Validation report form for renewal of crediting period for CDM project activities

(Version 03.0)

BASIC INFORMATION	
Title and UNFCCC reference number of the project activity	Grid Connected Wind Power Project by M/s. D. J. Malpani in Rajasthan UNFCCC Ref.No-5794
Number and duration of the next crediting period	02 01/03/2019 to 28/02/2026
Version number of the validation report	03
Completion date of the validation report	22/08/2019
Version number of PDD to which this report applies	4.0
Project participants	M/s D. J. Malpani
Host Party	India
Applied methodologies and standardized baselines	Selected Methodology: AMS- I.D version 18 – "Grid connected renewable electricity generation" Selected standardized baseline: N/A
Mandatory sectoral scopes	Sectoral scope : 1- Energy industries (renewable - / non-renewable sources
Conditional sectoral scopes, if applicable	NA
Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next crediting period	13,619 tCO_2e per annum
Name and UNFCCC reference number of the DOE	LGAI Technological Center, S.A. (Applus+ Certification) UNFCCC ref. No of the DOE - E-0032
Name, position and signature of the approver of the validation report	Name: Juan Sendín Caballero Position: Applus+ Certification BU Managing Director Signature:

SECTION A. Executive summary

>> LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by M/s D. J. Malpani to perform a validation of renewal of crediting period of the "Grid Connected Wind Power Project by M/s. D. J. Malpani in Rajasthan" (UNFCCC Ref. No. 5794), hereafter referred to as "the project activity").

The assessment was performed in accordance with the CDM VVS for PAs version 02.0 and the CDM PS for PAs version 02.0 including an assessment of:

- An impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the crediting period at the time of requesting renewal of crediting period;

- The correctness of the application of an approved baseline methodology for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable crediting period.

The main objective of validation of renewal of crediting period as provides an independent third party assessment of validity of the updated sections of the PDD of project that has opted for a renewal of the crediting period. The validation assessment of the baseline of project activity, estimated GHG emission reductions or net anthropogenic GHG removals, the monitoring plan and the crediting period using the valid version of the approved baseline and monitoring methodology. The assessment team has, based on the instructions in the VVS for PAs version 02.0 /2.1/ employed a risk-based and step-wise approach when conducting the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

The validation has been performed the identification whether the PP has updated sections of the PDD relating to the baseline, estimated GHG emission reductions or net anthropogenic GHG removals, the monitoring plan and the crediting period using the valid version(s) of the approved baseline and monitoring methodology.

Therefore, the validation report is based on the assessment of the project design document undertaken through project stakeholder consultations, application of standard auditing techniques. The validation process consisted of the following three phases:

1. Desk review of the project design and baseline and monitoring plan;

2. Follow-up interview with project stakeholders;

3. Resolution of outstanding issues and the issuance of the final validation report and opinion.

In the course of the validation, 03 Corrective Action Request (CAR) and 1 Clarification Request (CL) and No Forward Action Request (FAR), was raised in relation to all relevant CDM requirements. Until issuance of this version of validation report, the raised CAR and CL were successfully closed.

Based on the review of the revised PDD and additional background documents, the subsequent follow up interviews, together with the review of comments by Parties and Stakeholders, have provided, Applus+ Certification with sufficient evidence to confirm that the project has satisfied the stated criteria.

The validation covered all project components and issues that need to be validated for the renewal of crediting period as a CDM project. Applus+ Certification hereby confirms that the project correctly applied the baseline and monitoring methodology AMS-I.D. (Version 18.0) /2.4/ and meets the relevant UNFCCC requirements for the renewal of the crediting period.

Applus+ Certification hereby requests the renewal of crediting period of the project. Provided that the project is implemented and maintained as designed, the project is expected to achieve annual average emission reduction of 13,619 tCO_2e within the 2nd crediting period (7years, 01/03/2019 - 28/02/2026).

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	T / V	Last name	First name	Affiliation	Involvement in

					(e.g. name of central or other office of DOE or outsourced entity)	Desk/document review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader/ Technical Expert	OR	Ahirwar	Vivek Kumar	GCEES	Y	NA	Y	Y

B.2. Technical reviewer and approver of the validation report for RCP

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+ Certification
2.	Approver	IR	Sendín	Juan	Applus+ Certification

SECTION C. Means of validation

C.1. Desk/document review

>> The Project Design Document submitted by the Project Participant was reviewed against the approved methodology and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of documents reviewed or referenced is available in Appendix 3 of this report.

C.2. On-site inspection

On-site inspection has not been done for validation of renewal crediting period. In accordance with the paragraph 30 of CDM VVS for PAs version 02.0, it is mandatory for the DOE to conduct an on-site inspection at validation for the proposed CDM project activity if:

(a) Its estimated annual average of greenhouse gas (GHG) emission reductions or net anthropogenic GHG removals is more than 100,000 t CO2 eq; or

(b) There is pre-project information that is relevant to the requirements for registration of the project activity and may not be traceable after the registration.

Since both the cases (a&b) are not applicable for the project activity, hence site visit has not been conducted. In line with the guidelines provided under paragraph 31 of CDM VVS for PAs version 02.0, alternative means are used and justify that they are sufficient for the purpose of validation.

1. Applus+Certification had conducted site visit for the verification of previous monitoring period (01/04/2014 to 30/09/2016) on 05/05/2017. Interviews with the project stakeholders and representatives of Suzlon Energy Limited were conducted to confirm the selected information and to resolve the issues identified in the document review. The site visit activities included a physical inspection of the project implementation and actual operations and a review of the monitoring system, data recording and archiving, QA/QC activities, and meter calibration frequency/responsibility. The verification team in section E.3 of the verification report/1.6/ for the monitoring period (01/04/2014 – 30/09/2016), it was confirmed that the implementation and actual operation of project activity was in compliance with the registered PDD. Therefore, it was considered that project implementation would have not changed materially, since then.

2. In order to confirm the project implementation, the assessment team has verified the, latest breakup sheets/3.3/, commissioning certificates/3.1/ and power purchase agreement/3.2/ signed by the project proponent with state utility for the project activity and concluded that the capacity of project (including capacity of individual WTGs), location, monitoring system, data recording and calibration responsibility is consistent with the same mentioned in the revised PDD/1.3/.

3. It is noteworthy that electricity generated by the individual WTG is measured online and recorded in live central monitoring system. Also net electricity exported to the grid by the WTGs of project activity and other WTGs (not the part of project activity) is monitored by the energy meters installed at substation, these meters are solely under control of state utility (RRVPNL). Monthly reading at metering points at substation is taken by the representatives of RRVPNL in the presence of Suzlon officials (O&M contractor) in the form of JMRs. Based on the data recorded in the JMRs, electricity supplied to the grid by the project activity is calculated by O&M contractor, using the apportioning procedure and monthly breakup sheets for each project developer is prepared, that is further endorsed by the state utility. The assessment team has verified the latest breakup sheets/3.3/ and confirmed that the installed capacity of project activity and identification of substation to which the project is connected is same as indicated in the revised PDD/1.3/.

