




**Verification and certification report form for
CDM project activities
(Version 02.0)**

BASIC INFORMATION	
Title and UNFCCC reference number of the project activity	Bundled wind energy power projects (2004 policy) in Rajasthan UNFCCC ref.No-1166
Version number of the verification and certification report	02
Completion date of the verification and certification report	29/11/2017
Monitoring period number and duration of this monitoring period	Monitoring Period: 06 Period: 01/05/2014 to 31/07/2017(both dates are included)
Version number of the monitoring report to which this report applies	03
Crediting period of the project activity corresponding to this monitoring period	Fixed crediting period Start date: 30/10/2008 Length: 10 years (30/10/2008 to 29/10/2018)
Project participants	M/s Wind World (India) Limited ¹ (India)
Host Party	India
Applied methodologies and standardized baselines	Selected Methodology: ACM0002 Version 6.0 – “Consolidated methodology for grid-connected electricity generation from renewable sources” Selected standardized baseline: N/A
Mandatory sectoral scopes linked to the applied methodologies	Sectoral scope : 1- Energy industries (renewable - / non-renewable sources)
Conditional sectoral scope(s) linked to the applied methodologies	NA
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	135,939 tCO ₂ e
Certified amount of GHG emission reductions or GHG removals for this monitoring period	73,535 tCO ₂ e
Name and UNFCCC reference number of	LGAI Technological Center, S.A. (LGAI Tech. Center S.A.)

¹ Previous name “Enercon (India) Limited”.

the DOE	UNFCCC Ref.No: E-0032
Name, position and signature of the approver of the verification and certification report	Name: Juan Sendin Position: B.U. Systems Certification Area Manager Signature of the approver: 

SECTION A. Executive summary

>>LGAI Technological Center, S.A. (hereafter referred to as Applus+ LGAI) has been contracted by M/s Wind World (India) Limited to perform the sixth periodical verification of "Bundled wind energy power projects (2004 policy) in Rajasthan" (UNFCCC Ref. No. 1166) applying the methodology ACM0002 Version: 6.0. The management of M/s Wind World (India) Limited is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

A desk review and a site visit have been conducted to verify the data submitted in the monitoring report. Applus+ LGAI confirms the following has been reviewed:

- (a) The registered PDD/1.3/, including the revised monitoring plan (approved on 02/08/2010) and the corresponding validation report;
- (b) Monitoring report of previous monitoring period as well as corresponding verification report;
- (c) Monitoring report of this monitoring period;
- (d) The applied monitoring methodology;
- (e) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- (f) All information and references relevant to the project activity's resulting in emission reductions.

The project activity involves electricity generation by wind electric convertors and supplying the generated electricity to the NEWNE Grid. The project activity is a renewable energy generation that can replace the fossil fuel dominated grid connected electricity generation. The project activity is resulting in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

The project activity comprises of installation of 31 WTGs by 12 different investors. All the WTGs are of Wind World make 800 kW (E-48), thereby making the total installed capacity to be 24.80 MW at Kita and Bhu village, in the district of Jaisalmer in Rajasthan, India. The WTGs have been commissioned between 25/03/2006 and 13/05/2006. The same is verified with the commissioning certificates/3.1/ and found consistent. It is to be noted that name of company "Enercon India Limited" is changed as "Wind World (India) Limited" from 01/01/2013 onwards, the same is verified through the name change consent issued by Government of India/3.7/.

The generated electricity is evacuated to Rajasthan state grid substation. The project activity generates power by using the kinetic energy of wind, thus resulting in zero emissions during electricity production. The power produced displaces an equivalent amount of power from the grid, which is fed mainly by fossil fuel fired power plants. Hence, it results in reduction of GHG emissions. The current verification has been performed as per latest valid version of the CDM Standards i.e., CDM PS for PAs version 01.0 /2.2/, CDM VVS for PAs version 01.0 /2.1/.

Applus+ LGAI confirms that the project is implemented in accordance with the registered PDD. The monitoring plan complies with the applied methodology ACM0002 Version: 6.0 and the monitoring have been carried out in accordance with the monitoring plan. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects 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 reviewed and evaluated Applus+ LGAI confirms that the implementation of the project has resulted in 73,535 tCO₂e emission reductions during period 01/05/2014 to 31/07/2017.

SECTION B. Verification team, technical reviewer and approver**B.1. Verification team member**

No.	Role	Signature	Last name	First name	Affiliation	Involvement in
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					(e.g. name of central or other office of DOE or outsourced entity)	Desk review	On-site inspection	Interview(s)	Verification findings
1.	Team Leader / Technical Expert	OR	Ahirwar	Vivek Kumar	GCEES	Y	Y	Y	Y

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical Reviewer	EI	Xue	Denny	Applus+ LGAI
3.	Approver	IR	Sendin	Juan	Applus+ LGAI

Note: IR: Internal Resources, EI: External Individuals, OR: Outsourced Resource.

SECTION C. Application of materiality

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Manual adjustment of otherwise automatically recorded activity levels: This error may be due to manually recording of actual readings in-to original records.	Low	Monitoring Equipment e.g. Energy Meters have totalizer which reduce the chance of error as initial readings and final readings can be cross –check in every records /3.3/, /3.4/. The reading of JMR is being recorded in the presence of representatives of DISCOM and O&M contractor. So chances of noting down incorrect reading diminish. Monthly JMR is endorsed by state utility.	100 per cent of the data and information was checked from monthly generation breakup sheets/3.3/, monthly generation reports sourced from online monitoring system(SCADA) and cross-checked from sold electricity invoices /3.4/
2.	Human error in the quantification of emissions. This error may be due to transfer of monitored data in-to Emission Reduction calculation sheet/4.2/ for calculation of actual emission reduction archived during monitoring period.	High	The monitoring data is transfer manually, so there is high potential risk of errors/errors, omissions or misstatements.	100 per cent of the data and information was checked from Monthly generation breakup sheets/3.3/, monthly generation reports sourced from online monitoring system (SCADA) and cross-checked from monthly invoices raised to state utility /3.4/.

C.2. Consideration of materiality in conducting the verification

>>The project activity is large- scale project and applicable threshold for materiality in accordance with CDM VVS for PAs Version 01.0 paragraph329(c) is 2%. All the monthly reported figures for parameter EG_ywere verified with respective monthly credit notes and were found to be consistent. Therefore, it can be stated that the verified value is free from any potential error / omission / misstatement. The project activity, being a wind energy project, has assumed the project emission and leakages to be zero which is in line to the applied methodology/2.3/ and is also reasonable in the opinion of assessment team. Therefore, there are no additional factors which might lead to introduction of error in emission reduction estimation.

SECTION D. Means of verification

D.1. Desk/document review

>>The Monitoring Report version 01 dated 23/08/2017/1.0/ submitted by the PP was made publicly available on the UNFCCC website before the verification activities started. The published MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- verify the completeness of the data and the information presented in the MR;
- check the compliance of the MR with respect to the monitoring plan depicted in the registered PDD and verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures was paid;
- Evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

A complete list of documents reviewed or referenced is available in Appendix 3 of this report.

D.2. On-site inspection

Duration of on-site inspection:26/09/2017				
No.	Activity performed on-site	Site location	Date	Team member
1.	Confirm the implementation and operation of the project;	Kita, and Bhu, villages in Jaisalmer district of Rajasthan of India	26/09/2017	Vivek Kumar Ahirwar
2.	Review the data flow for generating, aggregating and reporting the monitoring parameters;		26/09/2017	Vivek Kumar Ahirwar
3.	Confirm the correct implementation of procedures for operations and data collection;		26/09/2017	Vivek Kumar Ahirwar
4.	Cross-check the information provided in the MR documentation with other sources;		26/09/2017	Vivek Kumar Ahirwar
5.	Check the monitoring equipment against the requirements of the PDD and the approved methodology, including calibrations, maintenance, etc.;		26/09/2017	Vivek Kumar Ahirwar
6.	Review the calculations and assumptions used to obtain the GHG data and ER;		26/09/2017	Vivek Kumar Ahirwar
7.	Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.		26/09/2017	Vivek Kumar Ahirwar

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Yadav	Vikash	WWIL	26/09/2017	Project Activity Description, implementation and operation of the project	Vivek Kumar Ahirwar
2.	Kumar	Jeetendra	WWIL	26/09/2017	Procurement Records & Consumption , Bill & Energy Bills/Records	Vivek Kumar Ahirwar
3.	Kumar	Sunil	WWIL	26/09/2017	Monitoring Data & Records Monitoring Plan, equipment , calibrations, maintenance, data records, certificates etc.; Calculations and assumptions used to obtain the GHG data and ER	Vivek Kumar Ahirwar
4.	Kumar	Dharmendra		26/09/2017	Monitoring Data & Records Monitoring Plan, equipment , calibrations, maintenance, data records, certificates etc.; Calculations and assumptions used to obtain the GHG data and ER	Vivek Kumar Ahirwar

D.4. Sampling approach

>>Not Applicable, as all monitoring data as reported in MR and ER were verified and checked from actual records.

D.5. Clarification requests (CLs), corrective action requests(CARs) and forward action requests (FARs) raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	CAR #1	-
Compliance of the project implementation with the registered PDD	-	-	-
Post-registration changes	-	-	-
Compliance of the monitoring plan with the monitoring	-	-	-

methodology including applicable tool and standardized baseline			
Compliance of monitoring activities with the registered monitoring plan	-	-	-
Compliance with the calibration frequency requirements for measuring instruments	-	CAR #2	-
Assessment of data and calculation of emission reductions or net removals	-	CAR #3	-
Assessment of reported sustainable development co-benefits	-	-	-
Global stakeholder consultation	-	-	-
Others (Inconsistencies/typo errors)	CL#1	-	-
Total	1	3	-

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	The Monitoring Report version 03/1.2/ is compliant with Monitoring Report form (Version 06.0) /2.4/ and guidance as provided by UNFCCC. Applus+ LGAI considers that the attachment "Instructions for filling out the monitoring report form" at the end of template "Monitoring report form (Version 06.0)" /2.4/ has been followed. Relevant information was provided by the project participant in the applicable Monitoring Report sections.
Findings	CAR #1 was raised and resolved.
Conclusion	Applus+ LGAI confirms that the monitoring report is in compliance with the relevant valid form and instructions therein as accordance to "Clean Development Mechanism Validation and Verification Standard for Project Activity" (CDM- VVS for PA) v01.0 §§ 355-356.

