodic verification under VCS; there were no FARs raised during the validation or previous verification/2.1/. Also, no FAR is raised during the current verification.

2.6 Eligibility for Validation Activities

Not applicable, as Applus+ holds the accreditation to perform validation activities in this Sectoral Scope.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is not applied under any other GHG program like CDM, GS, hence not applicable. This was confirmed through a declaration/14/ submitted by the PP and hence accepted by the assessment team. Audit team checked the REC Mechanism database of India and found that the project activity is not accredited / registered under REC mechanism. Further, declaration for the same is checked and found correct by the assessment team. Also assessment team checked the following registries to confirm the same. The details of the registries checked are as follows:

1. <https://www.recregistryindia.nic.in/>
2. <http://cdm.unfccc.int/>
3. <http://www.goldstandard.org/>

Rejection by other GHG programs

The Project is not rejected by other GHG programs. A declaration for the same is checked and found correct by the assessment team. Also assessment team checked the following registries to confirm the same. The details of the registries checked are as follows:

1. <https://www.recregistryindia.nic.in/>
2. <http://cdm.unfccc.int/>
3. <http://www.goldstandard.org/>
4. <https://verra.org/verra-standards-and-programs/>

The Project has no intend to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program. Renewable energy certificates are available for trading in the host country However, the same is not availed by the project participant. The undertaking regarding the same is submitted by PP which is acceptable to the assessment team and assessment team also checked the REC web site (<https://recregistryindia.nic.in/>) and found the declaration to be correct.

3.2 Methodology Deviations

There is no methodology deviation identified during the current monitoring period. Also, there is no methodology deviation from previous verification/2.1/

3.3 Project Description Deviations

Deviation 1

This deviation is related to total capacity of the project. At the time of registration, the total capacity of the project envisaged was 112.5 MW. Till 3rd verification the capacity of the project was downsized to 96 MW. This is because of following reasons-

- The earlier, 13.5 MW capacity wind project by Giriraj Enterprises at Vejalpar site, Gujarat has been downsized to capacity of 12.0 MW; and
- The earlier, 15 MW capacity wind project by Giriraj Enterprises at Khareda site, Gujarat has been cancelled by PP and has not been commissioned.

Deviation 2

Further to this, the 3 MW (1.5 MW x 2) WTG from the total capacity of 12 MW at Vejalpar site, Morbi, Gujarat has been sold upon permission from Gujarat Energy Development Agency (GEDA - A Govt of Gujarat Organization). The reason for this is due to the internal restructuring within the organization of Giriraj Enterprises. After that, the project capacity came down to 9.0 MW till December-2020. In the present monitoring period (01-January-2021 to 30-June-2021), the capacity in the same Vejalpar site has been further downsized to 6.0 MW from 9.0 MW because 3 MW (1.5 MW x 2) WTG from the total capacity of 6.0 MW at Vejalpar site, Morbi, Gujarat has been sold upon permission from Gujarat Energy capacity of same Vejalpar site was downsized to 4.5 MW from 6.0 MW.

So, now the total capacity of the project stands at 90.0 MW in January-2021 and 88.5 MW from 01-February-2021 to 30-June-2021.

Impact of additionality: At Vejalpar site, Gujarat at the time of investment decision making was 6.92% and the benchmark was 15.43%. Whereas, IRR for the downsized capacity of 12.0 MW comes to be 6.80% and the benchmark is 15.43%. With further downsizing capacity to 9.0 MW, the IRR stands at 6.46%. After downsizing the capacity in January 2021 to 6.0 MW, IRR comes out to be -3.51%. Again, after further the downsizing the capacity to 4.5 MW from February 2021 onwards, the IRR comes out to be -9.53%.

From the above analysis, it can be seen that after downsizing of the 13.5 MW project to 12.0 MW and further to 9 MW and then to 6 MW and 4.5 MW, the equity IRR is below the benchmark value. Hence, there is no impact on the project additionality.

Also, at the time of registration, 15.0 MW project was considered. But the project was cancelled and the entire capacity did not get commissioned. Hence, this will also not have any impact on the project additionality.

This deviation is of permanent nature (downsizing of the project capacity) and does not have any impact on the project applicability, baseline scenario and additionality.

As the downsizing of the project activity does not have impact on scale & methodology of the project activity, additionality of the project activity with downsized capacity and will not lead overestimation of ER value, hence deviation is accepted by the audit team.

3.4 Grouped Project

This is not a grouped project. Therefore, Not Applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the onsite audit with PP representative, it was concluded that the project is implemented as per the requirement of the registered VCS PD and approved monitoring plan. During the current monitoring period, it was observed through breakdown log sheet records onsite that no unforeseen incident/event evolved which can impact the operation of the project activity. The project underwent continuous operation and only scheduled maintenance as per the manufactures specification which is acceptable to the assessment team. Moreover, there is no unforeseen incident which can affect the applicability of the methodology and thus the same is acceptable to the assessment team.

