

ASSESSMENT ON POST REGISTRATION CHANGES

The logo for EPIC Sustainability features the text "EPIC Sustainability" in a blue, sans-serif font. The word "EPIC" is in a larger, bolder font than "Sustainability". A green swoosh underline is positioned beneath the text, starting from the left and curving upwards to the right.

TADAS WIND FARM IN KARNATAKA

(UNFCCC Registration Ref. No. 9083)

Report No. : ESSPL/CDM/2014/25a)
Revision No.: 01

Report No.:	Date of first issue:	Version :	Date of this revision :
ESSPL/CDM/2014/25a	18/09/2015	01	18/09/2015
Project title	: Tadas wind farm in Karnataka		
Organizational Unit	: EPIC SUSTAINABILITY SERVICES PVT LTD		
Client	: Tadas Wind Energy Private Limited		
Summary:			
<p>EPIC Sustainability Services Private Limited (EPIC) has performed the Validation of Post Registration Changes to the Project Design Document (PDD) of the registered project activity titled "Tadas wind farm in Karnataka", with UNFCCC reference number of 9083, registration date of 24/12/2012 and crediting period from 30/12/2012 to 29/12/2022. The Validation of the Post Registration Changes has been performed based on the document review of the Monitoring Report, Registered PDD, supporting documents and on-site assessment.</p> <p>The project activity involves the installation and operation of wind power project of aggregate capacity of 100 MW in India. The commissioned Wind Electric Generators (WEGs) include 125 WEGs of 800 kW capacity in Haveri and Dharwad district of Karnataka. The project has been commissioned and connected to regional grid and has been supplying electricity to the grid.</p> <p>The EPIC validation team identified, through the validation process, permanent changes which required a revision of the registered PDD and which did not require prior approval by the board as per Appendix 1 (CDM PS, version 7.0). The PP has taken actions and submitted to EPIC, the revised PDD version 03.0 dated 01/07/2015 and supporting evidence. The EPIC validation team, further confirms that the information in the revised PDD is correct and leads to better representation and transparency and is in line with the requirements of the approved monitoring methodology, ACM 0002, version 13.0.0 Therefore, EPIC requests the CDM-EB to accept these Post Registration Changes.</p>			
Subject : Validation of Post Registration Changes			
Work carried out by :			
Mr. A Prabu Das	Lead Auditor	<input checked="" type="checkbox"/> No distribution without permission from the Client or responsible organisational unit <input type="checkbox"/> Limited distribution <input type="checkbox"/> Unrestricted distribution	
Mr. Arnab Deb	Auditor		
Mr. R Vijayaraghavan	Technical Reviewer		
Work Approved by :			
Mr. K Sudheendra (Head Operations)			

ABBREVIATIONS

BE	Baseline Emissions
BM	Build Margin
CAR	Corrective action request
CDM	Clean Development Mechanism
CDM-EB	Executive Board of Clean Development Mechanism
CDM M&P	Modalities and procedures for a clean development mechanism
CDM PCP	CDM Project Cycle Procedure
CDM PS	CDM Project Standard
CDM VVS	CDM Validation and Verification Standard
CEA	Central Electricity Authority
CER	Certified Emission Reduction
CL	Clarification
CM	Combined Margin
COP/MOP	Conference of the Parties serving as meeting of the Parties to the Kyoto Protocol
DOE	Designated Operational Entity
EF	Emission Factor
EPIC	EPIC Sustainability Services Private Limited
ERs	Emission reductions
FAR	Forward action request
GHG	Greenhouse gas
IPCC	Intergovernmental panel on climate change
KP	Kyoto Protocol of the United Nations Framework Convention on Climate Change
MoC	Modalities of Communication
MP	Monitoring Plan
MR	Monitoring Report
PDD	Project design document
PE	Project Emissions
PP	Project participant
TWEPL	Tadas Wind Energy Private Limited
MW/MWh	Megawatt/Megawatt hour
O&M	Operation & Maintenance
OM	Operating Margin
QA/QC	Quality Assurance/Quality Control
tCO ₂ e	Tonne of carbon dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
WEG	Wind Electric Generator

1. Validation opinion

EPIC Sustainability Services has been contracted by Tadas Wind Energy Private Limited, formerly known as Tadas Wind Energy Limited, to undertake the first verification of the registered project activity titled "Tadas wind farm in Karnataka", UNFCCC number 9083, registered as a CDM project activity on 24/12/2012.

EPIC conducted an independent third party assessment of the Post Registration Changes from the project activity as described in the registered PDD following the CDM Validation and Verification Standard (CDM VVS, Version 7.0), section 9.5 and the CDM Project Standard (CDM PS, Version 7.0) section 13.8 for Post Registration Changes.