E.2. Remaining forward action requests from validation and/or previous verifications

>>This is sixth periodic verification of the project. There are no pending issues from the validation or the previous verification/1.6/. This was verified and confirmed from the project documents on the UNFCCC project webpage /1.5/.

E.3. Compliance of the project implementation and operation with the registered project design document

Means of verification	<p>The project activity is fully implemented according to the description presented in the registered PDD /1.3/. The assessment team confirms, through the visual inspection that all physical features of the CDM project activity including data collecting systems and storage have been implemented in accordance with the registered PDD /1.3/.</p> <p>This project activity involves generation of electricity from WTGs and supplying the generated electricity to the NEWNE grid of India. The project, located at Kita, and Bhu, villages in Jaisalmer district of Rajasthan state in India. The PP has signed a PPA/3.2/ with JVVNL (Jaipur Vidyut Vitran Nigam Limited) for the sale of electricity to the grid.</p> <p>The project was registered as a CDM project on 30/10/2008 and the starting date of the crediting period (fixed) is 30/10/2008. The PP has undertaken a revision in the monitoring plan which was approved by the EB on 02/08/2010/1.8/as reflected on the UNFCCC project webpage/1.5/.</p> <p>This is the sixth verification of the project activity covering the period from 01/05/2014 to 31/07/2017.</p> <p>The project has been implemented; equipment installed and is being operated as described in the registered PDD. The monitoring plan implemented during the current monitoring period is in compliance with the approved registered monitoring</p>
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	<p>plan and the applied methodology. This was verified during the site visit.</p> <p>The project area extends between latitude 26° 41' & 26° 46.5' N and longitude 70° 57.5' & 71° 4' E. Location of the project activity were verified through Google Maps (https://www.gps-coordinates.net/) and found consistent with the same mentioned in the registered PDD.</p> <p>The project activity WTGs have been commissioned between 25/03/2006 and 13/05/2006 as mentioned in the Monitoring Report. Commissioning details of the WTGs have been verified against the commissioning certificates/3.1/ and is found to be correct.</p> <p>The line diagram of the metering system of the project activity showing metering points is indicated in section C of the MR/1.2/.</p> <p>The WTGs belongs to project activity connected to various clusters and each cluster has exclusive dedicated metering arrangement at 33kV at project site. Similarly, the WTGs of other project developers (non-project activity) 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 at 132 kV Wind World sub-station (Temdarai Substation, Jaisalmer) through 33 kV bus via two separate lines. At WWIL pooling sub-station electricity is stepped up to 132kV, wherein the two backup meters (connected. From WWIL pooling sub-station electricity is transmitted to state utility (DISCOM) sub-station (Amar sagar Sub-station) through 132Kvtransmission line/ EHV line wherein two billing meters (Line-I and Line-II, main meters) is connected. From EB substation electricity is further transmitted to NEWNE grid.</p> <p>During the site visit, the assessment team verified the technology used and the capacity of WTGs implemented at the project site through physical inspection and it can be confirmed that there are no changes in the project design against the registered PDD/1.3/.</p> <p>Actual emission reductions achieved during the current monitoring period are 45.91%lesser than the same estimated in the registered CDM-PDD for comparable period. This is due to low plant load factor achieved during the current monitoring period and technical failure of some WTGs (Kindly refer section E.8.6 of this report for further details).</p> <p>No events or situations that may impact the applicability of the methodology occurred during this monitoring period, which was confirmed by checking the operational/shut down details available at site office and interviewing the site personnel. The project was checked against the applicability criteria in the applied methodology ACM0002 Version 6.0 and it is confirmed that the methodology is applicable to the project activity. The data and variables provided in the Monitoring Report are the same as stated in the approved monitoring plan.</p>
Findings	<p>No non-conformability was observed during assessment for implementation of project activity against the description presented in the registered PDD/1.3/. Therefore, no finding was raised.</p>
Conclusion	<p>Applus+ LGAI confirms that the implementation of project activity is in compliance with the CDM requirement stipulated under CDM-VVS for PA v01.0 §§ 357-359.</p> <ol style="list-style-type: none"> The implementation and operation of the project activity has been conducted in accordance with the description contained in the registered PDD. By means of an on-site inspection the verification team is able to confirm that all physical features (technology, project equipment, and monitoring and metering equipment) of the registered CDM project activity are in place and that the project participants have operated the project activity as per the registered PDD. No information with regard to data and variables was identified that may surpass the estimated quantity of ERs in the registered PDD. The emission reductions achieved during the current monitoring period are 73,535 tCO₂e within the estimated quantity (135,939 tCO₂e) in the registered PDD for the comparable period.

E.4. Post-registration changes**E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines**

>>There are no temporary deviations from the monitoring plan of registered PDD/1.3/ or applied methodology/2.3/ during the current monitoring period. It was verified and confirmed from the Monitoring Report/1.2/, registered PDD/1.3/, UNFCCC project webpage /1.5/ and on-site verification/6.1/ & /6.2/.

E.4.2. Corrections

>>There are no corrections during the current monitoring period.

E.4.3. Change to the start date of the crediting period of the project activity

>>There are no changes to the start date of crediting period identified during the current monitoring period. It was verified and confirmed from the UNFCCC project webpage /1.5/.

E.4.4. Inclusion of a monitoring plan

>>There is no inclusion of a monitoring plan identified during the current monitoring period.

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other applied standards or tools

>>There are no permanent changes from the approved monitoring plan/1.8/ or applied methodology/2.3/ during the current monitoring period. A revision in the monitoring plan was approved on 02/08/2010/1.8/.

E.4.6. Changes to the project design

>>There is no change to project design of the registered project activity identified during the current monitoring period. It was verified and confirmed from the Monitoring Report/1.2/, registered PDD/1.3/, UNFCCC project webpage /1.5/ and on-site verification/6.1/&/6.2/.

E.4.7. Changes specific to afforestation and reforestation project activities

>>Not Applicable.

E.5. Compliance of the registered monitoring plan with the methodology including applicable tools and standardized baselines

Means of verification	<p>The project has been registered with the “Consolidated methodology for grid-connected electricity generation from renewable resources” ACM0002 version 6.0/2.3/. The assessment team verified the revised monitoring plan against ACM0002 version 6.0, and confirms that the approved registered monitoring plan is in accordance with the approved methodology applied by the project activity.</p> <p>The monitoring parameter relevant to this project activity described in the applied methodology is:</p> <p>EG_y – Electricity supplied to the grid by the project</p> <p>However the following parameters are defined in the approved monitoring plan:</p> <ul style="list-style-type: none"> i. EG_y – Net electricity supplied to the grid by the Project. ii. E_{JMR, Export}– Electricity exported as recorded by the main meter at EB substation. iii. E_{JMR, Import}– Electricity import as recorded by the main meter at EB substation. iv. E_{Controller, export}–Electricity exported by all the WEGs connected to the main meter at the substation, as measured at the controller panel. v. E_{WEG, Export} – Electricity exported by a WTG to the grid by the project activity. vi. E_{WEG, import}–Electricity imported by a WTG from the grid by the project activity. vii. Σ_{Project} E_{WEG, Export}– Summation of electricity exported to the grid by all the WEGs included in
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the project activity.

- viii. $\Sigma_{\text{Project}} E_{\text{WEG, Import}}$ – Summation of electricity imported from the grid by all the WTGs included in the project activity.

In accordance with the actual practice followed at site, the parameter EG_y is calculated using the apportioning procedure as described in the revised monitoring plan (approved on 02/08/2010). Hence, the PP has included these parameters in the registered monitoring plan along with the parameter EG_y .

The revised monitoring plan was implemented and followed during previous in previous monitoring period. This was checked from the verification available on the UNFCCC webpage of this project. Hence, it can be assured that the approved monitoring plan of the registered project is in accordance with the applied methodology.

A comparison between the requirement of the methodology, for the parameter EG_y , and the description of the same parameter in the registered monitoring plan is provided in the table below:

Registered PDD Approved Methodology	Requirement in the applicable methodology and relevant EB documents	Requirement in the approved monitoring plan	Opinion
Data/Parameter	EG_y	EG_y	In compliance with the applicable methodology.
Description	Electricity supplied to the grid by the project	Net electricity supplied to the grid by the Project	In compliance with the applicable methodology.
Measured/Calculated /Default	Directly measured	Calculated	This parameter is calculated as difference of electricity exported and imported by the project activity. $EG_y = \Sigma_{\text{Project}} E_{\text{WEG, Export}} - \Sigma_{\text{Project}} E_{\text{WEG, Import}}$ Furthermore $EG_{\text{WEG, Export}}$ and $EG_{\text{WEG, Import}}$ is calculated using the directly measured values of import ($EG_{\text{JMR, import}}$), export ($EG_{\text{JMR, Export}}$) and electricity generation measured at LCS meter of each WTG ($\Sigma EG_{\text{Controller, export}}$) as per the actual practice on site by the state utility (DISCOM), which is governed by the PPA signed specifically for this project activity. This approach has been described in the revised monitoring plan (approved on 02/08/2010). Hence accepted.
Source of data	Not Specified	Monthly invoices raised by the PP to RRVNPL /Jodhpur DISCOM	This is as per the actual practice on site by the state utility, governed by the PPA signed for this project activity. Hence accepted.
Monitoring equipment	Not Specified	Not Applicable since this is a calculated parameter	This parameter is calculated using the directly measured values as discussed above. Hence accepted.
Measuring/Reading/Recording frequency	Hourly measurement and monthly Recording	Recording Frequency: Monthly	The Hourly measurement and monthly Recording is recommended for the directly measured EG_y as per the