Based on the above assessment it can be considered that project implementation would remain same in the next crediting period as described in the updated PDD/1.3/.

Duration of on-site inspection: DD/MM/YYYY to DD/MM/YYYY				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	NA			
…	NA			

C.3. Interviews

The site visit for the project location is not conducted by the assessment team, however telephonic interview was conducted and the following stakeholders were interviewed.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Bankar	Kailas	Giriraj Enterprises	15/03/2019	Eligibility of project for RCP validation, Ownership of project activity	Vivek Kumar Ahirwar
2.	Sighvi	Sumeet	Infinite Solution (Consultant)	15/03/2019	Project implementation, applicability of methodology, calculation of EF, Monitoring and calibration procedure	Vivek Kumar Ahirwar

C.4. Sampling approach

>> Not Applicable

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

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	-	-	-
Application and selection of methodologies and standardized baselines	-	CAR #1	-
Validity of original baseline or its update	-	CAR #2 and CAR #3	-
Estimated emission reductions or net anthropogenic removals	-	-	-
Validity of monitoring plan	-	-	-
Crediting period	CL #1	-	-
Project participants	-	-	-
Post-registration changes	-	-	-
Others (please specify)	-	-	-
Total	01	03	-

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	The project participants used a later version of the PDD form/2.5/ for the revised PDD than the version of the PDD form of the registered PDD. By means of checking updated PDD with the latest applicable and available PDD template form, version 11.0, the DOE can confirm that the information transferred to the later version of the PDD form is materially the same as that in the registered PDD besides those changes highlighted and assessed under this report.
Findings	No non-conformity was observed in this regard. Therefore, no finding was raised.
Conclusion	The updated PDD is in line with the latest applicable PDD from.

D.2. Application and selection of methodologies and standardized baselines

Means of validation	Through document review and telephonic interview, the assessment team reassessed the applicability of baseline, monitoring methodology and standardized baseline in the methodology based on the knowledge of the project from the initial validation, subsequent verifications and the confirmation from the PP. The project was originally registered based on methodology AMS I.D. version 16.

The updated PDD applies methodology AMS I.D. version 18.0. This is appropriate because the methodology AMS I.D. version 18.0 is of its latest approved version of methodology applied in the original PDD and is valid at the time of submission of the revised PDD for the renewal of the crediting period; hence it meets the condition that for renewal of the crediting period, the methodology shall not be changed.

Following tools referred to by the methodology are also applied:

- Tool to calculate the emission factor for an electricity system – Version 07.0.0, EB 100 annex 4/2.7/
- Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period." Version 03.0.1, EB 66 annex 47 /2.6/

The methodology and the applied tools are valid as of the finalization of the validation report. The title, reference as well as version number is correctly provided in revised PDD/1.3/ for the renewal of the crediting period. The applicability of the baseline and monitoring methodology is justified in the revised PDD for the renewal of the crediting period. All applicability conditions are completely and correctly included in the revised PDD and the same are demonstrated below :

Sr.No	Criteria	Means of verification	Conclusion
1	This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass : (a) Supplying electricity to a national or a regional grid; or (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	Project activity is Greenfield wind power project, supplying electricity to national grid. This is verified thorough the PPA /3.2/, commissioning certificates/3.1/.	Criteria (a) fulfilled
2	As per Appendix table 1 of AMS.I D version 18 is applicable for following project types: a. Project supplies electricity to a national/regional grid b. Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)	The electricity generated by the project being supplied to national grid. This is verified thorough the PPA /3.2/.	Criteria (a) fulfilled
3	This methodology is applicable to project	Project activity Project activity is	Criteria (a) fulfilled

		activities that (a) install a Greenfield plant); (b) involve a capacity addition in (an) existing plant(s); (c) involve a retrofit of (an) existing plant(s); or (d) Involve a rehabilitation of (an) existing plants(s)/unit(s); or (e) Involve a replacement of (an) existing plant (s).	Greenfield wind power project/3.1/.	
	4	Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: • The project activity is implemented in an existing reservoir with no change in the volume of reservoir; • The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project emissions section, is greater than 4 W/m^2; • The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m^2.	Project activity is Greenfield wind power project/3.1/.	Criteria are not relevant to the project activity.
	5	If the new unit has both; renewable and non-renewable components (e.g., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	This project activity includes only the renewable generation component and capacity is 7.5 MW /3.2/.	Criteria are not relevant to the project activity.

	6	Combined heat and power (co-generation) systems are not eligible under this category.	Project activity is Greenfield wind power project. The project activity is not a co-generation system	A criterion is not relevant to the project activity.
	7	In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	Project activity doesn't involve capacity addition /3.2/.	Criteria are not relevant to the project activity.
	8	In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement unit shall not exceed the limit of 15 MW.	This condition is not applicable to the project activity.	Criteria are not relevant to the project activity.
	9	In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS-I.C.: Thermal energy production with or without electricity" shall be explored.	This condition is not applicable to the project activity.	Criteria are not relevant to the project activity.

10	In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	This condition is not applicable to the project activity.	Criteria are not relevant to the project activity

The applied methodology refers to latest available versions of the following tools;
1. **Tool to calculate the emission factor for an electricity system**
The revised PDD refers and correctly applies the latest version of tool to calculate the emission factor for an electricity system, version 07.0/2.7/.Also the PP has referred the CEA Baseline CO2 Emission Database version 13 dated June 2018 /3.5/ which was the latest available database at the time of PDD submission for RCP validation of the project activity. The locations of windmills are in the state of Rajasthan, in India. As per CEA Baseline CO2 Emission Database/3.5/, the state of Rajasthan comes under the Indian regional electricity grid in India, the geographic and system boundaries of which are clearly identified; information on the characteristics of the grid is available. Thus, the tool is applicable for the project activity.
2. **Tool for the demonstration and assessment of additionality**
This tool is not required to be applied during validation of renewal crediting period.

The assessment team has validated the documentation referred to in the PDD and verified the documentation content for verifying the justification of the applicability of the methodology and confirmed that the documentation referred to in the PDD is correctly quoted and interpreted. The assessment team has also crosschecked the information provided in the PDD with the documentation other than from the PDD based on the local and sectoral knowledge of the assessment team.
Thus all the applicability conditions of the applied methodology are confirmed in line with paragraphs 68 of VVS for PAs version 02.0. Based on the above discussion, the validation team confirms that the proposed project activity meets all the applicability conditions and all other stipulations of the selected methodology AMS I.D Version 18.0.