2. Overview of post registration changes

Type of post registration change		Are the changes of a type specified in Appendix 1 of the CDM Project Standard? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Temporary deviations from the registered monitoring plan and/or monitoring methodology		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No post registration change of this type
Applicable period for proposed deviations (inclusive):	From DD/MM/YYYY start date of the earliest included deviation to DD/MM/YYYY end date of the latest included deviation)	
Corrections (refer to point 3 of Finding section)		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No post registration change of this type
Changes to the start date of the crediting period Prior approval by the CDM EB is not required in case of (a) bringing forward the start date up to one year earlier or (b) postponing the start date by up to one year (by up to two years for project activities in LDCs).		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No post registration change of this type
Proposed start date of the change of this type crediting period:	DD/MM/YYYY (changed from DD/MM/YYYY)	
Permanent changes from the registered monitoring plan or applied methodology (refer to point 7 of Finding section)		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No post registration change of this type
Changes to the project design of a registered project Activity (refer to point 8 of Finding section)		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No post registration change of this type
Changes to the programme design of a registered PoA		Note: All changes to the programme design of a Registered PoA require prior approval by the EB. <input checked="" type="checkbox"/> No post registration

Changes specific to afforestation or reforestation project activities	change of this type <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No post registration change of this type
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EPIC has verified that the corrections made by the PP in the revised PDD^{/01/}, Version 03 dated: 01/07/2015, comply with the requirements of the CDM PS, version 7.0 and accurately reflects the actual project information. During periodic verification from 30/12/2012 to 30/11/2014, it was found that information provided in the registered PDD^{/01/} regarding location number and geo-coordinates (latitude and longitude details) of twelve (12) WEGs, geo-coordinates of two (02) WEGs and location numbers of three (03) WEGs are not matching with the information of WEGs actually commissioned.

EPIC confirms that the information in the revised PDD^{/01/}, Version 03.0, dated: 01/07/2015, using latest form at the time of submission of this report, was materially the same as described in the registered PDD^{/01/}, Version 02.0 dated: 23/11/2012, the project has been implemented as per the approved methodology ACM0002 version 13.0.0^{/07/} valid at the time of registration.

EPIC is of the opinion that the post registration changes of the project activity, as described above, is as per Appendix 1 (CDM PS, version 7.0)^{/05/} – ‘Changes that do not require prior approval by the board’. Therefore, in line with para 136 and 142 of CDM PCP, Version 7.0^{/06/}, EPIC submits the post registration changes of the project activity, for acceptance by the CDM EB, as part of the request for issuance.

3. Findings

3.1 Description of corrections to project information and permanent changes from the registered MP and or Methodology

The project activity is to set up a wind farm of aggregate capacity 100 MW in India by Tadas Wind Energy Private Limited (TWEPL) formerly known as Tadas wind energy limited (TWEL). A total of 125 Wind Electric Generators (WEGs) of 800 kW capacities each are installed at the sites.

Regarding change of location number and geographical coordinates, the following type of changes were observed during this verification:

Type 1: (change in location number and geographical coordinates)

The actual location number and geographical coordinates of 12 WEGs were not in-line with that mentioned in registered PDD, Version 02^{/01/}. The updated location numbers and geo-coordinates of the following 12 WEGs of the project activity are provided below:-

S.No	In Revised PDD ^{/01/} (actual)			In Registered PDD ^{/01/}		
S.No	Location No.	Longitude (E)	Latitude (N)	Location No.	Longitude (E)#	Latitude (N)#
1	318B	15.014794	75.289648	318	15.044110	5.265690
2	715	15.128294	75.166539	471	15.133827	75.166989
3	928	15.128633	75.214543	154	15.125248	75.164646

4	354E	15.068772	75.276767	134B	15.079015	75.237619
5	355B	15.071269	75.268246	470B	15.065880	75.196947
6	357C	15.071914	75.280754	178N	15.090722	75.239716
7	358A	15.071813	75.274509	179N	15.050226	70.841619
8	359B	15.074330	75.271758	180N	15.085867	75.239767
9	361D	15.080252	75.272175	181B	15.083282	75.238340
10	501B	15.057053	75.179232	501	15.057224	75.178878
11	557B	15.139280	75.210141	549B	15.107735	75.186915
12	716C	15.133023	75.166561	469D	15.102863	75.195790

The geo-coordinates in the registered PDD^{/01/}, Version 02, are in degree, minutes and seconds format and the same is presented in decimal format in the revised PDD^{/01/}, Version 03.