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				applicable methodology. However, this parameter is calculated as justified in the row "Measured/Calculated /Default" above, hence the monthly recording frequency is acceptable since it is as per the actual practice on site by the state utility. Hence accepted.
	Calculation method (if applicable)	Not Applicable	$EG_y = \sum_{\text{Project}} E_{\text{WEG, Export}} - \sum_{\text{Project}} E_{\text{WEG, Import}}$ <p>Calculated in accordance with procedure as described in the approved monitoring plan and in section C of the MR.</p>	This is as per the actual practice on site by the state utility. Hence accepted. The same formula and procedure is mentioned in the revised approved monitoring plan and PPA as well.
	QA/QC procedures	Electricity supplied by the project activity to the grid. Double check by receipt of sales.	QA/QC procedures will be as implemented by state utility (DISCOM) pursuant to the provisions of the power purchase agreement and the Metering Code of Rajasthan and there will be no additional QA/QC procedures.	This is in compliance with the applicable methodology.
	In view of the above assessment, the verification team is able to confirm that the monitoring plan of the registered project is in accordance with the applied methodology.			
Findings	No non-conformability was observed during assessment for monitoring plan against applied monitoring methodology. Therefore, no finding was raised.			
Conclusion	Applus+ LGAI confirms that the monitoring plan is in accordance with the approved methodology /2.3/ and correctly applied by the registered CDM project activity and CDM-VVS for PA v01.0 §§ 360-362 have been met.			

E.6. Compliance of monitoring activities with the registered monitoring plan
E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	The following three parameters are fixed ex-ante defined in registered PDD:			
	Data/parameter:	$EF_{OM,y}$	$EF_{BM,y}$	$EF_{CM,y}$
	Unit	tCO ₂ /MWh	tCO ₂ /MWh	tCO ₂ /MWh
	Description	Operating Margin Emission Factor of Northern Regional Electricity Grid	Build Margin Emission Factor of Northern Regional Electricity Grid	Combined Margin Emission Factor of Northern Regional Electricity Grid
	Source of data	Central Electricity Authority: CO ₂ Baseline database Version 1.1 /6.3/		
	Value(s) applied)	0.5335		0.87387

Findings	No non-conformability was observed about data and parameters fixed ex ante in registered PDD. Therefore, no finding was raised.				
Conclusion	Value of all 3 parameters reported in the monitoring report /1.2/ and corresponding emission reduction calculations spreadsheet /4.1/ are consistent with the registered PDD. The applied values are correct and justified.				

E.6.2. Data and parameters monitored

Means of verification	The analysis of the compliance of the actual monitoring, of each monitoring parameter with the approved monitoring plan is provided as following: (1) Net electricity Supplied to the grid by the project, EG_y(MWh)			
	Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology	Requirement in the revised monitoring plan/1.8/	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan
	Data/Parameter	EG _y	EG _y	In compliance
	Description	Net electricity supplied to the grid by the Project	Net electricity supplied to the grid by the Project	In compliance
	Measured/Calculated /Default	Calculated	Calculated	In compliance
	Source of data	Monthly invoices	Monthly invoices	In compliance
	Monitoring equipment	Not Applicable since this is a calculated parameter	Not Applicable since this is a calculated parameter	In compliance
	Measuring/Reading / Recording frequency	Recording Frequency: Monthly	Recording Frequency: Monthly	In compliance
	Calculation method (if applicable)	$EG_y = \sum_{\text{Project}} E_{\text{WEG, Export}} - \sum_{\text{Project}} E_{\text{WEG, Import}}$	$EG_y = \sum_{\text{Project}} E_{\text{WEG, Export}} - \sum_{\text{Project}} E_{\text{WEG, Import}}$	In compliance
	QA/QC procedures	QA/QC procedures will be as implemented by RRVPN/Jodhpur Discom pursuant to the provisions of the power purchase agreement and the Metering Code of Rajasthan and there will be no additional QA/QC procedures	QA/QC procedures have been as implemented by RRVPN/Jodhpur Discom pursuant to the provisions of the power purchase agreement and the Metering Code of Rajasthan.	In compliance
EG _y is a calculated as the difference of summation EG _{WEG,Export} & summation EG _{WEG,Import} as indicated in the table above. This calculation is carried out by the PPs representative (O&M				

contractor) and approved by state utility (DISCOM). This was verified by interviewing the DISCOM officials during the site visit. The calculated monthly values of EG_y are reported in the credit notes prepared by O&M contractor (PPs representative) and endorsed by DISCOM/3.3/. It is to be noted that monthly credit notes issued by O&M contractor provide the value of summation $EG_{WEG,Export}$, summation $EG_{WEG,Import}$ and EG_y . Monthly values of EG_y as reported in the ER calculation sheet/4.1/ have been verified with the monthly invoices/3.4/ raised by the PP and are found to be consistent with the monthly credit notes.

The monthly values of EG_y have also been checked against the monthly generation reports/3.6/ issued by the O&M service provider (WWIL) for project WTGs. The values are found to be comparable and acceptable.

The value of EG_y for the current monitoring period is 84,148.556MWh (After applying the error factor due to delay in calibration). This parameter is directly used for the emission reduction calculations.

2. Electricity exported as recorded by the main meter at EB substation, $EG_{JMR, Export}$ (MWh)

Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology	Requirement in the revised monitoring plan/1.8/	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan
Data/Parameter	$E_{JMR, Export}$	$E_{JMR, Export}$	In compliance
Description	Electricity exported as recorded by the main meter at EB substation	Electricity exported as recorded by the main meter at EB substation	In compliance
Measured/Calculated /Default	Measured	Measured	In compliance
Source of data	Monthly JMRs	Monthly JMRs	The assessment team has verified the monitoring approach for this parameter during the site visit. The on-site monitoring is consistent with the approach mentioned in the registered monitoring plan and the monitoring report. The verification of the meters has been covered in section E.7 of this report.
Monitoring equipment	Energy Meters (Meters are capable of continuous measurement)	Energy Meters (Meters are capable of continuous measurement)	
Measuring/Recording/Recording frequency	Recording Frequency: Monthly	Recording Frequency: Monthly	
Calculation method (if applicable)	Not applicable	Not applicable	In compliance
QA/QC procedures	The meters (Main and Back-up) used are Tri-vector of accuracy class 0.2. The calibration of the meters will be done annually by state utility as per the schedule	During the site visit it is verified that the WTGs of entire wind farms (project activity and other project developers) are connected to the Temderai substation and further connected to the 220 kV	In compliance

		mentioned in PPA.	Sub-station at Amarsagar via two separate lines. Main meters (also called billing meters) are installed 220 kV EB substation and corresponding backup meters are provided at Temderai sub-station for both the lines. All the meters are of accuracy class 0.2s. The calibration of meters is conducted by state utility as per the schedule mentioned in the PPA. Delay in calibration identified during the current monitoring period is addressed appropriately. (Please refer section E.7 of this report for further details)																										
<p>The electricity exported by project activity & non-project activity is recorded by main meters (billing meters) installed at DISCOM sub-station and at WWIL substation (Temderai sub-station) metering points (backup meters). All the tri-vector energy meters have the capability of continuous measurement, which was verified during the site visit.</p> <p>Joint meter reading is taken by the officials of DISCOM in the presence of the WWIL representative at the metering points. JMR records the readings of both the main and backup meter. Both values have been checked and are found to be comparable. The monthly values of this parameter are directly sourced from JMRs prepared by DISCOM/3.3/. The PP has correctly reported the monthly values in the emission reduction spread sheet/4.1/.</p> <p>The value of $EG_{JMR, Export}$ for the current monitoring period is 443,808.542MWh.</p> <p>In summary, the actual of monitoring for $EG_{JMR, Export}$ is in compliance with the approved monitoring plan.</p> <p>3. Electricity import as recorded by the main meter at EB substation, $EG_{JMR, import}$(MWh)</p>																													
<table><tr><td>Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology</td><td>Requirement in the revised monitoring plan/1.8/</td><td>Implementation of the project</td><td>Conclusion on the compliance of the implementation with the monitoring plan</td></tr><tr><td>Data/Parameter</td><td>$EG_{JMR, import}$</td><td>$EG_{JMR, import}$</td><td>In compliance</td></tr><tr><td>Description</td><td>Electricity import as recorded by the main meter at EB substation</td><td>Electricity import as recorded by the main meter at EB substation</td><td>In compliance</td></tr><tr><td>Measured/Calculated /Default</td><td>Measured</td><td>Measured</td><td rowspan="4">In compliance The assessment team has verified the monitoring approach for this parameter during the site visit. The on-site monitoring is consistent with the approach</td></tr><tr><td>Source of data</td><td>Monthly JMRs</td><td>Monthly JMRs</td></tr><tr><td>Monitoring equipment</td><td>Energy Meters (Meters are capable of continuous measurement)</td><td>Energy Meters (Meters are capable of continuous measurement)</td></tr><tr><td>Measuring/Reading</td><td>Recording Frequency:</td><td>Recording Frequency:</td></tr></table>					Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology	Requirement in the revised monitoring plan/1.8/	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan	Data/Parameter	$EG_{JMR, import}$	$EG_{JMR, import}$	In compliance	Description	Electricity import as recorded by the main meter at EB substation	Electricity import as recorded by the main meter at EB substation	In compliance	Measured/Calculated /Default	Measured	Measured	In compliance The assessment team has verified the monitoring approach for this parameter during the site visit. The on-site monitoring is consistent with the approach	Source of data	Monthly JMRs	Monthly JMRs	Monitoring equipment	Energy Meters (Meters are capable of continuous measurement)	Energy Meters (Meters are capable of continuous measurement)	Measuring/Reading	Recording Frequency:	Recording Frequency:
Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology	Requirement in the revised monitoring plan/1.8/	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan																										
Data/Parameter	$EG_{JMR, import}$	$EG_{JMR, import}$	In compliance																										
Description	Electricity import as recorded by the main meter at EB substation	Electricity import as recorded by the main meter at EB substation	In compliance																										
Measured/Calculated /Default	Measured	Measured	In compliance The assessment team has verified the monitoring approach for this parameter during the site visit. The on-site monitoring is consistent with the approach																										
Source of data	Monthly JMRs	Monthly JMRs																											
Monitoring equipment	Energy Meters (Meters are capable of continuous measurement)	Energy Meters (Meters are capable of continuous measurement)																											
Measuring/Reading	Recording Frequency:	Recording Frequency:																											