Findings	CAR #1 was raised and resolved.
Conclusion	Applus+ Certification confirms that the project meets each of the applicability conditions of the methodology; it also meets all the other stipulations and limitations mentioned in the other sections of the applied methodology; the continued validity of the baseline is assessed and the emissions which would be resulted from the baseline scenario are updated at the start of the 2nd crediting period, as per the requirements of AMS-I.D, version 18.0. Therefore, CDM requirements stipulated under VVS for PAs Version 02.0 §§404(b) is satisfied completely.

D.3. Validity of original baseline or its update

Means of validation	In according to VVS for PAs version02.0§§404, The assessment team reviewed the updated PDD/1.3/, and evaluated whether project participants assess and incorporate the impact of national and/or sectoral policies and circumstances existing at the time of requesting renewal of the crediting period on the current baseline GHG emissions, without reassessing the baseline scenario. Where data and parameters used for determining the original baseline that was determined ex ante (and not monitored during the crediting period) are no longer valid, the assessment team identified whether PP update such data and parameters in accordance with the Methodological Tool "*Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period*". Applus+ Certification confirms that there have been no changes in the relevant national and/or sectoral regulations on implementation of projects to generated electricity from wing energy and sell to NEWNE grid(which is now a part of Integrated Indian grid) since the previous crediting period. On the other hand, the baseline scenario for installation of wind projects to generated electricity and sell to state/national grid is still valid according to

methodology AMS-I.D, version 18.0

As demonstrated in the registered PDD, the baseline scenario for the Project is continuous operation of the existing power plants to meet electricity demand. As per AMS-I.D., version 18.0 §§ 19, "*The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid."* The baseline for the Project remains the same as that in the revised PDD.

In the absence of project activity, the same amount of electricity would otherwise have been generated by the operation of some grid connected fossil fuel based power plants or newly added generation sources into NEWNE grid (Now part of Indian grid).

A verifiable description of the baseline scenario has been included in the final revised PDD.

The information presented in the PDD has been validated by an initial document review of all data. Further confirmation has been made based on the telephonic interviews and a review of information from similar projects and/or technologies. The sources referenced in the PDD have been quoted correctly. The information was verified against credible sources, such as the following:

- Commissioning Certificates /3.1/
- Power Purchase Agreement with state electricity board /3.2/
- CEA guidelines (CO2 Baseline Database for the Indian Power Sector, Version 13.0) /3.5/

The steps from the Methodological Tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period "as per CDM VVS for PAs version 02.0 were applied to assess the continued validity of the baseline and/or to update the baseline at the renewal of a crediting period:

Step 1: Assess the validity of the current baseline for the next crediting Period

The CDM PS for PAs (version 02.0) requires assessing and incorporating the impact of new relevant national and/or sectoral policies and circumstances existing at the time of requesting renewal of the crediting period on the current baseline GHG emissions, without reassessing the baseline scenario. The validity of the current baseline is assessed using the following Sub-steps:

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

Following relevant mandatory national & sectoral policies in Rajasthan state are prevailing:

- The Electricity Act, 2003 /5.2/
- National Electricity Policy,2005 /5.3/
- Tariff Policy, 2006 /5.4/
- RERC tariff orders /5.5/

Applus+ Certification has confirmed that the current baseline as described in the registered PDD is in compliance with the relevant mandatory national & sectoral policies as listed above , there are no national or local laws or regulations that entail the installation of wind power project in Rajasthan.

Based on the experience, there are no relevant mandatory national and/or sectoral polices forbidding equivalent electricity generated by the project activity is supplied to the Indian grid which is current baseline of the project activity. Therefore, baseline scenario remains unchanged and is in compliance with all the relevant mandatory national and/or sectoral policies.

Step 1.2: Assess the impact of circumstances

The assessment team has confirmed that the baseline scenario as identified at the time of validation of the project activity was the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources into the grid.

Thus, assessment team has confirmed that the project activity was a voluntary investment which intends to replace equivalent amount of electricity at grid from renewable source. The investment does not lead to any continued baseline practice for the PP within their scope whereas the continued operation of the project activity

would continue to replace equivalent amount of electricity at grid. Hence, the same baseline as identified in the previous crediting period is still valid for the project.
Therefore, the assessment of the changes in market characteristics is not required for the renewal of the project's crediting period under CDM.
Furthermore, the assessment team has verified that the PP has considered the latest available CO_2 Baseline Database (CEA database, version 13)/3.5/ at the time of requesting renewal of the crediting period for establishing the baseline emission factor, which itself considered all the new circumstances. Hence, the new circumstances do not have an impact on the baseline emission.
As per the requirement of the sub-step, it has been assessed that there were no impact of circumstances existing at the time of requesting renewal of the crediting period on the current baseline scenarios.

Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested

The lifetime of WTGs installed for the project activity is 20 years /3.2/; hence baseline equipment's(WTGs) continuously used for electricity generation during next crediting period without any investment. The assessment team able to conclude that an investment is not the most likely scenario for the renewal crediting period under consideration.

Step 1.4: Assessment of the validity of the data and parameters

The CEA emission factor calculated ex-ante for the 1st crediting period needs to be updated, as per the valid and latest version of "Tool to calculate the emission factor for an electricity system" /2.7/, the most recent information available should be used to update the emission factor for the 2nd crediting period. Hence, the emission factor is updated accordingly and appropriately described in the following section D.4 of this report.

Conclusion on step 1:

Applus+Certification confirm that the current baseline is still valid as per methodology AMS-I.D., version 18.0. However the grid emission factor needs to be updated for the subsequent crediting period.

Step 2: Update the current baseline and the data and parameters

Step 2.1: Update the current baseline

As discussed above the baseline scenario of the project activity is still sustained in the second crediting period, hence reassessment of baseline scenario is not required. The baseline emission factor is updated as per the latest version of CEA CO2 baseline database available at the time of PDD submission for renewal. The approved baseline methodology has been correctly applied to identify a complete list of realistic and credible baseline scenarios, and the identified baseline scenario most reasonably represents that would occur in the absence of the proposed CDM project activity. Applus+ Certification considers the baseline scenario is realistic and credible.
In regard to requirement of VVS for PAs version 02.0.§§83, Applus+Certification is able to confirm the following statements:

a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence, and can be deemed reasonable;
d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario, and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

Step 2.2: Update the data and parameters

The baseline emission factor will be updated ex-ante, as described in section D.4 of this report. The parameters described under step 1.4 were properly updated considering the latest versions of methodology AMS-I.D., version 18.0.