Project location is confirmed by the assessment team through the GPS meters during remote audit and also cross checked the same via Google software. Moreover, assessment team confirm that the latitudes and longitudes as mentioned in the registered PD is correct. The WTG wise latitudes and longitudes are confirmed below:

S. No	Project Owner	Machine ID	Village	Taluka	District	State	Latitude	Longitude
1		RISPL/1500/16-17/4049	Kumbhariya	Morbi	Morbi		23° 07' 38.4492"	76° 56' 49.0040"
2		RISPL/1500/16-17/4050	Kumbhariya	Morbi	Morbi		23° 08' 13.4232"	76° 56' 36.1521"

3	Giriraj Enterprises	RISPL/1 500/16-17/4051	Kumbhari ya	Morbi	Morbi	Gujarat	23° 08' 05.4420"	76° 56' 53.2250"
4		RISPL/1 500/16-17/4052	Kumbhari ya	Morbi	Morbi		23° 07' 58.2384"	76° 58' 13.4000"
5		RISPL/1 500/16-17/4053	Kumbhari ya	Morbi	Morbi		23° 07' 52.4352"	76° 56' 48.2921"
6		RISPL/1 500/16-17/4054	Kumbhari ya	Morbi	Morbi		23° 08' 04.5960"	76° 57' 58.8007"
7		RISPL/1 500/16-17/4055	Kumbhari ya	Morbi	Morbi		23° 07' 28.3728"	76° 57' 54.4416"
8		RISPL/1 500/16-17/4542	Khakhrec hi	Maliya	Morbi		23° 04' 36.4872"	76° 53' 03.0658"
9		RISPL/1 500/16-17/4543	Khakhrec hi	Maliya	Morbi		23° 05' 11.8644"	76° 53' 04.9294"
10		RISPL/1 500/16-17/4545	Khakhrec hi	Maliya	Morbi		23° 05' 00.0420"	76° 52' 42.3122"
11		RISPL/1 500/16-17/4547	Khakhrec hi	Maliya	Morbi		23° 05' 07.5228"	76° 53' 19.9076"
12		RISPL/1 500/16-17/4548	Khakhrec hi	Maliya	Morbi		23° 04' 35.1336"	76° 53' 53.5708"
13		RISPL/1 500/16-17/4549	Khakhrec hi	Maliya	Morbi		23° 05' 18.3840"	76° 53' 57.6920"
14		RH3- 01	Ratikhedi	Mand saur	Mand saur	Madhya Pradesh	23° 53' 55.3848"	81° 14' 00.4539"
15		RH3- 02	Bholiya	Mand saur	Mand saur		23° 52' 51.1176"	81° 13' 50.1898"
16		RH3- 03	Ratikhedi	Mand saur	Mand saur		23° 53' 15.6300"	81° 13' 52.2136"

17		RH3- 04	Ratikhedi	Mand saur	Mand saur		23° 53' 45.4092"	81° 14' 18.1189"
18		RH3- 05	Ratikhedi	Mand saur	Mand saur		23° 53' 50.4636"	81° 14' 08.8622"
19		RH3- 06	Kankarwa	Jaora	Mand saur		23° 51' 36.6264"	81° 13' 46.2748"
20		RH3- 07	Bholiya	Mand saur	Mand saur		23° 52' 34.2552"	81° 14' 02.0410"
21		RH3- 08	Kankarwa	Jaora	Mand saur		23° 51' 31.3164"	81° 13' 54.2911"
22		RH3- 09	Bholiya	Mand saur	Mand saur		23° 52' 05.6028"	81° 13' 22.5297"
23		RH3- 10	Bholiya	Mand saur	Mand saur	Madhya Pradesh	23° 51' 57.0204"	81° 13' 20.6057"
24		RH4- 01	Jogikheda	Mand saur	Mand saur		23° 55' 44.0760"	81° 13' 01.3611"
25		RH4- 02	Ratikhedi	Mand saur	Mand saur		23° 54' 41.4036"	81° 13' 35.2470"
26		RH4- 03	Kuchdod	Mand saur	Mand saur		23° 54' 29.5380"	81° 14' 57.4242"
27		RH4- 04	KhajuriAnjana	Mand saur	Mand saur		23° 55' 26.4576"	81° 13' 22.4496"
28		RH4- 05	Ratikhedi	Mand saur	Mand saur		23° 54' 32.5872"	81° 13' 38.4149"
29		RH4- 06	KhajuriAnjana	Mand saur	Mand saur		23° 55' 36.1776"	81° 13' 23.8105"
30		RH4- 07	KhajuriAnjana	Mand saur	Mand saur		23° 55' 31.0548"	81° 14' 19.1617"
31		RH4- 08	KhajuriAnjana	Mand saur	Mand saur		23° 55' 18.7068"	81° 13' 29.2986"
32		RH4- 09	KhajuriAnjana	Mand saur	Mand saur		23° 54' 41.8464"	81° 14' 45.3159"
33		RH4- 10	Kuchdod	Mand saur	Mand saur		23° 54' 33.3612"	81° 14' 45.5120"
34		TK- 01	BhojPura	TonkKhard	Dewas		23° 05' 00.6252"	82° 15' 42.1007"
35		TK- 04	BhojPura	TonkKhard	Dewas		23° 05' 31.8588"	82° 15' 39.8266"