	g/ Recording frequency	Monthly	Monthly	mentioned in the registered monitoring plan and the monitoring report. The verification of the meters has been covered in section E.7 of this report.
	Calculation method (if applicable)	Not applicable	Not applicable	In compliance
	QA/QC procedures	The meters (Main and Back-up) used are Tri-vector of accuracy class 0.2. The calibration of the meters will be done annually by state utility as per the schedule mentioned in PPA.	<p>During the site visit it is verified that the WTGs of entire wind farms (project activity and other project developers) are connected to the Temderai sub-station and further connected to the 220 kV Sub-station at Amarsagar via two separate lines.</p> <p>Main meters (also called billing meters) are installed 220 kV EB substation and corresponding backup meters are provided at Temderai sub-station for both the lines.</p> <p>All the meters are of accuracy class 0.2s. The calibration of meters is conducted by state utility as per the schedule mentioned in the PPA.</p> <p>Delay in calibration identified during the current monitoring period is addressed appropriately.</p> <p>(Please refer section E.7 of this report for further details)</p>	In compliance

The electricity imported by project activity & non-project activity is recorded by main meters (billing meters) installed at DISCOM sub-station and at WWIL substation (Temderai sub-station) metering points (backup meters). All the tri-vector energy meters have the capability of continuous measurement, which was verified during the site visit.

Joint meter reading is taken by the officials of DISCOM in the presence of the WWIL representative at the metering points. JMR records the readings of both the main and backup meter. Both values have been checked and are found to be comparable. The monthly values of this parameter are directly sourced from JMRs prepared by DISCOM/3.3/. The PP has correctly reported the monthly values in the emission reduction spread sheet/4.1/.

The value of $EG_{JMR, import}$ for the current monitoring period is 19,705.718MWh.

In summary, the actual of monitoring for $EG_{JMR, import}$ is in compliance with the approved

monitoring plan.

4. Electricity exported by a WEG, as measured at the controller (LCS), E_{Controller, Export} (MWh)

Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology	Requirement in the registered monitoring plan/1.3/	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan
Data/Parameter	E _{Controller, Export}	E _{Controller, Export}	In compliance
Description	Electricity exported by a WEG, as measured at the controller (LCS).	Electricity exported by a WEG, as measured at the controller (LCS).	In compliance
Measured/Calculated /Default	Measured	Measured	In compliance
Source of data	Monthly Generation Reports sourced from online monitoring system(SCADA) provided by O&M contractor	Monthly Generation Reports sourced from online monitoring system(SCADA) provided by O&M contractor	The assessment team has verified the monitoring approach for this parameter during the site visit. The on-site monitoring is consistent with the approach mentioned in the registered monitoring plan and the monitoring report.
Monitoring equipment	LCS or controller meters which is in-built electronic panel installed inside the WTG tower	LCS or controller meters which is in-built electronic panel installed inside the WTG tower	
Measuring/Recording/Recording frequency	Recording Frequency: Monthly	Recording Frequency: Monthly	
Calculation method (if applicable)	Not applicable	Not applicable	In compliance This is a measured parameter and hence not applicable
QA/QC procedures	LCS meters are auto calibrated and don't require calibration. LCS meter is microprocessor based multi-function relay (MFR) which is highly accurate, and it monitors the electricity generated by each WTG. The relay runs software to sample inputs and numerically processes the information.	LCS meters are auto calibrated and don't require calibration. LCS meter is microprocessor based multi-function relay (MFR) which is highly accurate, and it monitors the electricity generated by each WTG. The relay runs software to sample inputs and numerically processes the information.	In compliance The presence of the LCS meter was verified during the site visit.

The data is generated and recorded in the SCADA system automatically. The O&M contractor, based on recorded data in the SCADA system, prepares the daily generation reports. These daily generation reports are used to prepare monthly generation reports. The monitoring procedures were sufficiently robust to enable accurate transmission of data.

Monthly values of E_{Controller, Export} reported in the ER calculation sheet are verified with the monthly generation reports issued by O&M contractor/3.6/ and found to be consistent.

The value of $E_{\text{Controller, Export}}$ for the current monitoring period is 88,564.181 MWh.

In summary, the actual of monitoring for $E_{\text{Controller, Export}}$ is in compliance with the approved monitoring plan.

5. Electricity exported by a WEG to the grid, $E_{\text{WEG, export}}$ (MWh)

Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology	Requirement in the revised monitoring plan/1.8/	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan
Data/Parameter	$E_{\text{WEG, export}}$	$E_{\text{WEG, export}}$	In compliance
Description	Electricity exported by a WEG to the grid	Electricity exported by a WEG to the grid	In compliance
Measured/Calculated /Default	Calculated	Calculated	In compliance
Source of data	Calculated as per the apportioning procedure as described in section B.7 of the revised monitoring plan and reported in the monthly credit notes.	Calculated as per the apportioning procedure as described in section B.7 of the revised monitoring plan and reported in the monthly credit notes.	In compliance
Monitoring equipment	Not applicable	Not applicable	In compliance
Measuring/Reading/Recording frequency	Recording Frequency: Monthly	Recording Frequency: Monthly	In compliance
Calculation method (if applicable)	This parameter is calculated using the measured values of $E_{\text{JMR, Export}}$, $E_{\text{Controller, Export}}$ and $\sum E_{\text{Controller, Export}}$ as described in section B.7 of the revised monitoring plan.	This parameter is calculated using the measured values of $E_{\text{JMR, Export}}$, $E_{\text{Controller, Export}}$ and $\sum E_{\text{Controller, Export}}$ as described in section B.7 of the revised monitoring plan.	In compliance
QA/QC procedures	The value is calculated and can be cross checked from the invoices raised on the state utility.	Monthly values are cross checked from the invoices raised on the state utility.	In compliance

Electricity exported by each WTG is apportioned on the basis of electricity generated and recorded at the controller of each WTG and the electricity exported at the main meter as mentioned in the JMR.

To determine electricity export to the grid by the Project activity, export multiplication factor is calculated using following formula:

$$\text{Export Multiplication factor} = \frac{E_{\text{JMR, Export}}}{\sum E_{\text{Controller, Export}}}$$

Hence $E_{WEG,export}$ by a WTG is calculated as using following formula:

$$E_{WEG, Export} = \text{Export Multiplication factor} \times E_{Controller, Export}$$

Where,

$E_{Controller,Export}$ = Electricity generation by a WTG, as measured at the controller (LCS meter) at project site.

$\Sigma E_{Controller,Export}$ = Summation of electricity generation by all WTGs as measured at the controller (LCS meter) at project site.

The monthly values of this parameter for individual WTGs calculated and reported in the ER calculation sheet are verified from credit notes prepared by O&M contractor and approved by DISCOM/3.3/, found consistent, hence accepted. This parameter is used in the calculation of $E_{G,y}$.

In summary, the actual of monitoring for $E_{WEG,export}$ is in compliance with the approved monitoring plan.

6. Electricity imported by a WEG from the grid, $E_{WEG,Import}$ (MWh)

Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology	Requirement in the revised monitoring plan/1.8/	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan
Data/Parameter	$E_{WEG,Import}$	$E_{WEG,Import}$	In compliance
Description	Electricity imported by a WEG from the grid	Electricity imported by a WEG from the grid	In compliance
Measured/Calculated /Default	Calculated	Calculated	In compliance
Source of data	Calculated as per the apportioning procedure as described in section B.7 of the revised monitoring plan and reported in the monthly credit notes.	Calculated as per the apportioning procedure as described in section B.7 of the revised monitoring plan and reported in the monthly credit notes.	In compliance
Monitoring equipment	Not applicable	Not applicable	In compliance
Measuring/Reading/Recording frequency	Recording Frequency: Monthly	Recording Frequency: Monthly	In compliance
Calculation method (if applicable)	This parameter is calculated using the measured values of $E_{JMR,Import}$, $E_{Controller,Export}$ and $\Sigma E_{Controller,Export}$ as described in section B.7 of the revised monitoring plan.	This parameter is calculated using the measured values of $E_{JMR,Import}$, $E_{Controller,Export}$ and $\Sigma E_{Controller,Export}$ as described in section B.7 of the revised monitoring plan.	In compliance
QA/QC procedures	The value is calculated and can be cross checked from	Monthly values are cross checked from the invoices raised on the	In compliance

	the invoices raised on the state utility.	state utility.	
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Electricity exported by each WTG is apportioned on the basis of electricity generated and recorded at the controller of each WTG and the electricity exported at the main meter as mentioned in the JMR.

To determine electricity export to the grid by the Project activity, export multiplication factor is calculated using following formula:

$$\text{Import Multiplication factor} = \frac{E_{\text{JMR, Import}}}{\sum E_{\text{Controller, Export}}}$$

Hence $E_{\text{WEG, Import}}$ by a WTG is calculated as using following formula:

$$E_{\text{WEG, Import}} = \text{Import Multiplication factor} \times E_{\text{Controller, Export}}$$

Where,

$E_{\text{Controller, Export}}$ = Electricity generation by a WTG, as measured at the controller (LCS meter) at project site.