Findings	CAR #1 , CAR #2 and CAR #3 were raised and resolved.
Conclusion	Applus+Certificaiton confirms that there have been no changes in the relevant national and/or sectoral regulations on installation of wind power project for exporting electricity to power grid since the previous crediting period. On the other hand, the baseline scenario for the project remains the same as that *in the registered PDD as "Electricity delivered to state grid by the Project that would otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid".* The assessment of continued validity of the current baseline scenario and update of the baseline emissions are complied with Methodological Tool "*Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period version 03.0.1*" as per VVS for PAs version 02.0. In line with PS version 09.0§§283, the demonstration of the validity of the original baseline or its update does not require a reassessment of the baseline scenario, but rather an assessment of the GHG emission reductions that would have resulted from that scenario.

D.4. Estimated emission reductions or net anthropogenic removals

Means of validation	The calculation of the emissions reductions exactly follow the procedures described in the methodology AMS-I.D., version 18.0 and relevant tool, e.g. the "*Tool to calculate the emission factor for an electricity system*". Applus+Certification have assessed the calculation of project emissions, baseline emissions, leakage emissions and emission reductions. Corresponding calculations have been carried out based on calculation spreadsheet. The consistency of the parameters and equations presented in revised PDD, as well as calculation spreadsheet etc., has been compared with the information and requirements presented in the methodology and respective tools. The assumptions and data used to determine the emission reductions are listed in the revised PDD and all the sources have been checked. Based on the information reviewed it is confirmed that the sources used are correctly quoted and interpreted in the PDD.The values presented in the PDD are considered reasonably based on the documentation and references reviewed and the results of the interviews. The estimation of the emission reductions are considered correct as the calculations have been reproduced by the assessment team with the attainment of the same results. The algorithms for the determination of the baseline, project, and leakage are discussed in the following sections. The GHG emission reductions are calculated applying the updated version of methodology AMS I.D version 18.0 **Baseline Emissions:** *As per the paragraph 22 of the methodology:* *"Baseline emissions include only CO2 emissions from electricity generation in power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants". The baseline emissions are to be calculated as follows:* $BE_{y} = EG_{PJ,y} \times EF_{grid,y}$ Where: BE_{y} = Baseline emissions in year y (t CO2) $EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh) $EG_{PJ,y} = EG_{PJ,facility,y}$ (for Greenfield projects paragraph 26 AMS I.D) Where, $EG_{PJ,facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)

$EF_{grid,y}$ = 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" (t CO2/MWh)

The baseline emissions equivalent to tCO_2 due to the project have been calculated as the product of the net electricity supplied to the grid and the grid emission factor as per the combined margin approach described in the 'Tool to calculate the emission factor for an electricity system' . The power produced will be exported to the Indian grid. Hence, the grid emission factor and the corresponding baseline emissions have been calculated for the Indian grid.

The emission factor has been calculated as per methodology AMS-I.D. Version 18.0 §§ 23:
"*The Emission Factor shall be calculated in a transparent and conservative manner as follows:*

"A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the 'Tool to calculate the emission factor for an electricity system'."

The Indian grid has been correctly identified for the calculation of electricity emission factor, as the project displaces electrical energy from Indian grid, as per the CEA database version 13. This CEA database version was published in June 2018 and it was the latest available version at the time of requesting renewal of the crediting period. This has been found to be in compliance with the "Tool to calculate the emission factor for an electricity system" (version 07.0.0), which states that "If the DNA of the host country has published a delineation of the project electricity system and connected electricity systems, these delineations should be used". Thus, the Project Participant has considered the regional grid that is delineated by the Central Electricity Authority of India which was found to be correct and acceptable. The values of OM and BM have been determined ex-ante as per the CEA database version 13 published on June 2018, which is published by the Ministry of Power, Government of India/3.5/.
As per the Tool to calculate the emission factor for an electricity system Version 07.0.0 /2.5/, "*Regional or national average default values* can be used for calculation of CO_2 Emission Factor *if values are reliable and documented in regional or national energy statistics / energy balances".* The CEA is the sole authority for publication of such data in India and hence, accepted. The assessment team verified that the parameters are determined ex-ante:

Parameter	Value	Source	Means of Validation
$EF_{grid,OM,y}$ Operating Margin CO_2 emission factor in year y	0.9726 tCO_2/MWh	Baseline Carbon Dioxide Emission Database Version 13 from the Central Electricity Authority (CEA), Ministry of Power, Government of India /3.5/	Verified value against default value listed in CEA database version 13 dated June 2018 /3.5/.
$EF_{grid,BM,y}$ Build Margin CO2 emission factor in year y	0.8723 tCO_2/MWh	Baseline Carbon Dioxide Emission Database Version 13 from the Central Electricity Authority (CEA), Ministry of Power, Government of India /3.5/.	Verified value against default value listed in CEA database version 13 dated June 2018 /3.5/.
$EF_{grid,y}$ Combined margin	0.9475 tCO_2/MWh	Baseline Carbon Dioxide Emission Database Version	Verified value against default value listed in

CO_2 emission factor for the project electricity system.		13 from the Central Electricity Authority (CEA), Ministry of Power, Government of India /3.5/.	CEA database version 13 dated June 2018 /3.5/.

The OM has been determined as the average of the previous 3 years values (2014-15, 2015-16 and 2016-17) mentioned in the CEA database. The value of BM (for year 2016-17) has been identified directly from the CEA database/3.5/. The combined margin emission factor has been arrived at by applying weights of 75% for OM and 25% from BM, as specified in the tool version 07.0.0, §§ 86 (b) for second crediting period for wind project.

The baseline emissions for the project activity have been calculated as per AMS I.D. Version 18.0 §§ 22. The baseline emissions for the project activity have been calculated to be 13,619 tCO_2 per year.

Applus+Certification confirms that all data sources and assumptions are appropriate and calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimate of the emission reductions.

Estimation of Project Emissions (PE_y):

As per the paragraph 39 of applied methodology AMS I.D version 18, for the most renewable energy project activities, PE_y = 0. Except for:

a) Emissions related to the operation of geothermal power plants (e.g. non-condensable gases, electricity/fossil fuel consumption);
b) Emissions from water reservoirs of hydro power plants."

Any of the conditions mentioned is not applicable for the project activity, hence PE_y = 0.

Estimation of Leakage Emissions (LE_y):

As per the paragraph 42 of AMS I.D version 18, The only renewable projects that consider leakage are biomass sourced from dedicated plantations, which is not the case of the project activity, thus leakage emissions are zero(LE_y = 0).