Type 2: (change in location number)

The location number of 03 WEGs mentioned in registered, PDD Version 02^{/01/} were not consistent with the actual location numbers at site, however the project activity capacity is same as provided in the registered PDD, Version 02^{/01/}. The location numbers of the following 03 WEGs have changed (no change in geo-coordinates) details of which is provided below:

S.No	In Revised PDD ^{/01/} (actual)	In Registered PDD ^{/01/}
1	81B	81C
2	333E	333D
3	160D	160C

Type 3: (change in geographical coordinates)

The geo-coordinates of 02 WEGs with location numbers (77 and 836) have variations from the ones provided in the registered PDD, Version 02^{/01/}, at the time of registration as provided below:

S.No	Location numbers	In Revised PDD ^{/01/} (actual)	In Registered PDD ^{/01/}
1	77	Latitude: 15.108131 Longitude: 75.166095	Latitude: 15.089227 Longitude: 75.185121
2	836	Latitude: 15.124114 Longitude: 75.170091	Latitude: 15.100190 Longitude: 75.180235

In total, 17 WEGs location information were changed in the revised PDD, Version 03^{/01/}.

The EPIC validation team confirms that the project capacity has not changed, and there has been no change in actual location of the planned and commissioned WEGs. The project location information recorded in the registered PDD, Version 02^{/01/}, were not updated or incorrectly stated, and were captured based on initial documents shared with PP by the technology supplier Enercon (India) Ltd. (presently Wind World (India) Ltd). The validation report^{/09/} corresponding to the registered PDD, Version 02^{/01/}, refers to Enercon (India) Ltd. letter^{/03/}, dated 27/06/2012, as the source for geo-coordinates and location numbers of the WEGs.

During this verification, Wind World (India) Limited (formerly Enercon) has provided the geo-coordinates, location numbers and location details of all the WEGs in the form of letter^{/04/}, dated 27/06/2015, which is after the entire project commissioning. The commissioning certificates^{/02/} (dated 03 May 2012, 04 May 2012, 25 May 2012, 22 June 2012, 06 August 2012, 27 September 2012 and 29 September 2012) of the WEGs pertaining to the revised location numbers and coordinates provided in the revised PDD, Version 03^{/01/}, were reviewed and confirmed to be part of the project activity. This was further confirmed from approval accorded to PP by Chief Electrical Inspector to Government (CEIG) Karnataka^{/10/}. Further to it the Location number and actual geo coordinates of the WEGs were confirmed from the details provided by the technology supplier who is also the O&M contractor (Wind World (India) Limited). The project is commissioned and has been generating electricity for more than 3 and half years, the actual generation of the project has never crossed the annual generation estimated at registration time during this monitoring period.

PP has corrected the information in section A.2.4 (referring to Appendix 8) of the revised PDD, version 03.0^{/01/}, with the actual location number and geo-coordinates of the installed WEGs. PP has submitted the letter^{/04/} provided by the technology supplier and O&M service provider which contains WEG location details, location number and Geo coordinates. The EPIC validation team confirmed the same by checking the coordinates using publically available virtual globe, map and geographical information program, onsite visit and the location information from commissioning certificates^{/02/}. The validation team thus confirmed that WEGs which were validated are the ones which are part of the project activity, and only the information of location numbers and geo-coordinates of the above mentioned WEGs were corrected.

And sections B.8 and Appendix 1 of the revised PDD^{/01/}, have been updated in line with the revised CDM-PDD-FORM, hence this does not affect the content of the registered PDD^{/01/}.

4. Validation findings for temporary deviation

4.1 Accuracy of the calculation of emission reductions

Not applicable to the project activity as no change in calculation of Emission reductions occurred.

4.2 Exact period to which the deviation applies

NA

5. Validation findings for corrections

5.1 Corrected information

Following are the corrected information in the revised PDD, version 03.0^{/01/} dated 01/07/2015.

The location numbers and geo-coordinates of the following 12 WEGs have changed as per the details are provided below:-

S.No	In Revised PDD (actual)			In Registered PDD ^{/01/}		
	Location No.	Longitude (E)	Latitude (N)	Location No.	Longitude (E)#	Latitude (N)#

1	318B	15.014794	75.289648	318	15.044110	5.265690
2	715	15.128294	75.166539	471	15.133827	75.166989
3	928	15.128633	75.214543	154	15.125248	75.164646
4	354E	15.068772	75.276767	134B	15.079015	75.237619
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6	357C	15.071914	75.280754	178N	15.090722	75.239716
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9	361D	15.080252	75.272175	181B	15.083282	75.238340
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11	557B	15.139280	75.210141	549B	15.107735	75.186915
12	716C	15.133023	75.166561	469D	15.102863	75.195790

The geo-coordinates of WEGs in the registered PDD^{/01/} are in degree, minutes and seconds format and the same is presented in decimal format in the revised PDD^{/01/}.