$\sum E_{\text{Controller, Export}}$ = Summation of electricity generation by all WTGs as measured at the controller (LCS meter) at project site.

The monthly values of this parameter for individual WTGs calculated and reported in the ER calculation sheet are verified from credit notes prepared by O&M contractor and approved by DISCOM/3.3/, found consistent, hence accepted. This parameter is used in the calculation of EG_y .

In summary, the actual of monitoring for $E_{\text{WEG, Import}}$ is in compliance with the approved monitoring plan.

7. Summation of electricity exported to the grid by all the WEGs included in the project activity, $\sum_{\text{Project}} E_{\text{WEG, Export}}$ (MWh)

Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology	Requirement in the registered monitoring plan/1.8/	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan
Data/Parameter	$\sum_{\text{Project}} E_{\text{WEG, Export}}$	$\sum_{\text{Project}} E_{\text{WEG, Export}}$	In compliance
Description	Summation of electricity exported to the grid by all the WEGs included in the project activity	Summation of electricity exported to the grid by all the WEGs included in the project activity	In compliance
Measured/Calculated /Default	Calculated	Calculated	In compliance
Source of data	Summation of data values for all the WEGs included in the project activity.	Summation of data values for all the WEGs included in the project activity.	In compliance
Monitoring equipment	Not applicable	Not applicable	In compliance
Measuring/Recording frequency	Recording Monthly Frequency:	Recording Monthly Frequency:	In compliance

	Calculation method applicable) (if	This parameter denotes summation of the electricity exported to the grid by a WEGs included in the project activity. The value is calculated based on the formula mentioned in section B.7.2 of revised approved monitoring plan.	This parameter denotes summation of the electricity exported to the grid by a WEGs included in the project activity. The value is calculated based on the formula mentioned in section B.7.2 of revised approved monitoring plan.	In compliance																												
	QA/QC procedures	The value is calculated and can be cross checked from the invoices raised on the state utility.	Monthly values are cross checked from the invoices raised on the state utility.	In compliance																												
<p>The monthly values of this parameter for project WTGs calculated and reported in the ER calculation sheet are verified from credit notes prepared by O&M contractor and approved by DISCOM/3.3/, found consistent, hence accepted. This parameter is used in the calculation of EG_y.</p> <p>The value of $\Sigma_{Project} E_{WEG, Export}$ for the current monitoring period is 84,386.617 MWh (After application of error factor due to delay in calibration). This parameter is used in the calculation of EG_y.</p> <p>In summary, the actual of monitoring for $\Sigma_{Project} E_{WEG, Export}$ is in compliance with the approved monitoring plan.</p> <p>8. Summation of electricity imported from the grid by all the WEGs included in the project activity, $\Sigma_{Project} E_{WEG, Import}$ (MWh)</p>																																
<table border="1"> <tr> <td>Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology</td><td>Requirement in the registered monitoring plan/1.8/</td><td>Implementation of the project</td><td>Conclusion on the compliance of the implementation with the monitoring plan</td></tr> <tr> <td>Data/Parameter</td><td>$\Sigma_{Project} E_{WEG, Import}$</td><td>$\Sigma_{Project} E_{WEG, Import}$</td><td>In compliance</td></tr> <tr> <td>Description</td><td>Summation of electricity imported from the grid by all the WEGs included in the project activity</td><td>Summation of electricity imported from the grid by all the WEGs included in the project activity</td><td>In compliance</td></tr> <tr> <td>Measured/Calculated /Default</td><td>Calculated</td><td>Calculated</td><td>In compliance</td></tr> <tr> <td>Source of data</td><td>Summation of data values for all the WEGs included in the project activity.</td><td>Summation of data values for all the WEGs included in the project activity.</td><td>In compliance</td></tr> <tr> <td>Monitoring equipment</td><td>Not applicable</td><td>Not applicable</td><td>In compliance</td></tr> <tr> <td>Measuring/Recording frequency</td><td>Recording Monthly Frequency:</td><td>Recording Monthly Frequency:</td><td>In compliance</td></tr> </table>					Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology	Requirement in the registered monitoring plan/1.8/	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan	Data/Parameter	$\Sigma_{Project} E_{WEG, Import}$	$\Sigma_{Project} E_{WEG, Import}$	In compliance	Description	Summation of electricity imported from the grid by all the WEGs included in the project activity	Summation of electricity imported from the grid by all the WEGs included in the project activity	In compliance	Measured/Calculated /Default	Calculated	Calculated	In compliance	Source of data	Summation of data values for all the WEGs included in the project activity.	Summation of data values for all the WEGs included in the project activity.	In compliance	Monitoring equipment	Not applicable	Not applicable	In compliance	Measuring/Recording frequency	Recording Monthly Frequency:	Recording Monthly Frequency:	In compliance
Monitoring Report, onsite checks Revised Monitoring Plan & Approved Methodology	Requirement in the registered monitoring plan/1.8/	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan																													
Data/Parameter	$\Sigma_{Project} E_{WEG, Import}$	$\Sigma_{Project} E_{WEG, Import}$	In compliance																													
Description	Summation of electricity imported from the grid by all the WEGs included in the project activity	Summation of electricity imported from the grid by all the WEGs included in the project activity	In compliance																													
Measured/Calculated /Default	Calculated	Calculated	In compliance																													
Source of data	Summation of data values for all the WEGs included in the project activity.	Summation of data values for all the WEGs included in the project activity.	In compliance																													
Monitoring equipment	Not applicable	Not applicable	In compliance																													
Measuring/Recording frequency	Recording Monthly Frequency:	Recording Monthly Frequency:	In compliance																													

	Calculation method applicable (if applicable)	This parameter denotes summation of the electricity imported from the grid by a WEGs included in the project activity. The value is calculated based on the formula mentioned in section B.7.2 of revised approved monitoring plan.	This parameter denotes summation of the electricity imported from the grid by a WEGs included in the project activity. The value is calculated based on the formula mentioned in section B.7.2 of revised approved monitoring plan.	In compliance
	QA/QC procedures	The value is calculated and can be cross checked from the invoices raised on the state utility.	Monthly values are cross checked from the invoices raised on the state utility.	In compliance
<p>The monthly values of this parameter for project WTGs calculated and reported in the ER calculation sheet are verified from credit notes prepared by O&M contractor and approved by DISCOM/3.3/, found consistent, hence accepted. This parameter is used in the calculation of EG_y.</p> <p>The value of $\Sigma_{Project} E_{WEG, Import}$ for the current monitoring period is 238.061 MWh (After application of error factor due to delay in calibration). This parameter is used in the calculation of EG_y.</p> <p>In summary, the actual of monitoring for $\Sigma_{Project} E_{WEG, Import}$ is in compliance with the approved monitoring plan.</p> <p>In summary based on the above assessment, the assessment team is able to confirm that all the parameters have 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.</p>				
Findings	CL #1 was raised and resolved.			
Conclusion	<p>Applus+ LGAI confirms that the actual monitoring activities observed on site are in compliance with the approved monitoring plan and as described in the registered PDD/1.3/ and the same is in line with the monitoring methodology /2.3/.</p> <p>The applicable parameters stated in the registered PDD monitoring plan/1.3/ and the applied methodology/2.3/ have been sufficiently monitored. The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the registered PDD monitoring plan/1.3/. The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ have been correctly reported and confirmed. Hence, the requirement of CDM-VVS for v01.0 §§ 363-367 have been met.</p>			

E.6.3. Implementation of sampling plan

Means of verification	No sampling plan is defined in the registered approved monitoring plan. All the data and information has been checked during verification assessment, thus no sampling plan has been applied in the Project.
Findings	Not Applicable
Conclusion	Not Applicable

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	As per the monitoring plan in the registered PDD/01/ the meters are to be tested and calibrated annually. The project activity metering has been physically inspected during the site visit. The details of monitoring equipment is involved in the project activity and their calibration dates are mentioned in Section C of the final MR and are summarised in the tables below. All the meters are of accuracy class of 0.2s and calibration frequency of once in a year. The assessment team has checked the calibration certificates/5.1/for accuracy and validity, so as to assure reliability and steadiness of monitoring results. The calibrations results have been verified as below.				
	Monitoring equipment	Energy Meter			
	Monitoring parameter	EG JMR, Export and EG JMR, Import			
	Unique Identification Number/Sr. No./Meter Type	Old Main meter:TNU00946 New main meter: 13195563	Backup meter RJB00052	Old Main meter:TNU00945 New main meter: 13195562	Backup meter ABB00691
	Metering Point Location	Amarsagar Substation(Line I)	Temdarai Substation(Line I)	Amarsagar Substation(Line II)	Temdarai Substation (Line II)
	Accuracy Level	0.2s	0.2s	0.2s	0.2s
	Calibration frequency requirement	Annual	Annual	Annual	Annual
	Date of Calibration (Year 2015-16)	13/02/2015	14/02/2015	13/02/2015	14/02/2015
	Due date of calibration	13/02/2016	14/02/2016	13/02/2016	14/02/2016
	Date of calibration (Year 2016-17)	13/04/2016 and 29/05/2017	13/04/2016 and 30/05/2017	13/04/2016 and 29/05/2017	13/04/2016 and 30/05/2017
	Due date of calibration	29/05/2018	30/05/2018	29/05/2018	30/05/2018
	Delays in calibration (Y/N)	Yes	Yes	Yes	Yes
	Calibration Conducting Entity	RRVPNL	RRVPNL	RRVPNL	RRVPNL
	Accreditation Certificate for the calibration entity issuing authority relevant	National Accreditation Board for Testing & Calibration Laboratories (NABL) accredited laboratory	National Accreditation Board for Testing & Calibration Laboratories (NABL) accredited laboratory	National Accreditation Board for Testing & Calibration Laboratories (NABL) accredited laboratory	National Accreditation Board for Testing & Calibration Laboratories (NABL) accredited laboratory

The installation and working condition of the meters were checked during the on-site inspection and it was found to be satisfactory. These meters are duly approved, installed, tested, sealed and in the custody of the state utility. The PP has no control over the same.
Accordance with the guidelines as state under section 3.2.3of CEA Notification No. 502/70/CEA/DP&D dated 17/03/2006/6.3/ which is considered as national standard "All

interface meters shall be tested at least once in five years." Hence, the calibration frequency of once in a year, mentioned in the registered PDD/1.3/ for the meters is appropriate.