Emission reductions:

Emission reductions are calculated as follows:

$ER_y = BE_y – LE_y – PE_y$,

where

ER_y = Emission reductions in year y (tCO_2)
BE_y = Baseline Emissions in year y (tCO_2)
LE_y– = Project emissions in year y (tCO_2)
PE_y = Leakage emissions in year y (tCO_2)

As discussed above PE_y=0 and LE_y=0 , hence

$ER_y = BE_y – 0 – 0$
$ER_y = BE_y$
$ER_y = EG_{PJ,facility,y} \times EF_{grid,y}$

Value of $EG_{PJ,facility,y}$ is estimated to be 14,374 MWh per year ,which is same as in the registered PDD.Hence baseline emission reductions as follows:

BE_y= 14,374 MWh *0.9475 tCO_2/MWh
= 13,619 tCO_2

$ER_y = BE_y$ =13,619 tCO_2 per year for the selected 7 years crediting period.

Total emission reductions during the Second crediting period are estimated to be 95,333 tCO_2.

Findings	CAR #2 was raised and resolved.
Conclusion	Applus+Certification have assessed the calculations of project emissions, baseline emissions, leakage emissions and emission reductions. Corresponding calculations have been carried out based on calculation spreadsheets. The parameters and equations presented in the PDD, as well as other applicable documents, have been compared with the information and requirements presented in the methodology and respective tools. The assessment team has compared all the formulae to ensure consistency between those presented in the calculation files and in the PDD,

	methodology, and tools. This is found to be correct. In general, Applus+Certification is able to confirm the following: ➢ All assumptions and data used by the project participants are listed in the PDD and/or supporting documents, including their references and sources; ➢ All documentation used by the project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD; ➢ All values used in the PDD are considered reasonable in the context of the proposed CDM project activity; ➢ The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, and leakage emissions; ➢ All estimates of the baseline, project and leakage emissions can be replicated using the data and parameter values provided in the PDD. Applus+Certification confirms that the baseline, the estimated GHG emission reductions in the final updated PDD comply with the applicable requirements in the section 7.5.5 PS for PAs version02.0, and the valid version of the methodology applicable to the registered CDM project activity.

D.5. Validity of monitoring plan

Means of validation	The assessment team reviewed the updated PDD, checked whether the PDD update the monitoring plan section in accordance with all relevant applicable requirements in the CDM PS for PAs. Also verified whether the PDD list all data and parameters to be monitored, as required by the applied methodology and whether the monitoring plan explained the operational and management structure, responsibilities and institutional arrangement for data collection/archiving, QA/QC procedures. The project applies the approved consolidated monitoring methodology AMS-I.D version 18.0 for grid-connected electricity generation from renewable sources. The monitoring parameter relevant to this project activity described in the applied methodology is: $EG_{PJ,facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh) Since the WTGs of project activity and non-project WTGs are connected at 33/220 kV SEL pooling sub-station and 220 kV state utility substation (Common metering point), hence, in order to calculate the net electricity exported to the grid by the WTGs of the project activity, the state electricity utility uses an apportioning procedure that has been correctly described in section B.7.3 of the revised PDD/1.3/. The apportioning procedure is carried out by the state utility and the PP has no role in this calculation. It was confirmed from the representatives of the O&M provider during the telephonic interview, that the procedure to derive the electricity exported to the grid by each project owner is completely under jurisdiction of the state utility. The registered monitoring plan as described in the revised PDD was implemented and followed during previous crediting period. This was checked from the verification records available on the UNFCCC webpage of this project/1.5/. Hence, it can be assured that the monitoring plan of the registered project is in accordance with the applied methodology. Compliance with the requirement of the methodology, for the parameter $EG_{BL,y}$ to be monitored ex-post during the 2nd crediting period is demonstrated in the table below:

Revised PDD / Approved Methodology	Requirement in the applicable methodology and relevant EB documents	Requirement in the registered monitoring plan in the revised PDD	Opinion
Data/Parameter	$EG_{PJ,facility,y}$	$EG_{PJ,facility,y}$	In compliance with the applicable methodology.
Description	Quantity of net	Quantity of net	In compliance with the applicable methodology.

	electricity generation supplied by the project plant/unit to the grid in year y (MWh)	electricity generation supplied by the project plant/unit to the grid in year y (MWh)	
Measured/Calculated /Default	Directly measured or calculated	Calculated	This parameter is calculated using the apportioning procedure as per the actual practice on site by the state utility (JVVNL), which is governed by the PPA signed specifically for this project activity. This approach has been described in section B.7.3 of the revised PDD, hence accepted.
Source of data	Not Specified	Monthly Break up sheets	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	Energy meters	Not Applicable since this is a calculated parameter	This parameter is calculated using the directly measured values of electricity exports and imports measured at 33 kV and 220 kV metering points. Hence accepted.
Measuring/Reading/ Recording frequency	Hourly measurement and monthly Recording	Recording Frequency: Monthly	The Hourly measurement and monthly Recording is for the directly measured $EG_{BL,y}$ as per the 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	The calculation method is as per Section B.7.2 of the registered PDD.	This is as per the actual practice on site by the state utility. Hence accepted. The same formula is mentioned in the registered monitoring plan and PPA as well.
QA/QC procedures	Measurement results shall be cross-checked with records for sold electricity.	The values $EG_{PJ,facility,y}$ mentioned in the Breakup sheets will be cross-checked against values mentioned in the invoice raised on the state utility.	This is in compliance with the applicable methodology.

All the relevant data records will be kept by the Project owner during the crediting period and two years after for DOE's verification. Data management and quality control measures have been confirmed through desk review of the project

	documents/1.3/ and interview with the PPs representatives. Assessment team confirmed that project is not involve any sampling plan in monitoring of project activity parameters hence section B.7.2 in the revised PDD is not applicable for this project activity. **Implementation of the monitoring plan:** An organizational structure is provided in section B.7.3 of the revised PDD. The functions such as data collection, aggregation, verification, calculation, archiving, as well as the maintenance of equipment's etc. have been defined. Quality assurance and quality control procedures for recording, maintaining and data archiving etc. will be ensured according to CDM EB rules. The calibration of the meter will be implemented as per national standard. An emergency treatment process has been defined in PDD when the meter is in malfunction. Data management and quality control system are quoted in PDD. The monitoring staffs will be trained based on the training program described in the revised PDD. The procedures described in the revised PDD have been recognized by the assessment team through document review and interviews with the relevant personnel. It is confirmed that remaining aspects of monitoring plan like monitoring procedure, metering system, calibration procedure, data recording, monitoring role and responsibility and QA/QC procedure as mentioned in the registered PDD, will remain same during the 2nd crediting period. The assessment team is able to confirm that the proposed monitoring plan is feasible within the project design.
Findings	No non-conformity was observed in this regard. Therefore, no finding was raised
Conclusion	Applus+ Certification confirms that the monitoring plan contains all necessary parameters which have been clearly described in revised PDD /1.3/ and that the means of monitoring described in the plan complies with the requirements of the methodology. In conclusion, based on document review and stakeholder interview, together based on local and sectoral expertise, the assessment team confirms that: ➢ The monitoring plan of the revised PDD is in compliance with the requirements of the methodology AMS-I.D version 18.0. ➢ Monitoring arrangements described in the monitoring plan of the revised PDD are feasible within the project design. ➢ The PP's ability to implement the monitoring plan can be guaranteed. The monitoring plan of the revised PDD is complied with the registered PDD version 02.3. Applus+Certification are of the opinion that the project participants are able to implement the monitoring plan and the emission reductions achieved can be reported ex-post for verification.