36		TK- 05	BhojPura	TonkK hurd	Dewa s		23° 05' 44.5272"	82° 15' 37.3439"
37		TK- 06	BhojPura	TonkK hurd	Dewa s		23° 05' 53.0052"	82° 15' 38.1612"
38		TK- 07	BhojPura	TonkK hurd	Dewa s		23° 06' 01.4472"	82° 15' 39.4702"
39		TK- 08	BhojPura	TonkK hurd	Dewa s		23° 06' 09.8568"	82° 15' 40.9898"
40		TK- 09	Devli	TonkK hurd	Dewa s		23° 06' 18.1944"	82° 15' 39.5913"
41		TK- 10	Devli	TonkK hurd	Dewa s		23° 06' 30.4740"	82° 15' 44.6623"
42		TK- 12	Ranayal Kala	TonkK hurd	Dewa s		23° 06' 42.4404"	82° 16' 05.0565"
43		TK- 14	Ranayal Kala	TonkK hurd	Dewa s		23° 07' 11.2584"	82° 15' 35.2710"
44		TK- 02	BhojPura	TonkK hurd	Dewa s		23° 05' 06.8244"	82° 15' 27.0816"
45		TK- 13	Ranayal Kala	TonkK hurd	Dewa s		23° 07' 03.6336"	82° 16' 05.7477"
46		TK- 15	Sankely	TonkK hurd	Dewa s		23° 06' 55.4580"	82° 16' 35.7260"
47		TK- 16	Sankely	TonkK hurd	Dewa s		23° 07' 22.2060"	82° 16' 04.9380"
48		TK- 17	Sankely	TonkK hurd	Dewa s		23° 07' 33.5352"	82° 15' 59.0681"
49		TIR- 04	Labrawad a	Dhar	Dhar		22° 38' 02.7636"	81° 15' 53.0078"
50		TIR- 05	Navgaon	Dhar	Dhar		22° 38' 26.1024"	81° 16' 18.3134"
51		TIR- 07	Kalukhedi	Dhar	Dhar		22° 38' 30.7356"	81° 16' 10.4044"
52		TIR- 09	Kalukhedi	Dhar	Dhar		22° 38' 36.6648"	81° 16' 03.5137"

53		TIR- 10	Chikliya	Dhar	Dhar	Madhya Pradesh	22° 37' 52.0104"	81° 15' 46.2258"
54		TIR- 03	Navgaon	Dhar	Dhar		22° 37' 59.3724"	81° 16' 16.6493"
55		TIR- 06	Navgaon	Dhar	Dhar		22° 38' 09.5820"	81° 16' 19.5422"
56		TIR- 12	Navgaon	Dhar	Dhar		22° 39' 03.8196"	81° 17' 01.1698"
57		TIR- 13	Navgaon	Dhar	Dhar		22° 39' 03.6072"	81° 17' 28.7447"
58		TIR- 14	Navgaon	Dhar	Dhar		22° 37' 52.8528"	81° 16' 25.5701"
59		ADD- 02	Navgaon	Dhar	Dhar		22° 37' 50.0016"	81° 16' 57.2696"
60		ADD- 03	Navgaon	Dhar	Dhar		22° 38' 26.7720"	81° 17' 03.4761"
61		ADD- 04	Navgaon	Dhar	Dhar		22° 38' 37.4388"	81° 17' 03.6032"
62		ADD- 05	Khilchipura	Dhar	Dhar		22° 38' 55.9428"	81° 17' 41.4823"

Starting date of the operation of the project activity is 31-March-2015 which is the date of commissioning/commercial operation of the 1st WTG/Assessment team checked the commissioning certificate and confirmed that the Dates of Commission for the WTGs are correct. Assessment team also conform during the interview with the PP that there is no change in project design except deviation requested and the project is implemented as per the description provided in the registered PD. Commissioning dates of WTGs are given below:

S. No.	Project Owner	Machine ID	Dates of Commission	State
1	Giriraj Enterprises	RISPL/1500/16-17/4049	02-March-2017	Gujarat
2		RISPL/1500/16-17/4050		
3		RISPL/1500/16-17/4051		
4		RISPL/1500/16-17/4052		
5		RISPL/1500/16-17/4053		
6		RISPL/1500/16-17/4054		
7		RISPL/1500/16-17/4055		
8		RISPL/1500/16-17/4542	31-March-2017	Gujarat
9		RISPL/1500/16-17/4543		
10		RISPL/1500/16-17/4545		

11		RISPL/1500/16-17/4547		
12		RISPL/1500/16-17/4548		
13		RISPL/1500/16-17/4549		
14		RH3- 01		
15		RH3- 02		
16		RH3- 03		
17		RH3- 04		
18		RH3- 05		
19		RH3- 06		
20		RH3- 07		
21		RH3- 08		
22		RH3- 09		
23		RH3- 10	31-March-2015	Madhya Pradesh
24		RH4- 01		
25		RH4- 02		
26		RH4- 03		
27		RH4- 04		
28		RH4- 05		
29		RH4- 06		
30		RH4- 07		
31		RH4- 08		
32		RH4- 09		
33		RH4- 10		
34		TK- 01		
35		TK- 04		
36		TK- 05		
37		TK- 06		
38		TK- 07		
39		TK- 08		
40		TK- 09	30-May-2016	Madhya Pradesh
41		TK- 10		
42		TK- 12		
43		TK- 14		
44		TK- 02		
45		TK- 13		
46		TK- 15		
47		TK- 16		
48		TK- 17		

49		TIR- 04		
50		TIR- 05		
51		TIR- 07		
52		TIR- 09		
53		TIR- 10		
54		TIR- 03		
55		TIR- 06		
56		TIR- 12	31-March-2016	
57		TIR- 13		
58		TIR- 14		
59		ADD- 02		
60		ADD- 03		
61		ADD- 04		
62		ADD- 05		

The technical parameters have been verified with the name plates as well as with the technical specifications of WTGs and also cross checked from the technical manual of the Manufactures. Assessment team confirms that the technical parameters are consistent with the registered VCS PD. The major technical specifications of the WTG are as follows:

Particulars	Details
Make	ReGen Powertech
Rated power	1500 kW
Cut-in wind speed	3 m/s
Cut-out wind speed	22 m/s
Survival wind speed	52.5 m/s
Generator	Variable Speed Multi Pole Synchronous
Rotor Diameter	87 m
Swept area	5942 m ²
Speed Range	9 to 17.3 rpm
Hub Height	85 m
Design	Tubular, Four Sections
Foundation Type	Floating
Control of Output	Pitch Regulation
Speed Control	Variable, micro controller based
Low Voltage Ride Through (LVRT)	3 seconds
Primary Brake system	Aerodynamic
Pitch System	Electromechanical
Remote Monitoring	VPN
Wind Turbine type class	GL III B

Design Lifetime	25 years
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4.2 Safeguards

4.2.1 No Net Harm

Being bundled renewable wind power generation project there is no negative environmental and socio-economic impacts in fact project activity contributes positively by providing environment friendly power generation leading to sustainable development of the region. Also, the generation of employment supports upliftment of socio-economic status of region. As per the EIA notification dated 14th September 2006, the wind power projects are exempted from environmental clearance. Hence, Environmental impact assessment is not required for this project activity.

The report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013 also confirms that wind power project activity operations do not result in direct air pollution, noise pollution. Hence verification team confirms that there are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity.

4.2.2 Local Stakeholder Consultation

The Project is already registered with VCS and registered VCS Project Description; sections 6 describe the Local Stakeholder Consultation Process as in-line with VCS requirement.

As a part of continuous feedback from stakeholders, there were no other major comments or protest raised by the stakeholders and they were totally in support for setting up of these kinds of projects in the region.

For ongoing communication, the PP has also placed a grievance register onsite where in the stakeholder can put down his/her complain and the same if found genuine will be addressed immediately. However, being renewable wind power generation project there is no feedback/grievance has been reported within this monitoring period verified from the photos provided by the Project participant.

4.3 AFOLU-Specific Safeguards

Not applicable for this verification.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The project monitoring has been carried in accordance with the registered VCS PD/01/ and the monitoring report/04/. The monitoring plan laid in the registered PD is being followed at the site/18/. The assessment team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/04/.The emission reductions are purely based on the net electricity generated and exported from the machines. PP has provided all the sufficient data for current monitoring period. The values of the parameter net electricity generation supplied to the grid by each phase used in deriving the GHG emission reduction could be very well correlated between the data sets and ER spreadsheet/05/ provided by PP. the verification of each monitoring parameter has been discussed later in section 4.5.

The calculation method and formulae used in calculating baseline emission is in compliance to the methodology used i.e. ACM0002 Version 17 /09/. Since project activity is a wind power project, leakage emission and project emission has been considered as zero.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

The below tables describe how the parameter, that is to be measured according to the monitoring plan, has been verified to confirm that the actual monitoring complies with the monitoring plan, monitoring data has been thoroughly assessed and that the calibration requirements are met.

Parameter	Quantity of net electricity generation supplied by the project (Wind) plant/unit to the grid in year y, $EG_{p,j,y}$ (MWh)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The parameter is calculated and recorded on monthly basis. Quantity of net electricity generation supplied by the project plant/unit to the grid in year y, is calculated as: $EG_{p,j,y} = (\sum EG_{JMR, project, export,y} - \sum EG_{JMR, project, Import,y})$

		Where, $EG_{JMR, project, export, y}$ = Quantity of Electricity exported by the Project WTGs connected to the feeder i to the grid during the year y. $EG_{JMR, project, import, y}$ = Quantity of Electricity imported by the Project WTGs connected to the feeder i from the grid during the year y.	
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered PD/01/ and monitoring methodology/09/.	
	Monitoring equipment	No monitoring equipment is used as this parameter is calculated. However the parameter $EG_{JMR, project, export, y}$ and $EG_{JMR, project, import, y}$ are calculated using measured values, are continuously monitored, hourly measured and monthly recorded ¹ .	
	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?	The accuracy of the monitoring equipment used to measure the input values used to calculate $EG_{JMR, project, export, y}$ and $EG_{JMR, project, import, y}$ is 0.2s, which is as per the registered PD/01/ which is as per the norm defined in the PPA/12/.	

	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	Calibration frequency of the meters is once in 5 years.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency is once in 5 years as outlined in the registered PD/01/ is in accordance with the national standards/15/.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration of the measuring equipment's is carried out by an accredited entity.
	Is(are) calibration(s) valid for the whole reporting period?	Calibration of meters is valid for the current monitoring period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately.
	How were the values in the monitoring report verified?	Cumulative value of $EG_{p,j,y}$ for entire monitoring period is reported in the monitoring report/04/, and monthly values in the ER calculation sheet/05/. The monthly values were verified from the credit notes issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was

		verified as 85270MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{p,j,y}$ were further cross checked with the monthly invoices raised by the PP /07/ 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?	Remote assessment of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.
	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?	No such issues.
Findings	CL#4 & 5 was raised and resolved	
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 emission reduction calculation for the project activity is estimated based on the electricity supplied by the WTGs. Since 100% data was	

	verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.
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Parameters fixed ex ante:

$EF_{grid,OM,simple}$; tCO_{2e}/MWh : it is the operating margin emission factor of NEWNE grid fixed at the time of project registration the mentioned value of $0.9857tCO_{2e}/MWh$ is consistent with the registered PD/01/.