Meter replacement:

During the current monitoring period, meters installed at Amar-sagar substation (Billing meters) were replaced with new meters.

The assessment team has verified the meter replacement report/5.2/ and confirmed that the new meters are of same accuracy class as old one and calibrated before installation.

Details of the new and old meters is provided in the below table:

Meter location	Old meter	New meter	Remark
Amarsagar Substation(Line I)	Sr.No-TNU00946 Accuracy class: 0.2s Make: Secure	Sr.No-13195563 Accuracy class: 0.2s Make: L&T	Both meters replaced with new meters on 13/04/2016 because of the erroneous display, this is verified through the meter replacement report /5.2/.
Amarsagar Substation(Line II)	Sr.No-TNU00945 Accuracy class: 0.2s Make: Secure	Sr.No-13195563 Accuracy class: 0.2s Make: L&T	

Assessment on delay in calibration:

It is evident from the above table that calibration of meters installed at both the locations is not carried out as per the frequency mentioned in the registered monitoring plan.

Details of the calibration delay period is provided in below table:

Calibration dates	Meter location	Delayed calibration period	Remark
13/02/2015, 13/04/2016 and 29/05/2017	Amarsagar Substation	13/02/2016 to 12/04/2016 And 13/04/2017 to 28/05/2017	The PP has applied error factor to the export and import values for the period In year 2016: February 2016 to April 2016 In year 2017: April 2017 to May 2017
14/02/2015 and 30/05/2017	Temdarai Substation	14/02/2016 to 12/04/2016 And 13/04/2017 to 29/05/2017	

The assessment team has checked the latest calibration certificates of energy meters and confirmed that meter was working satisfactorily and error within the permissible limits. Accordance with the guidelines outlined under paragraph 369(a) of CDM VVS for PAs version 01.0, an error factor had to be applied for both export & import i.e. the measured values in the delayed calibration period. However, the monthly credit notes issued by the state utility only provides the calculated value of electricity exported and imported by the project activity. Hence the error factor – 0.2% is applied for export values and +0.2% for import values. The approach followed by the PP was found to be conservative and appropriate, hence accepted.

It is worthy to note that the billing cycle for the project activity starts from 1st day and ends on last day of the every month, hence the error factor is applied to the export and import values for the entire month falls under delayed calibration period as indicated in the above table. The approach followed by the PP was found to be conservative and appropriate, hence accepted.

It is verified through the registered PDD and PPA signed by the PP with state utility that the state utility is the buyer of generated electricity and sole entity responsible for calibration of meters.

Findings

CAR #2 was raised and resolved.

Conclusion

Applus+ LGAI confirms that the calibration is conducted at the frequency following the relevant industry standard as specified by the methodology /2.3/ and the monitoring plan contained in the registered PDD /1.3/. Therefore, the requirement of CDM-VVS for PA v01.0 §§ 374 have

been met.

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	<p>The verification team verified that</p> <ol style="list-style-type: none"> A complete set of data for the monitoring period was available for the monitoring period and the verification of each monitoring parameter is elaborated under Section E.6.2 of this report. The complete monitoring data is also presented in the corresponding ER sheet /4.1/ of final Monitoring Report /1.2/. The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.6.2 of this report. The calculations of baseline emissions as presented in the corresponding ER sheet of final Monitoring Report were checked and found to be consistent with the formulae and methods described in the registered monitoring plan and the applied methodology. All assumptions used in the emission calculations were found appropriate and therefore justified Appropriate emission factors and other reference values have been correctly applied. This has also been elaborated under Section E.6.1 of this report. No standardized baseline was prescribed in the registered PDD and therefore it has not been applied. There is no pro-rate approach was applied in the current monitoring period as entire monitoring period falls into period that is after the end of first commitment period of Kyoto Protocol. <p>The baseline emissions are the product of net electricity supplied to the grid expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor. Baseline emission factor is calculated as combined margin, consisting of a combination of operating margin (OM) and build margin (BM) factors.</p> $BE_y = EG_y * EF_y$ <p>Where:</p> <p>BE_y = Baseline emissions in year y (tCO₂/yr)</p> <p>EG_y = Net electricity supplied to the grid in year y (MWh/yr)</p> <p>EF_y = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO₂/MWh)</p> <p>As per the registered PDD, combined margin emission factor is 0.87387 tCO₂/MWh. Hence the baseline emissions for the project activity for the current monitoring period are as follows.</p> $BE_y = 84,148.556 * 0.87387 = 73,535 \text{ tCO}_2\text{e}$
Findings	No non-conformability was observed during assessment for this monitored parameter. Therefore, no finding was raised.
Conclusion	<p>Applus+ LGAI confirms that the requirement outlined under CDM-VVS for v01.0 §§ 377 have been met as:</p> <ul style="list-style-type: none"> A complete set of data for the monitoring period is available. Information on the baseline GHG emission calculation provided in the monitoring report /1.2/ has been cross-checked with other sources. Calculations of baseline emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document. Appropriate emission factor of the power grid has been correctly applied.

E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	The registered PDD/1.3/ and applied monitoring methodology/2.3/ does not prescribe any project emissions to be considered. The onsite visit and project design also did not reveal any potential source to be considered in this regard.
Findings	No non-conformability was observed during assessment for this section. Therefore, no finding was raised.
Conclusion	No project emissions were required to be calculated.

E.8.3. Calculation of leakage GHG emissions

Means of verification	The registered PDD/1.3/ and applied monitoring methodology/2.3/ does not prescribe any leakage emissions to be considered. The onsite visit and project design also did not reveal any potential source to be considered in this regard.
Findings	No non-conformability was observed during assessment for this section. Therefore, no finding was raised.
Conclusion	No leakage emissions were required to be calculated.

E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	As elaborated above, the entire emission reductions from the project activity were based on baseline emissions. The calculations presented in this regard in the final monitoring report and corresponding ER calculation sheet were found appropriate and complying with the provisions prescribed in the registered monitoring plan of registered PDD and applied methodology. The verification team confirms that an audit trail that contains the evidence and records that validated the stated figures were checked and found acceptable.
Findings	No non-conformability was observed during assessment for this section. Therefore, no finding was raised.
Conclusion	Applus+ LGAI confirms that the requirement outlined under CDM-VVS for PA v01.0§§ 377 have been met as: <ul style="list-style-type: none"> • A complete set of data for the monitoring period is available. • Information provided in the monitoring report /1.2/ has been cross-checked with other sources; • Calculations of baseline emissions, and project activity emissions and leakage, as appropriate, been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document. • There are no assumptions in emission reductions calculation. • Appropriate emission factor of the power grid has been correctly applied.

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	As verified and evident from the final Monitoring Report /1.2/ and corresponding ER sheet /4.1/, the actual emission reductions achieved by the project activity in the current monitoring period were found less than the estimated quantity in the registered PDD/1.3/ for the comparable period. This is largely due to low plant load factor achieved during the current monitoring period.			
	Annual CERs estimated in the registered PDD (tCO ₂ e)	Estimated CERs for current monitoring period (395 days), tCO ₂ e	Actual CERs achieved in the current monitoring period, tCO ₂ e	Difference
	41,766	135,939	73,535	-45.91%
	Considering, there is no increase in ERs than the estimated amount; it was found acceptable.			
Findings	No non-conformability was observed during assessment for this section. Therefore, no finding was raised.			

Conclusion	<p>Applus+ LGAI confirms that the requirement outlined under CDM-PS for PA v01.0 §§ 268 have been met as:</p> <ul style="list-style-type: none"> A comparison of actual GHG emission reductions or net anthropogenic GHG removal of the project activity achieved during this monitoring period with the estimates in the registered PDD /1.3/ has been provided in the Monitoring Report /1.2/. The verification team confirms that the calculation of the comparison is correct.
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E.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	<p>The verification team has assessed the cause of any variation in the actual GHG emission reductions achieved during the current monitoring period. There is decrease of around 45.91% in the actual emission reductions achieved during the current monitoring period from that stated in the registered CDM-PDD.</p> <p>This is largely due to low plant load factor achieved during the current monitoring period and long shutdown of some WTGs. It is to be noted that PLF is completely governed by the availability of wind, which is a natural phenomenon and it is beyond the control of PP.</p> <p>Furthermore during the site visit the assessment team has verified the shutdown details and confirmed that WTGs belong to following developers were not under operation for the duration (as mentioned in below table) due to technical failure:</p> <table border="1"> <thead> <tr> <th>Project developer</th><th>Shut down period</th></tr> </thead> <tbody> <tr> <td>Malani Impex Inc.</td><td>3 months</td></tr> <tr> <td>Deedee Enterprises</td><td>7 months</td></tr> <tr> <td>JN Investment</td><td>8 months</td></tr> <tr> <td>Metalfab Hightech Private Limited</td><td>2 months</td></tr> </tbody> </table>	Project developer	Shut down period	Malani Impex Inc.	3 months	Deedee Enterprises	7 months	JN Investment	8 months	Metalfab Hightech Private Limited	2 months
Project developer	Shut down period										
Malani Impex Inc.	3 months										
Deedee Enterprises	7 months										
JN Investment	8 months										
Metalfab Hightech Private Limited	2 months										
Findings	CAR #3 was raised and resolved.										
Conclusion	<p>Applus+ LGAI confirms that the requirement outlined under CDM-PS for PA v01.0 §§ 269 and CDM-VVS for PA v01.0 §§ 359 (d) have been met as:</p> <ul style="list-style-type: none"> The verified emission reductions are lesser than the estimated value in the monitoring period. The project participants have explained the cause of any decrease in the actual GHG emission reductions achieved during the current monitoring period, and including all information (i.e. data and/or parameters) that is different from that stated in the registered PDD /1.3/. The variation is deemed to be reasonable. 										