D.6. Crediting period

Means of validation	The assessment team checked whether the updated PDD indicated that the next crediting period commences on the day immediately after the expiration of the current crediting period by means of a document review, use of official sources and interviews with relevant personnel during site visit. The first 7 years renewable crediting period was from 01/03/2012 to 28/02/2019; the Project Participant is applying for a 2nd renewable crediting period, which is 7 years (01/03/2019 – 28/02/2026).
Findings	No non-conformability was observed during assessment for validation of crediting period. Therefore, no finding was raised.
Conclusion	Applus+Cerification confirmed that the notification regarding to the request for renewal of Crediting period of the project meets the requirements of paragraph 274 CDM PCP for PAs version 02.0 and the next crediting period of the registered CDM project activity commences on the day immediately after the expiration of the current crediting period. Therefore, CDM requirements stipulated under VVS for PAs Version 02.0 §§412() is satisfied completely.

D.7. Project participants

Means of validation	The assessment team checked whether the names of the project participants

	included in the updated PDD are consistent with the names of the project participants in the registered PDD by means of desk review and interviews of PPs representative .The project participant in registered PDD is M/s. D. J. Malpani (project owner). The project participant in updated PDD is same as in the registered PDD and indicated in latest version of the MoC statement.
Findings	No non-conformability was observed during assessment of details of Project Participant. Therefore, no finding was raised.
Conclusion	Applus+ Certification confirmed that the project participants in the updated PDD are consistent with the actual situation. Therefore, CDM requirements stipulated under VVS for PAs Version 02.0 §§412 a (vi) is satisfied completely.

D.8. Post-registration changes

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines	N	N/A	N/A
Corrections	N	N/A	N/A
Change to the start date of the crediting period of the project activity	N	N/A	N/A
Inclusion of a monitoring plan	N	N/A	N/A
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools	N	N/A	N/A
Changes to the project design	N	N/A	N/A
Changes specific to afforestation and reforestation project activities	N	N/A	N/A

SECTION E. Internal quality control

>> As final step of a validation of the final documentation including the validation opinion and the checklist have to undergo an internal quality control by the technical review committee, i.e. each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one. After confirmation of the PP the validation opinion and relevant documents are submitted to the EB through the UNFCCC web-platform.

SECTION F. Validation opinion

>> Applus+Certification has performed a validation of renewal of crediting period of the “Grid Connected Wind Power Project by M/s. D. J. Malpani in Rajasthan” (Ref. No. 5794). The validation was performed on the basis of the updated sections of the PDD relating to the baseline, estimated emission reductions and the monitoring plan using the most recent version of baseline and monitoring methodology applicable for the project activity.
The final validation opinion was finalized in accordance with the CDM VVS for PAs version 02.0 and the CDM PS for PAs version 02.0 including the assessment of:

a) An impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the crediting period at the time of requesting renewal of crediting period;

b) The correctness of the application of an approved baseline methodology for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable crediting period.

The review of the project design documentation and the subsequent follow-up interviews have provided Applus+Certification with sufficient evidence to determine the validity of the original baseline and/or its update through an assessment. The project correctly applies the latest baseline and monitoring methodology AMS I.D “Grid connected renewable electricity generation”, version 18.0
Given that the project is implemented as designed and the underlying assumptions do not change, the project is likely to achieve the estimated amount of annual emission reductions of 13,619 tCO2e and a total

estimated emission reductions of 95,333 tCO2e over the 2nd renewable crediting period as specified within the final revised PDD.

The monitoring plan provides for the monitoring of the project's emission reductions. The monitoring arrangements described in the monitoring plan are feasible within the project design. It's Applus+Certification opinion that the project participants are able to implement the monitoring plan and the emission reductions achieved can be reported ex-post for verification.

In summary, it is Applus+Certification opinion that the project activity "Grid Connected Wind Power Project by M/s. D. J. Malpani in Rajasthan" (Ref. No. 5794) in India, as described in the PDD, version 4.0 dated 17/08/2019, meets all relevant UNFCCC requirements for the renewal of the crediting period. Hence Applus+Certification submitted the request for renewal of the crediting period of the project activity.

Appendix 1. Abbreviations

Abbreviations	Full texts
ABT	Availability Based Tariff
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM PCP	Clean Development Mechanism Project Cycle Procedure
CDM PS	Clean Development Mechanism Project Standard
CDM VVS	Clean Development Mechanism Validation and Verification Standard
EB	Executive Board
EF	Emission Factor
EPC	Engineering ,Procurement and Construction
ER	Emission Reductions
CEA	Central Electricity Authority
CER	Certified Emission Reduction
CL	Clarification Request
DOE	Designated Operational Entity
DNA	Designated National Authority
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GOI	Government of India
IPCC	Intergovernmental Panel on Climate Change
JMR	Joint Meter Reading
JVVNL	Jodhpur Vidyut Vitran Nigam Limited
MP	Monitoring Plan
MR	Monitoring Report
MWh	Megawatt hour
PDD	Project Design Document
PPA	Power Purchase Agreement
PP	Project Participant
PRC	Post Registration Changes
PS	Project Standard
RERC	Rajasthan Electricity Regulatory Commission
RCP	Renewal Crediting Period
RMP	Revised Monitoring Plan
RPTCL	Rajasthan Power Transport Company Limited
RRVPNL	Rajasthan Rajya Vidyut Prasaran Nigam Limited
SEL	Suzlon Energy Limited
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard
UID	Unique Identification number
WEC	Wind Energy Convertor
WEG	Wind Energy Generator
WTG	Wind Turbine Generator

Appendix 2. Competence of team members and technical reviewers

According to the sectoral scope / technical area and experience in the sectoral or national business environment, Applus+ Certification has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of Applus+ Certification.
The composition of audit team shall be approved by the Applus+ Certification ensuring that the required skills are covered by the team.
The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