$EF_{grid,BM,y}$; tCO_{2e}/MWh : it is build margin emission factor of NEWNE grid fixed at the time of project registration the mentioned value of $0.9495tCO_{2e}/MWh$ is consistent with the registered PD/01/.

$EF_{grid,CM,y}$; tCO_{2e}/MWh : it is the combined margin emission factor of NEWNE grid fixed at the time of project registration the mentioned value of $0.9767tCO_{2e}/MWh$ is consistent with the registered PD/01/.

Calibration of meters:

During the verification assessment of the project activity, accuracy of all the metering have been checked and found appropriate. The installation and working conditions of the meters were checked during the remote inspection and were found to be satisfactory. Details of meters are provided in below table:

The current meter details for M/s Giriraj Enterprises is as follows:

22.5 MW Dewas Site, Madhya Pradesh

Feeder 1 having 7 WTGs of 1.5 MW each and Feeder 2 having 8 WTGs of 1.5 MW each.

Feeder Details	Capacity	Meter serial number	Accuracy class	Make	Date Of Calibration	Validity
Prisma Feeder 1 (Dewas)	10.5 MW	XD500621 Main	0.2s	Secure	08-December-2017	07-December-2022
		XD500620 Check				
Prisma Feeder 2 (Dewas)	12 MW	XD500619 Main	0.2s	Secure	08-December-2017	07-December-2022
		XD500622 Check				

21 MW Dhar Site, Madhya Pradesh

One Feeder having 5 WTGs of 1.5 MW each and another Feeder having 9 WTGs of 1.5 MW each.

Feeder Details	Capacity	Meter serial number	Accuracy class	Make	Date Of Calibration	Validity
TirupatiDhar Renewable Power Pvt. Ltd (Jaitpura)	13.5 MW	XD500605 Main	0.2s	Secure	19-March-2016	18-March-2021
		XD500606 Check			21-March-2016	20-March-2021
Dhar Wind Power Projects Pvt. Ltd. (DasheraMaidan)	7.5 MW	XD500602 Main	0.2s	Secure	21-March-2016	20-March-2021
		XD500603 Check			19-March-2016	18-March-2021

Latest calibration details of 21 MW Dhar Site, Madhya Pradesh

Feeder Details	Capacity	Meter serial number	Accuracy class	Make	Date Of Calibration	Validity
TirupatiDhar Renewable Power Pvt. Ltd (Jaitpura)	13.5 MW	XD500605 Main	0.2s	Secure	13-July-2021	12-July-2026
		XD500606 Check			13-July-2021	12- July - 2026
Dhar Wind Power Projects Pvt. Ltd. (DasheraMaidan)	7.5 MW	XD500602 Main	0.2s	Secure	15-July-2021	14- July - 2026
		XD500603 Check			15- July - 2021	14- July - 2026

30 MW Hatuniya Site, Madhya Pradesh

One Feeder having 10 WTGs (RH3-01 to RH3-10) of 1.5 MW each and another Feeder having 10 WTGs (RH4-01 to RH4-10) of 1.5 MW each.

Feeder Details	Meter Details	Meter serial number	Accuracy class	Make	Date Of Calibration	Validity
Kuchrod Site, Mandsour	RH-3 Main Meter	XB589231	0.2s	Secure	12-April-2016	11-April-2021
	RH-3 Check Meter	XC502290	0.2s	Secure	23-April-2016	22-April-2021

A F Jalpur, Mandsour	RH-4 Main Meter	XC502289	0.2s	Secure	12-April- 2016	11-April- 2021
	RH-4 Check Meter	XC502293	0.2s	Secure	23-April- 2016	22-April- 2021

Latest calibration details of 30 MW Hatuniya Site, Madhya Pradesh

Feeder Details	Meter Details	Meter serial number	Accuracy class	Make	Date Of Calibration	Validity
Kuchrod Site, Mandsour	RH-3 Main Meter	XB589231	0.2s	Secure	12- July - 2021	11- July - 2026
	RH-3 Check Meter	XC502290	0.2s	Secure	12- July - 2021	11- July - 2026
A F Jalpur, Mandsour	RH-4 Main Meter	XC502289	0.2s	Secure	12- July - 2021	11- July - 2026
	RH-4 Check Meter	XC502293	0.2s	Secure	12- July - 2021	11- July - 2026

10.5 MW and 9.0 MW Vejalpar Site, Gujarat

Meter Details	Line-1 Meters		Line-2 Meters	
	ABT Meter	Check Meter	ABT Meter	Check Meter
Meter Make	Secure	Secure	Secure	Secure
Meter Sl. No	GJ 1319 A	GJU 66431	GJ 1320 A	GJU 66432
Date of Calibration	31-March-2016	31-March-2016	31-March-2016	31-March-2016
Validity	30-March-2021	30-March-2021	30-March-2021	30-March-2021

Latest calibration details of 10.5 MW and 9.0 MW Vejalpar Site, Gujarat

Meter Details	Line-1 Meters		Line-2 Meters	
	ABT Meter	Check Meter	ABT Meter	Check Meter

Meter Make	Secure	Secure	Secure	Secure
Meter Sl. No	GJ 1319 A	GJU 66431	GJ 1320 A	GJU 66432
Date of Calibration	09- July - 2021	09- July - 2021	09- July - 2021	09- July - 2021
Validity	08- July - 2026	08- July - 2026	08- July - 2026	08- July - 2026

The assessment team has verified the monthly credit notes issued by the state utility and confirmed that only the data recorded through main meters is used to calculate net electricity supplied to the grid consequently for ER calculations.