E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Means of verification	Based on the assessment done in section E.8.1 to E.8.6, the verification team is able to certify that the emission reductions from the CDM project activity 1166 "Bundled wind energy power projects (2004 policy) in Rajasthan" in India during the period 01/05/2014 to 31/07/2017 (including both days) is 73,535 tCO ₂ e.
Findings	No non-conformability was observed during assessment for this section. Therefore, no finding was raised.
Conclusion	Applus+ LGAI confirms that the requirement outlined under CDM-PS for PA v01.0 §§ 266 as the project participants has calculated GHG emission reductions.

E.9. Assessment of reported sustainable development co-benefits

Means of verification	Not applicable
Findings	Not applicable
Conclusion	Not applicable

E.10. Global stakeholder consultation

Means of verification	Not applicable
Findings	Not applicable
Conclusion	Not applicable

SECTION F. Internal quality control

>>As a final step of verification, the final documentation including the verification report has to undergo an internal quality control by the Technical Reviewer. Each report has to be finally approved either by the DOE's Technical Manager or the Deputy. In case one of these two persons is part of the assessment team, the approval can only be given by the person who is not a part of the assessment team. If the documents have been satisfactorily approved, the Request for Issuance is submitted to the CDM-EB along with the relevant documents.

SECTION G. Verification opinion

>>Applus+ LGAI has been contracted by M/s Wind World (India) Limited to perform the verification of the emission reductions reported for the CDM project "Bundled wind energy power projects (2004 policy) in Rajasthan" in the period 01/05/2014 to 31/07/2017.

Applus+ LGAI concludes that the CDM Project "Bundled wind energy power projects (2004 policy) in Rajasthan", as described in the monitoring plan contained in the registered PDD /1.3/ (Version 6.0, 23/10/2008), and Monitoring Report /1.2/ (Version 03, dated 27/11/2017), meets all relevant requirements of the UNFCCC for CDM project activities including article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakesh Accords) and the subsequent decisions by the COP/MOP and CDM Executive Board. The verification is conducted in line with the (CDM-VVS for PA) Version 01.0 /2.1/ requirements. The Project is implemented according to selected monitoring methodology /2.3/ and the monitoring plan contained in the registered PDD /1.3/. The monitoring equipment was installed, calibrated and maintained in a proper manner. The monitoring system is in place and the Project is generating GHG emission reductions as a CDM project.

Applus+ LGAI confirms that the project is implemented in accordance with the validated and registered Project Design Document/1.3/. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects 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 implementation of the project has resulted in 73,535 tCO₂e emission reductions during the period 01/05/2014 to 31/07/2017 (both days included).

Applus+ LGAI therefore issues the positive verification opinion expressed in the Certification statement in Section H.

SECTION H. Certification statement

>>Applus+ LGAI has been engaged by M/s Wind World (India) Limited to perform the sixth periodical verification of the 'Bundled wind energy power projects (2004 policy) in Rajasthan' (UNFCCC Ref. No. 1166). The management of M/s Wind World (India) Limited is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project's Monitoring Plan in the registered PDD version 6.0 /1.3/, completed on 23/10/2008 and the applied methodology ACM0002 Version: 6.0 /2.3/.

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

- the project is operated as planned and described in the project design document approved by the EB;
- the monitoring plan is as per the applied methodology;
- the monitoring in Monitoring Report is as per the PDD and the monitoring plan approved by the EB;
- the development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.

CDM-VCR-FORM

In our opinion, the GHG emission reductions for 'Bundled wind energy power projects (2004 policy) in Rajasthan' for the monitoring period 01/05/2014 to 31/07/2017 as reported in Monitoring Report, prepared on the basis of the project's Monitoring Plan are fairly stated.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period:

From 01/05/2014 to 31/07/2017

Verified emissions in the above reporting period:

Leakage emissions

00,000 tCO₂ equivalents

Project emissions

00,000 tCO₂ equivalents

Baseline emissions

73,535 tCO₂ equivalents

Emission reductions in this monitoring period (i.e. 01/05/2014 to 31/07/2017)

73,535 tCO₂ equivalents

Emission reductions achieved during the period up to 31 December 2012

Nil

Emission reductions achieved during the period from 1 January 2013 onwards.
(i.e. 01/05/2014 to 31/07/2017)

73,535 tCO₂ equivalents

Appendix 1. Abbreviations

Abbreviations	Full texts
General	
ACM	Approved Consolidated Methodology
AM	Approved Methodology
AMS	Approved Methodology for SSC Projects
BE	Baseline Emission
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CH ₄	Methane
CL	Clarification Request
CM	Combined Margin
CME	Coordinating/Managing Entity
CO ₂	Carbon di oxide
CP	Crediting Period
CPA DD	Component Project Activity Design Document
DNA	Designated National Authority
DR	Desk Review
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact Assessment
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Green House Gas
GSC/GSP	Global Stakeholder Consultation Process
GW	Giga Watt
GWh	Giga Watt hour
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
Kw	kilo Watt
kWh	kilo Watt hour
LoA	Letter of Approval/Authorization
LSC	Local Stakeholder Consultation Process
MoC	Modalities of Communication
MoV	Means of Validation
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt hour
N ₂ O	Nitrous Oxide
OM	Operating Margin
PCP	Project Cycle Procedure
PDD	Project Design Document
PE	Project Emission
PLF	Plant Load Factor
PoA DD	Programme of Activities Design Document
PP	Project Participant
PS	Project Standard
RFR	Request for Registration
Tco _{2e}	Tonnes of Carbon di oxide equivalent
TPH	Tonnes Per Hour
UNFCCC	United Nations Framework Convention on Climate Change
V	Version
VVS	Validation and Verification Standard
Project Specific	

ABT	Availability Based Tariff
DISCOM	Distribution Company
EIL	Enercon (India) Limited
EPC	Engineering and Procurement Contractor
GOI	Government of India
JMR	Joint Meter Reading
JVVNL	Jaipur Vidyut Vitran Nigam Limited
LCS	Local Controller System
MGR	Monthly Generation Reports
NEWNE	North East West North-East
O&M	Operation and Maintenance
PPA	Power Purchase Agreement
QA/QC	Quality Assurance/Quality Control
RERC	Rajasthan Electricity Regulatory Commission
RMP	Revision in Monitoring Plan
RPTCL	Rajasthan Power Transport Company Limited
RRVNL	Rajasthan Rajya Vidyut Prasaran Nigam Limited
WTG	Wind Turbine Generator
WWIL	Wind World India Limited

Appendix 2. Competence of team members and technical reviewers

According to the sectoral scopes / technical area and experiences in the sectoral or national business environment, Applus+ LGAI has composed a project validation team in accordance with the appointment rules in Applus+ LGAI. The composition of assessment team has to be approved by the Applus+ LGAI ensuring that the required skills are covered by the team. The four qualification levels for team members that are assigned by formal appointment rules as below:

- Leader Auditor (LA)
- Auditor (A)
- Auditor Trainee (T)
- Technical Experts (E)

It is required that the sectoral scope / technical area related to the methodology has to 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
Vivek Kumar Ahirwar	LA/E	Yes (1)	Yes (1.2)	N/A	Yes	Yes

Technical Reviewers:

- DennyXue

The curricula vitae of the DOE's validation 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 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 Govt. Engineering college, Rewa, RGPV, India.

Hanshen (Denny) Xue (Master Degree in Environmental Engineering, Bachelor Degree in Thermal Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based on Shanghai. He has 1.5 years of work experiences in CDM project development. Before he joined Applus+ LGAI, he has been worked for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development.

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	Basic Documents (Monitoring Report, Project Design Documents, Previous Verification Reports)			
1.0	WWIL	MR , version 01 (Published)	Dated 23/08/2017	PP
1.1	WWIL	MR, version 02	Dated 10/10/2017	PP
1.2	WWIL	MR, version03 (final)	Dated 27/11/2017	PP
1.3	WWIL	Registered PDD Version 6.0	Dated 23/10/2008	PP
1.4	SGS	Validation Report for registered PDD, Version 5.0	Dated 27/10/2008	Other: UNFCCC
1.5	UNFCCC	CDM Project activity view page "Bundled wind energy power projects (2004 policy) in Rajasthan " https://cdm.unfccc.int/Projects/DB/SGS-UKL1181723770.26/view	-	Other: UNFCCC
1.6	Bureau Veritas Certification	Verification report for fifth monitoring period (01/10/2012-30/04/2014),Report No-BVC-India /VR/647.49/2014	Dated 10/12/2015	Other: UNFCCC
1.7	DNV	Validation report on PRC (Report No-PRJC-196927-2009-CCS-IND)	Dated 11/06/2010	Other: UNFCCC
1.8	WWIL	Revised monitoring plan (Approved on 02/08/2010)	-	Other: UNFCCC
2.	References and requirements at UNFCCC/IPCC/etc.			
2.1	UNFCCC website	Clean Development Mechanism Validation and Verification Standard for Project Activity (CDM-VVS for PA), version 01.0 as per EB 93, Annex 5	Dated 03/03/2017	Other: UNFCCC
2.2	UNFCCC website	CDM Project Standard for Project Activity (CDM-PS for PA), version 01.0 as per EB 93, Annex 4	Dated 03/03/2017	Other: UNFCCC
2.3	UNFCCC website	Consolidated baseline methodology for grid-connected electricity generation from renewable sources ,ACM0002,version 6.0	Dated 19/05/2006	Other: UNFCCC
2.4	UNFCCC website	Guidance to Complete "Monitoring Report Form (CDM-MR-FORM), Version 06.0" as accordance with the Attachment "Instructions for filling out the monitoring report form"	Dated 07/06/2017	Other: UNFCCC
3.	Project implementation information			
3.1	State utility	Commissioning certificates of all the 31 WTGs	Commissioned between 25/03/2006 to 13/05/2006	PP
3.2	State utility	Power Purchase Agreement between Jaipur Vidyut Vitran Nigam Limited and respective project developers involved in	-	PP