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

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

Name	Qualification	Coverage of scope	Coverage of technical Area	Financial aspect	Host country Experience	Attendance to the On-Site Assessment
Vivek Kumar Ahirwar	Lead Auditor (LA)	Yes (1)	Yes (1.2)	N/A	Yes	Yes
Vivek Kumar Ahirwar	Technical Expert (TE)	Yes (1)	Yes (1.2)	N/A	Yes	Yes
Denny Xue	Technical Reviewer (TR)	Yes (1)	Yes (1.2)	N/A	N/A	N/A

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	PP	Registered PDD Version 02.3	Dated 09/02/2012	PP
1.2	PP	Revised PDD, version 02.4	Dated 28/08/2018	PP
		Revised PDD, version 02.5	Dated 06/03/2019	
		Revised PDD, version 02.6	Dated 06/04/2019	
1.3	PP	Revised PDD, version 3.0	Dated 25/04/2019	PP
		Revised PDD, version 4.0 (final)	Dated 17/08/2019	
1.4	LRQA	Validation Report of the registered CDM project activity ,Version 03.1	Dated 10/02/2012	Other: UNFCCC
1.5	UNFCCC	CDM Project activity view page "Grid Connected Wind Power Project by M/s. D. J. Malpani in Rajasthan " http://cdm.unfccc.int/Projects/DB/LRQA%20Ltd1329231564.5/view	-	Other: UNFCCC
1.6	Applus+Certification	Verification report for second monitoring period (01/04/2014 to 30/09/2016),Version 02	Dated 30/05/2018	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 02.0 as per EB 101, Annex 2	Dated 29/11/2018	Other: UNFCCC
2.2	UNFCCC website	CDM Project Standard for Project Activity (CDM-PS for PA), version 02.0 as per EB 101, Annex 1	Dated 29/11/2018	Other: UNFCCC
2.3	UNFCCC website	CDM Project Cycle Procedure for Project Activity (CDM-PCP for PA), version 02.0 as per EB 101, Annex 16	Dated 29/11/2018	Other: UNFCCC
2.4	UNFCCC website	Applied Methodology, AMS I. D, Version 18 "Grid connected renewable electricity generation"	Dated 28/11/2014	Other: UNFCCC
2.5	CDM EB	PDD template form	Version 11.0	Other: UNFCCC
2.6	CDM EB	Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, version 03.0.1, EB 66, Annex 47	02/02/2012	Other: UNFCCC
2.7	CDM EB	Tool to calculate the emission factor for an electricity system	Version 7.0	Other: UNFCCC
3.	**Project implementation information**			
3.1	State utility	WTG ref.No / Date of commissioning / Commissioning certificates ref No-: AK-278, AK-262 and AK-321 / 30/03/2011 / SE/RDPPC/jDVVNL/XEN C&R/D-93, dated 15/04/2012 AK-283 and AK-331 / 21/03/2011 / SE/RDPPC/jDVVNL/XEN C&R/D-94, dated 15/04/2012	-	PP

3.2	State utility	Power Purchase Agreement between the PP and state utility	dated 04/03/2011	PP
3.3	State utility	Latest Monthly breakup of export units reports for the monitoring period	-	PP
3.4	PP	Latest Monthly electricity sales invoices towards the grid authorities	-	PP
3.5	CEA	CEA CO_2Baseline Database for the Indian Power Sector Version 13	June 2018	Other
4.	**ER calculation and cross checking issue**			
4.1	PP	Emission reduction calculation sheet , Version 01	Dated 28/08/2018	PP
4.2	PP	Emission reduction calculation sheet, Version 02	Dated 06/03/2019	PP
5.	**Others**			
5.1	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
5.2	Ministry of Power, GOI	The Electricity Act, 2003 (http://www.cercind.gov.in/Act-with-amendment.pdf)	Dated 26/05/2003	Other
5.3	Ministry of Power, GOI	National Electricity Policy,2005 (https://powermin.nic.in/en/content/national-electricity-policy)	Dated 12/02/2005	Other
5.4	Ministry of Power, GOI	Tariff Policy, 2006 http://www.orierc.org/documents/National%20Electricity%20Tariff%20Policy.pdf	January 2006	Other
5.5	RERC	RERC tarif orders (http://rerc.rajasthan.gov.in/TariffOrders.aspx)	-	Others

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

Table 1. CL from this validation

CL ID	01	**Section no.**	D.1	**Date : 19/01/2019**
Description of CL				
1. The Project Participant to provide supporting documents to confirm that the notification has been sent to secretariat of their intention in accordance with the Project Cycle Procedure. 2. The Project Participant has mentioned supplying electricity to Indian Grid in section B.3 of PDD. However, the project boundary diagram shows NEWNE-Grid. Please clarify and make it consistent throughout. 3. In section C.3.1, the Project Participant to mention/indicate whether it is the first, second or third crediting period.				
Project participant response				**Date : 06/03/2019**
The Email has been provided to confirm that the notification has been sent to secretariat of their intention in accordance with the Project Cycle Procedure in section B.5. The project Boundary Diagram has been corrected from NEWNE-Grid to Indian Grid and made consistent now. The section C.3.1 has been revised to mention that it is the second crediting period.				
Documentation provided by project participant				

Email sent to secretariat *Revised PDD version 2.0*	
DOE assessment	**Date:** 31/03/2019
1. The project participant notified the EB Secretariat on 29/08/2018 regarding the renewal of the crediting period and selected DOE, which is within 270 days prior to the date of expiration (i.e. 28/02/2019) of the current crediting period, hence accepted. However acknowledgement email received from UNFCCC is not provided. 2. This issue is not addressed in the revised PDD. 3. Crediting period number is updated section C.3.1 of the revised PDD, found to be satisfactory, hence accepted. 4. Registered PDD Version 02.3 available at project webpage please clarifies why the version of revised PDD is not updated accordingly. CL #1 is open	
Project participant response	**Date : 06/04/2019**
1. The acknowledgement email received from UNFCCC regarding the renewal of the crediting period and selected DOE is now provided to the DOE. 2. NEWNE grid has been replaced with Indian grid throughout the PDD. 4. Since version of the registered PDD is 2.3 therefore for this RCP PDD the version will be in continuation of the prior registered PDD version. The versions are corrected as 2.6 being the third revision in RCP.	
Documentation provided by project participant	
Revised PDD version 02.6, dated 06/04/2019	
DOE assessment	**Date : 10/04/2019**
The PP has submitted the requested email and found to be acceptable. Grid identification is corrected as Indian grid in line with the CEA baseline database, hence accepted. Version of updated PDD is corrected, following the version of registered PDD, hence accepted. CL #1 is closed.	