Assessment on delay in calibration:

There is delay found in in meter calibration as the meter calibration frequency is “Once in five years” and as the meter calibration during the current monitoring period has happened in 2016 and 2017 as provided above. , the latest calibration report dated 13 July 2021 has been provided by the PP and same has been updated in FVR. However, for the delay period error factor has been applied from March 2021 to June 2021 for site (21 MW Dhar Site, Madhya Pradesh and 10.5 MW and 9.0 MW Vejalpar Site, Gujarat) and for 30 MW Hatuniya Site, Madhya Pradesh by the PP. Hence, the next due date for meter calibration is in 2022 and 2026 which is outside the monitoring period.

The verification team has remotely checked all the meters and confirmed that the meters were working satisfactorily. Also the calibration of meters is completely under preview of state utility and PP has no control over the same as confirmed through interviews of site personnel and PPA signed by the PP with state utility/12/.

Hence it can be concluded that the approach followed by the PP is conservative and in line with the guidelines provided under paragraph 366(a) of VVS version 02.

The registered VCS PD/01/ & MR /04/ and remote audit observations confirm that the metering equipment are sealed and maintained by the state utility.

In view of the above discussion the assessment team is able to confirm that evidence used to determine the GHG reductions and removals are sufficient and appropriate with respect to quality and quantity.

GHG Calculations

The emission reduction as per the applied methodology 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:

$$BE_y = EG_{PJ, y} * EF_{grid, CM, y}$$

Where:

BE_y : Baseline emissions in year y (tCO_2/yr)

$EG_{PJ, y}$: Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year y (MWh/yr)

$EF_{grid, CM, y}$: Combined Margin (CM) Emission Factor of NEWNE (tCO_2/MWh)

Since the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, hence:

$$EG_{PJ, y} = EG_{facility, y}$$

Where,

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

Thus, $BE_y = EG_{facility, y} * EF_{grid, CM, y}$

Thus, $BE_y = 85,153 * 0.9777 tCO_2/MWh$

= 83,279 tCO_2e (rounded down value)

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. 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. The actual emission reduction achieved during the current monitoring period are 5.65% lower than the estimated amount of emission reductions at the time of validation, which is due to the high PLF achieved by the project activity during the monitoring period. It is to be noted that PLF is completely governed by the availability of wind, which is natural phenomenon and same is beyond the control of PP. Furthermore, the assessment team checked the registered PD and verified that in the sensitivity analysis, increase in PLF is well within the sensitivity analysis margin of 10% assumed in the financial calculation and does not have any impact on additionality; hence the assessment team has concluded the increase in emission reduction of the project activity is justified and acceptable.

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. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the TG sets installed at site. Monthly values of electricity generated inserted in the ER sheet was verified with the Joint Meter Reading Report and Invoices provided by the project proponent. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors. Therefore, the assessment team confirms that the emission reductions are free from any omissions, misstatement and material errors.

4.6 Non-Permanence Risk Analysis

Not applicable for the project activity. This section is not applicable for non-AFOLU projects.

5 VERIFICATION CONCLUSION

Applus+ certification, contracted by M/s Giriraj Enterprises, has performed the independent verification of the emission reductions for the VCS project activity (VCS ID- 1669) “Bundled Wind Power Project By Giriraj Enterprises” in India for the monitoring period 01-January-2021 to 30-June-2021 as reported in the Monitoring Report Version 03 dated 20/09/2021. The M/s Giriraj Enterprises 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 on the basis of the baseline and monitoring methodology ACM0002 Version 17, the monitoring plan contained in the registered VCS PD Version 02, dated 28/03/2017 and VCS guidelines version 4, Monitoring Report Version 03 dated 20/09/2021 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 fairly stated.

In our opinion the GHG emissions reductions reported for the project activity for the period 01/01/2021 - 30/06/2021 are fairly stated in the Monitoring Report Version 03 dated 20/09/2021. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology ACM0002, Version 17, and the VCS standard 4.1.

Verification period: From 01/01/2021 - 30/06/2021 (including both days)

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

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
01-January-2021 to 30-June-2021	83,279	0	0	83,279
Total	83,279	0	0	83,279

APPENDIX 1: <REFERENCES>

S.No	Title of Document	Version	Date
1.	Registered VCS PD	02	28/03/2017
2.	VCS Validation Report	1.0	30/03/-2017
2.1	Last VCS Verification Report monitoring period: 01/03/2020 to 31/12/2020)	02	30/03/2021
3.	VCS Monitoring Report	1	16/08/2021
4.	VCS Monitoring Report (Final)	03	20/09/2021
5.	ER spread sheet (corresponding to the final monitoring report)	1	16/08/2021
6	Certificates of Calibration for all the meters belongs to project activity	-	-
7.	Invoice issued by PP to state DISCOM	-	For the period 01/01/2021 to 30/06/2021
8.	Monthly JMR and Credit notes issued by MSEDCL for the current verification period.	-	For the period 01/01/2021 to 30/06/2021
9.	"Grid-connected electricity generation from renewable sources", ACM0002	17.0	-
10.	CEA Database	Version 11	-
11.	Commissioning certificate for all the WTGs of the project activity issued by state electricity authority	-	
12.	Power Purchase Agreements signed between respective Project developer and state electricity authority	-	-
13.	VCS webpage for the project, VCS ID 1669; https://www.vcsprojectdatabase.org/#/project_details/1669	-	Last accessed on 14/09/2020