		the project activity.		
3.3	State utility	i. Monthly JMRs issued by JVVNL ii. Monthly credit notes issued by state utility	For the period 01/05/2014 - 31/07/2017	PP
3.4	WWIL	Monthly invoices issued by the PP to JVVNL	For the period 01/05/2014 - 31/07/2017	PP
3.5	CEA	CEA CO ₂ Baseline Database for the Indian Power SectorVersion 1.1	Dated 21/12/2006	Other
3.6	WWIL	i. Daily Generation Data recorded by the WWIL Personnel at the sub-station. ii. Monthly generation reports issued by O&M contractor (WWIL).	For the period 01/05/2014 - 31/07/2017	PP
3.7	Ministry of corporate Affairs, GOI	Name change consent issued by Government of India,	dated 01/01/2013	PP
4.	ER calculation and cross checking issue			
4.1	WWIL	Emission reduction calculation sheet, version 01	Dated 06/09/2017	PP
		Emission reduction calculation sheet, version 02	Dated 10/10/2017	
		Emission reduction calculation sheet, version 03	Dated 27/11/2017	
5.	Calibration issues			
5.1	State utility	i. Calibration Records for the old main meters (Serial Number: TNU00946 and TNU00945). ii. Calibration Records for the new main meters (Serial Number: 13195563 and 13195562). iii. Calibration Records for the backup meters (Serial Number: RJB00052 and ABB00691). Calibration entity: Yadav Measurements private limited – NABL accredited details. http://www.nablindia.org/nabl/index.php?c=search&m=search&abcertificate&cno=301	-	PP
5.2	State utility	Meter replacement cum calibration report issued by JVVNL	Dated 13/04/2016	PP
6.	Others			
6.1	Applus+ LGAI	Site Visit Attendance Sheet	26/09/2017	-
6.2	Applus+ LGAI	Site Visit Photograph	26/09/2017	-
6.3	CEA	Central Electricity Authority (Installation and Operation of Meters) Regulations - Notified on 17/03/2006 No.502/70/CEA/DP&D - AmendmentsNotifiedon26/06/2010No.502/6/2009/DP &D/D-I (http://www.cea.nic.in/reports/regulation/meter_reg.pdf)	17/03/2006	Other: CEA

Appendix 4. Clarification requests, corrective action requests and forward action requests

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

FAR ID	N/A	Section no.	N/A	Date: N/A
Description of FAR				

N/A	
Project participant response	Date: N/A
N/A	
Documentation provided by project participant	
N/A	
DOE assessment	Date: N/A
N/A	

Table 2. CL from this verification

CL ID	01	Section no.	D.2	Date: 03/10/2017
Description of CL				
Source web link provided in the MR for CEA database v.1.1 is not working. Please submit JMRs and invoices for the current monitoring period.				
Project participant response				Date: 10/10/2017
<ol style="list-style-type: none"> 1. PP has revised MR Section D.1 to provide the updated web-link for CEA database v1.1. 2. PP is submitting the JMR & Invoice copies for the project herewith the response. 				
Documentation provided by project participant				
<ol style="list-style-type: none"> 1. CEA Database Ver 1.1 Source Web link http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver1.pdf 2. MR Version 2 3. DVD containing the project JMR & Invoice is being submitted with the response. 				
DOE assessment				Date: 05/11/2017
Source web link for CEA database v.1.1 is updated and found to be functional. JMRs and invoices for the current monitoring period are submitted and the values of monitoring parameters reported in the ER calculation sheet are found consistent with JMR/Invoice for respective month. CL #1 is closed.				

Table 3. CAR from this verification

CAR ID	01	Section no.	E.4	Date: 03/10/2017
Description of CAR				
<ol style="list-style-type: none"> 1. The PP is requested to clarify why the latest version of monitoring report template is not used as available on UNFCCC web site. 2. Section B.2.4 of MR: It is stated that, monitoring plan was included to the registered PDD, please clarify if delayed submission of the monitoring plan was chosen by the project participants at the time of the registration of the project activity. 				
Project participant response				Date: 10/10/2017
<ol style="list-style-type: none"> 1. PP has revised MR to use the latest version 06.0 of monitoring report template available on UNFCCC web site. 2. PP has revised Section B.2.4 of MR to mention that the same is not applicable for the project activity as there were no inclusions of monitoring plan to the registered PDD. 				
Documentation provided by project participant				
MR Version 2				
DOE assessment				Date: 05/11/2017
<ol style="list-style-type: none"> 1. Latest version of MR template is referred for revised MR, found to be satisfactory, hence accepted. 2. Information under section B.2.4 of MR is updated in line with the instructions to fill CDM-MR-FORM. CAR #1 is closed.				

CAR ID	02	Section no.	E.7	Date: 03/10/2017
Description of CAR				

<ol style="list-style-type: none"> 1. Calibration details of electricity meters reported in ER sheet is not consistent with the same provided under section C of the MR. 2. During the site visit it is verified that meters installed at Amarsagar substation were replaced with new ABT meters. Please clarify why reason for replacement and new meter details is not reported in the MR. 3. As per the calibration details provided in the ER sheet, calibration of meters were delayed during the current monitoring period, however such information's are not reported in the MR. 4. Please submit calibration certificates of all the meters valid for the current monitoring period. 	
Project participant response	Date: 10/10/2017
<p>PP has revised MR to report the meter calibration details consistently with ER sheet in line with the meter calibration certificate.</p> <p>PP would like to clarify that only Line I & Line II Main meter had been replaced with new calibrated meters due to the display of old meter was not clear though old meter was working correctly. Meter replacement MOM is also being submitted to the DOE along with the response. Nevertheless, PP has revised MR to report the Meter calibration & replacement details transparently.</p> <p>PP has revised MR to report the delay in meter calibration details covering the whole monitoring period and also providing the respective meter calibration certificate & meter replacement MOM to DOE.</p> <p>PP is submitting the calibration certificates of all the meters valid for the current monitoring period.</p>	
Documentation provided by project participant	
<ol style="list-style-type: none"> 1. MR Version 2 2. Meter replacement MOM 3. Meter calibration certificate covering the monitoring period. 	
DOE assessment	Date: 05/11/2017
<ol style="list-style-type: none"> 1. Calibration details of the energy meters is updated under section C of the revised MR, found consistent with ER sheet and calibration certificates provided by the PP. 2. Main meters installed at Amarsagar Substation (Line I & Line II) had been replaced with new meters because display was not working correctly; this is verified through the meter replacement report. It is also verified that new meters were same accuracy class as old one and calibrated before installation. 3. Meter calibration details covering the whole monitoring is provided in section C of the revised MR, found consistent with the calibration certificates provided. 4. Calibration certificates submitted by the PP are found to be valid and appropriate for the current monitoring period. <p>CAR #2 is closed.</p>	
CAR #2 reopened	Date: 23/11/2017
<p>Application of error factor and period of delay calibration is not described transparently in ER calculation sheet and in section C of the MR.</p> <p>Meter calibration dates (for year 2016) are not reported in the ER sheet and MR as well.</p>	
Project participant response	Date: 27/11/2017
<p>PP has revised ER sheet & MR Section C to provide the more elaborative details regarding delay in meter calibration & application of error factor the identified delay period.</p> <p>PP has revised ER & MR Section C to provide the dates of meter calibration in the year 2016 as per the meter calibration documents.</p>	
Documentation provided by project participant	
<p>MR Version 03,dated 27/11/2017</p> <p>ER Sheet Version 03, dated 27/11/2017</p>	
DOE assessment	Date: 28/11/2017

The PP has described the delayed calibration period and application of error factor appropriately in the revised MR and ER sheet.

Meter calibration dates in year 2016 are mentioned in the revised MR, found to be satisfactory.

CAR #2 is closed.

CAR ID	03	Section no.	E.8	Date: 03/10/2017
Description of CAR				
Actual emission reductions claimed for the current monitoring period are significantly lower than the same estimated in the registered PDD for comparable period. Kindly clarify the reason for the same.				
Project participant response				Date: 10/10/2017
PP would like to clarify that the actual achieved CERs are 45.91% lesser than the CERs expected for the same duration as per registered PDD. This has happened due to the low wind availability leading to low plant load factor in comparison to the PLF considered (22%) in the registered PDD and also due to the technical failure of machine for particular clients caused the reduction in total generation of emission reduction e.g.				
<ul style="list-style-type: none"> i. Malani Impex Inc.– no generation for 3 months ii. Deedee Enterprises – no generation for 7 months iii. JN Investment– no generation for 8 months iv. Metalfab Hightech Private Limited – no generation for 2 months 				
Please refer ER calculation excel sheet for detailed calculation.				
Documentation provided by project participant				
MR Version 2 ER Sheet Version 2				
DOE assessment				Date: 30/10/2017
Actual ERs achieved during the current monitoring period are 45.91% lower as compared to the ERs estimated in the registered PDD for comparable period. This mainly due to low PLF and non-operational status (due to technical fault) of WTGs belongs to some project developers involve in the project activity. This is verified through the generation records available at site office, found to be satisfactory. Since both the matters are not under control of PP, hence the observed variation is accepted.				
CAR #3 is closed.				

Table 4. FAR from this verification

FAR ID	N/A	Section No.	N/A	Date: N/A
Description of FAR				
N/A				
Project participant response				Date: N/A
N/A				
Documentation provided by project participant				
N/A				
DOE assessment				Date: N/A
N/A				

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.

<i>Version</i>	<i>Date</i>	<i>Description</i>
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: project activities, verifying and certifying		