Table 2. CAR from this validation

CAR ID	01	**Section no.**	D.2	**Date : 19/01/2019**
Description of CAR				
1. "Applicability Criterion", "paragraph numbers" and "references/foot-notes" referred in section B.2 of the PDD are not consistent with latest version of the methodology applied. 2. In section B.6.1 of PDD, the referred version of methodology is 16, whereas other section refers it as version 18.0. Please clarify the inconsistency. 3. PP is requested to recheck the paragraph number of applied methodology referred in the relevant sections of the PDD.				
Project participant response				**Date : 06/03/2019**
1. The Applicability Criterion, paragraph numbers and the foot-notes referred in section B.2 are revised to be in consistent with latest version of the methodology applied. 2. The version of methodology is corrected as version 18.0 in the revised section B.6.1 of PDD. *3.* The paragraph numbers of applied methodology are corrected throughout the PDD in accordance to the latest version of the methodology version 18.0.				
Documentation provided by project participant				
Revised PDD version 2.0				
DOE assessment				**Date : 31/03/2019**
The PP has updated the information regarding applicability of methodology, in line with the latest version of AMS I.D (V.18.0), in section B.2 of the revised PDD, found to be satisfactory, hence accepted. Version of the applied methodology is corrected in section B.6.1 of the revised PDD and found to be correct. Paragraph number of applied methodology referred in the relevant sections of the PDD are corrected and found consistent with the applied methodology AMS I.D version 18.0. CAR #1 is closed.				

CAR ID	02	**Section no.**	D.3	**Date : 19/01/2019**
Description of CAR				

The Project Participant to refer correct notation for calculation of Baseline Emission as per latest methodology.
Please clarify why the latest version of "Tool to calculate the emission factor for an electricity system" is not referred in the PDD.

As per clause 284 of Project standard, "*The project participants shall assess and incorporate the impact of national and/or sectoral policies and circumstances, existing at the time of requesting renewal of crediting period on the current baseline GHG emissions, without reassessing the baseline scenario*". Also "Instructions for completing the CDM-PDD-FORM", requires description "how the relevant national and/or sectoral policies, regulations and circumstances are taken into account in accordance with the project standard" in section B.4.Please clarify how these guidelines are followed while updating PDD.

Project participant response	**Date : 06/03/2019**

The notation for the baseline emission equation has been corrected as per the latest version of the methodology version 18.0 in the relevant sections of the revised PDD.
The latest version of "Tool to calculate the emission factor for an electricity system" i.e. version 7.0 is now referred in the PDD.

The relevant national and/or sectoral policies, regulations and circumstances have not been revised and are for RCP also same has been taken into account in accordance with the project standard. However the amendments on the Electricity Act made on 2007 is also mentioned in the revised PDD.

Documentation provided by project participant

Revised PDD version 2.0

DOE assessment	**Date:** 31/03/2019

Project Participant has corrected the notation for calculation of Baseline Emission as per latest methodology in the revised PDD, found consistent with the latest version of the methodology version 18.0.
The PP has referred latest version of "Tool to calculate the emission factor for an electricity system" i.e. version 7.0, in the revised PDD, found to be appropriate.
There are no changes identified with reference to the national and/or sectoral policies, regulations and circumstances that may impact implementation of wind projects in Rajasthan. The PP has appropriately updated the relevant information in the revised PDD, found satisfactory, hence accepted.
CAR #2 is closed.

CAR #2 is reopened	**Date:** 14/04/2019

Description of CAR

Please clarify why Version 14 of CO_2 CEA database is not referred for calculation of emission factor.
Data/parameter reported in section B.7.1 of the revised PDD is not in accordance with the applied methodology AMS I.D version 18.
CAR #2 is open

Project participant response	**Date: 25/04/2019**

The project is renewal of crediting period, therefore versions applicable at the time of submission of UNFCCC should be used. Here version 13 of CO_2CEA database for calculation of emission factor was active at the time of submission to UN and hence that was used.

The parameter has been revised throughout the PDD and is now in accordance with the applied methodology AMS I.D version 18.

Documentation provided by project participant

Revised PDD, version 3.0 ,dated 25/04/2019

DOE assessment	**Date: 26/04/2019**

Since the CO2 CEA database version 13 was the latest version available at the time of PDD submission to UNFCCC and DOE, hence emission factor is calculated using the same version, this approach is found to be appropriate, hence accepted.
Data/parameter reported in section B.7.1 of the revised PDD are updated in accordance with the applied methodology AMS I.D version 18, hence accepted.
CAR #2 is closed

CAR ID	03	**Section no.**	D.3	**Date : 12/07/2019**
Description of CAR				

Please clarify why the information's regarding the impact of national and/or sectoral policies and circumstances, existing at the time of requesting renewal of crediting period, on the current baseline GHG emissions are not provided in the PDD. The PP is requested to clarify how it has assessed that national and/or sectoral policies and circumstances existing at the time of renewal of the crediting period did does not affect the original baseline. Please clarify why latest version of CDM- PDD-FORM template is not referred.	
Project participant response	**Date : 17/08/2019**
The information's regarding the impact of national and/or sectoral policies and circumstances, at the time of requesting renewal of crediting period, are incorporated in the revised PDD under section B.4. The revised baseline scenario has been demonstrated in accordance with Tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period". The emission factor has been revised to consider the latest value as published by CEA. PDD is updated using latest verison of CDM- PDD-FORM and enclosed herewith.	
Documentation provided by project participant	
Revised PDD, version 04, dated 17/08/2019	
DOE assessment	**Date:** 21/07/2019
The PP has included the information's regarding the impact of national and/or sectoral policies and circumstances, existing at the time of requesting renewal of crediting period, on the current baseline GHG emissions and found to be satisfactory. In the revised PDD, impacts of national and/or sectoral policies and circumstances existing at the time of renewal of the crediting period on original baseline are demonstrated appropriately, hence accepted. The PP has referred latest verison of CDM- PDD-FORM v.11.0, found to be appropriate, hence accepted. CAR #3 is closed.	

Table 3. FAR from this validation

FAR ID	xx	**Section no.**		**Date:** DD/MM/YYYY
Description of FAR				
Project participant response				**Date:** DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				**Date:** DD/MM/YYYY

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Document information

Version	*Date*	*Description*
03.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN) and version 02.0 of the “CDM project cycle procedure for project activities” (CDM-EB93-A06-PROC); • Make editorial improvements.
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.

Decision Class: Regulatory
Document Type: Form
Business Function: Renewal of crediting period
Keywords: crediting period, project activities, validation report