S.No	Title of Document	Version	Date
14.	Letter of declaration dated from PP regarding not having created or sought any other form of environmental credit for the same period	-	02/09/2021
15.	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17/03/2006 <u>No. 502/70/CEA/DP&D</u> Amendments Notified on 26/06/2010 <u>No. 502/6/2009/DP&D/D-I</u>	-	Dated 17/03/2006
16.	VCS Standard	Version 4.1	Issued:19-09-2019 Updated: 22-04-2021
17.	VCS Program Guide	Version 4	19/09/2019
18.	Remote assessment –interviews of staff personnel, physical inspection of monitoring system	-	31/08/2021
19.	Monthly generation reports issued by O&M contractor	-	For the period 01/01/2021 to 30/06/2021
20.	Clean Development Mechanism Validation and Verification Standard for Project Activity (CDM-VVS for PA), as per EB 101, Annex 2	2.0	29/11/2018

APPENDIX 2: <COMPETENCY STATEMENT>

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 Remote-Site Assessment
Vivek Kumar Ahirwar	Lead Auditor (LA) & 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

The curriculum vitae of the DOE's team members are provided below:

Vivek Kumar Ahirwar is a BEE-Certified Energy Auditor by Govt of India with over eight years of relevant experience in energy efficiency, energy audit, thermal and electrical energy generation technology from renewable source and energy conservation in energy intensive industries, designated consumers and commercial buildings, implementation of energy conservation building codes, research, process and green building projects. He is a certified lead auditor for ISO 14001 EMS and 14064. He has experience under various categories of projects stating from renewable to waste to supercritical projects and WCD. He has successfully audited more than 100 GHG (CDM/VCS/GS) projects in different states across the India. He has done Master 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 Govt. Engineering college, Rewa, RGPV, India.

Simon Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ LGAI, he had been worked for TÜV SÜD as a GHG Validator/Verifier and ISO 9001/14001 Lead Auditor for 3.5 Years.

APPENDIX 3: <ABBREVIATIONS>

ABT	Availability Based Tariff
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
EPC	Engineering, Procurement and Construction
FAR	Forward Action Request
GHG	Green House Gas
ISO	International Standards Organization
JMR	Joint Meter Reading
kW	Kilowatt
kWh	Kilowatt hour
MEDA	Maharashtra Energy Development Agency
MFR	Multi-Function Relay
MR	Monitoring Report
MSEDCL	Maharashtra State Electricity Distribution Company Limited

MW	Megawatt
MWh	Megawatt-hour
NEWNE	Northern Eastern Western Northern-Eastern
O&M	Operation and Maintenance
PD	Project Description
PLF	Plant Load Factor
PP	Project Proponent
PPA	Power Purchase Agreement
QA/QC	Quality Assurance and Quality Control
TOD	Time of the Day
UNFCCC	United Nations Framework Convention on Climate Change
WEC	Wind Energy Convertor
WEG	Wind Energy Generator
WTG	Wind Turbine Generator
VCS	Voluntary Carbon Standard
VCSA	Voluntary Carbon Standard Association
VCS PD	VCS Project Description
VCUs	Voluntary Carbon Units

APPENDIX 4: <FINDINGS OVERVIEW>

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

FAR ID		Section no.	NA	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.	MR	Date :01/09/2021
Description of CL				
PP section 1.3 of the MR, PP has not provided the Telephone no and email id.				
Project participant response				Date : 02/09/2021
The section 1.3 of the MR, the Telephone no and email id have been provided now.				
Documentation provided by project participant				
The updated MR.				
DOE assessment				Date: 11/09/2021
PP has updated the section 1.3 of the revised MR. Hence CL #1 is closed.				

Table 2. CAR from this verification

CAR ID	01	Section no.	Page 2 of the MR	Date 01/09/2021
Description of CAR				
On page no 2 of the MR, Contents is not correct and as per the template of the VCS MR. PP is requested to rectify the same.				
Project participant response				Date :
On page no 2 of the MR, Contents in now rectified as per the template of the VCS MR.				

Documentation provided by project participant	
The updated MR.	
DOE assessment	Date: 11/09/2021
PP has updated the page no 2 of the revised MR and found in line with the template of VCS MR. Hence CAR #1 is closed.	

CAR ID	02	Section no.	A.1.1 . 1.5 and 1.7	Date :01/09/2021
Description of CAR				
- In section 1.1 of the MR, in the description PP has sold the WTG to other parties and capacity has been decreased. However, PP is requested to provide the justification and also explain any impact of project Implementation and Additionality of the project. PP is requested to provide the required evidence to assessment team. - Please mentioned project capacity at the time of registration, please provide chronology of project status with date starting from project registration and capacity at the time of project registration in section 1.1 of the VCS MR. - Table format is not appropriate in section 1.5 and 1.7 of the MR.				
Project participant response				Date :02/09/2021
- The PP has sold the WTG to other parties and capacity has been decreased because 4.5 MW (3 MW WTG in January 2021 and 1.5 MW in February 2021) has been sold by the organization of Giriraj Enterprises. The deviation and the justification have been described in the section 2.1.2. Although the capacity of the project activity is reduced (from 93 MW in the last monitoring period to 88.5 MW in the current monitoring period), it has no impact on project implementation. There is no impact on the additionality of the project. The present reduction is due to reduction in capacity of Vejalpur site which has present capacity 4.5 MW. The equity IRR is now -9.43% which is still below the benchmark equity IRR of 15.43% value. Therefore additionality of the project is not affected by the downsizing of the capacity. The additionality and IRR has been described in the section 2.1.2. - The whole chronology of project capacity at the time of project registration to the current MP has now been described in the section 1.1 of the VCS MR. - The table format is now rectified in section 1.5 and 1.7 of the MR.				
Documentation provided by project participant				
- Updated MR with rectified/updated sections 1.1, 2.1.2, 1.5 and 1.7 - IRR sheet				
DOE assessment				Date: 11/09/2021

1. The verification team has assessed the response and updated MR and IRR sheet and found in line with the requirement and not impacting the project Implementation and Additionality of the register project.
2. In section 1.1, 1.5 & 1.7 required changes have been found in the updated MR. Hence CAR#2 is closed.

CAR ID	03	Section no.	1.10& 2.2	Date :01/09/2021
Description of CAR				
1. PP is requested to submit the deceleration letter to avoid the double counting. 2. Grievances/ LSC register are not submitted to auditor for assessment.				
Project participant response				Date :02/09/2021
1. The declaration letter to avoid the double counting has been now provided. 2. Grievances/ LSC register has been now submitted.				
Documentation provided by project participant				
1. The declaration letter to avoid the double counting. 2. Grievances/ LSC register.				
DOE assessment				Date: 11/09/2021
Declaration letter dated 02/09/2021 and Grievances register has been submitted to the assessment team and found in line with the requirement. Hence CAR#3 is closed.				

CAR ID	04	Section no.	4.2	Date : 01/09/2021
Description of CAR				
The details of monitoring meters and its calibration are provided in the MR. Moreover, Calibration certificates for the complete monitoring period are provided. However, it is not clear that the meter has not changed in this MP. Corrective action is raised for the same.				
Project participant response				Date : 02/09/2021
The meter has not changed in this monitoring period. It has been mentioned now in the section 4.2 of MR.				
Documentation provided by project participant				
Updated MR.				
DOE assessment				Date: 11/09/2021

Section 4.2 of the MR has been updated and also provided the calibration details in Appendix -1 (21 MW Dhar Site, Madhya Pradesh, 30 MW Hatuniya Site, Madhya Pradesh and 10.5 MW and 9.0 MW Vejalpar Site, Gujarat). However, the calibration report does not cover the fully monitoring period as end on 31-June-2021. Please clarify?

Project participant response
Date : 20/09/2021

We have addressed this according to each site:

Dhar (13.5 MW) :- As per previous verification, calibration was done on 19/03/2016 and 21/03/2016 for main meter and check meter respectively. As per the monitoring plan next calibration is due till 18/03/2021 and 20/03/2021. Therefore, error factor will not be applied till February 2021. Error factor has been for rest of the month of the verification period.

Dhar (7.5 MW): - As per previous verification, calibration was done on 21/03/2016 and 19/03/2016 for main meter and check meter respectively. As per the monitoring plan next calibration is due till 20/03/2021 and 18/03/2021 for main meter and check meter respectively. Therefore, error factor will not be applied till February 2021. Error factor has been for rest of the month of the verification period.

Hatuniya (30 MW) - As per previous verification, calibration was done on 12/04/2016 and 23/03/2016 for main meter and check meter respectively. As per the monitoring plan next calibration is due till 11/04/2021 and 22/03/2021. Therefore, error factor will not be applied till March 2021. Error factor has been for rest of the month of the verification period.

Vejalpar (10.5 MW) - As per previous verification, calibration was done on 31/03/2016 and 31/03/2016 for main meter and check meter respectively. As per the monitoring plan next calibration is due till 30/03/2021 and 30/03/2021. Therefore, error factor will not be applied till February 2021. Error factor has been for rest of the month of the verification period.

Vejalpar (9 MW) - As per previous verification, calibration was done on 31/03/2016 and 31/03/2016 for main meter and check meter respectively. As per the monitoring plan next calibration is due till 30/03/2021 and 30/03/2021. Therefore, error factor will not be applied till February 2021. Error factor has been for rest of the month of the verification period.

Latest calibration certificates (done in July 2021) has been provided for each aforementioned site.

The application of error factor in ER sheet has been done for each aforementioned site. The application of error factor has been mentioned in ER sheet of each site. Accordingly, the change in the ER has been updated in the MR.

Documentation provided by project participant

1. Updated ER sheet
2. Updated MR
3. Latest calibration certificates (July 2021) of Dhar site (13.5 MW), Dhar site (7.5 MW), Hatuniya (30 MW), Vejalpar (10.5 MW) and Vejalpar (9 MW).

DOE assessment	Date: 21/09/2021
MR has been updated as required and MR has been reviewed and found the calibration details now updated in MR. The Calibration Certificate also verified and found to be correct. Hence CAR#4 is closed.	

CAR ID	05	Section no.	D.2	Date :01/09/2021
Description of CAR				
Capacity has changed in this MP. PP need to provide the justification and also explain how the IRR benchmarks is not breaching.				
Project participant response				Date :02/09/2021
The capacity has been reduced in this MP. The IRR after reducing the project capacity is still below the benchmark value. Therefore, IRR benchmark has not been breached.				
Documentation provided by project participant				
IRR Sheet.				
DOE assessment				Date: 11/09/2021
MR has been updated as required and IRR sheet has been reviewed and found the benchmark of IRR is not breaching. Hence CAR#5 is closed.				

Table 3. FAR from this verification

FAR ID	XX	Section No.	XX	Date :
Description of FAR				
NA				
Project participant response				Date : DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: DD/MM/YYYY
NA				