The location numbers of the following 03 WEGs have changed (no change in geo-coordinates), details of which is provided below:

S.No	In Actual commissioned	As provided in registered PDD ^{/01/}
1	81B	81C
2	333E	333D
3	160D	160C

The geo-coordinates of 02 WEGs with location numbers (77 and 836) has variations from the ones provided in the registered PDD at the time of registration as provided below:

S.No	Location numbers	In Actual commissioned	As provided in registered PDD ^{/01/} #
1	77	Latitude: 15.108131 Longitude: 75.166095	Latitude: 15.089227 Longitude: 75.185121
2	836	Latitude: 15.124114 Longitude: 75.170091	Latitude: 15.100190 Longitude: 75.180235

In total 17 WEGs information were corrected in the revised PDD^{/01/}.

This correction does not affect the project design. These corrections, therefore, fall under paragraph 1 of Appendix 1 of the CDM PS, version 7.0^{/05/}. The correction made in location number and geo coordinates were confirmed from letter^{/04/} provided by Technology supplier who is also the O&M service provider. The EPIC validation team cross verified the same by using publically available virtual globe, map and geographical information program, onsite visit and the location information from commissioning certificates^{/02/}.

The EPIC validation team has assessed whether the current change in information of location of the WEGs are having an impact on the additionality in terms of the PLF. It was observed that the PLF study estimated in the registered CDM PDD, Version 2.0^{/01/}, and validated is valid for the wind site. Also, the current PLF verified based on the actual generation from the project in this

monitoring period is less than that estimated in the registered CDM PDD, version 2.0^{/02/}. Hence the validation team is of the opinion that there is no impact on additionality of the project due to change in information of location details.

As mentioned above, the location number and its coordinates were not updated or incorrectly stated in the registered PDD^{/01/}. The project WEGs are already commissioned and the location number and geo-coordinates provided in the revised PDD^{/01/} are correct and reflect actual status which has been confirmed from the commissioning certificates^{/02/} and the approval provided by CEIG^{/10/}. The EPIC validation team confirms the corrections made to the location number and coordinates of the WEGs as means to improving the project information to provide clarity.

And sections B.8 and Appendix 1 of the revised PDD^{/01/}, have been updated in line with the revised CDM-PDD-FORM, hence this does not affect the content of the registered PDD^{/01/}

The Revised PDD, Version 03.0^{/01/}, is being submitted after incorporating the corrections mentioned above.

5.2 Corrected parameters

No parameters were corrected during verification and therefore are not applicable.

6. Validation findings for changes to the start date of the crediting period

6.1 New starting date of the crediting period

No change has been done in the start date of the crediting period.

6.2 Baseline

No change in baseline occurred therefore, not applicable.

6.3 Progress made to start the project activity

The project is commissioned and operating.

7. Validation findings for permanent changes from the registered Monitoring Plan and/or monitoring methodology

7.1 Level of accuracy and completeness

No change in Accuracy were observed

7.2 Conformance to approved monitoring methodology

The project activity confirms as per the approved methodology and deviation was not required.

7.3 Findings of previous verification reports related to the changes (if any)

This is the first periodic verification of the project activity.

8. Validation findings and resolution for changes to the project design of a registered project activity

8.1 Description of the changes

No design change has occurred to the project activity.

8.2 Additionality of the project activity



The additionality of the project has not been affected as only information has been corrected and no parameters were changed.

8.3 Scale of CDM project activity in the new PDD, if changes affect the scale of a small scale Project activity

The project activity is large scale project activity and no change in project scale occurred.

8.4 Applicability and application of approved baseline methodology

The project activity is applicable under the approved baseline methodology.

Prepared by	Approved by :
	
Mr. A. Prabu Das	Mr. K. Sudheendra
(Lead Auditor)	(Head Operations)

9. Appendix

List of documents reviewed

1.	Registered PDD Version 02 dated 23/11/2012, revised PDD Version 03 dated 01/07/2015
2.	Commissioning certificates of all WEGs from HESCOM
3.	WEG location and Geo Coordinates by Technology Supplier Enercon (India) dated 27/06/2012
4.	Confirmation on WEG location and Geo Coordinates by Technology Supplier Wind World (India) dated 27/06/2015
5.	CDM Project Standard, Version 07.0
6.	CDM Project Cycle Procedure, Version 07.0
7.	ACM 0002, Version 13.0.0
8.	CDM Validation and Verification Standard, Version 07.0
9.	RINA Validation Report N° 2012-IQ-50- MD, Revision N° 1.2
10.	Chief Electrical Inspector to Government Certificate on installation of 100 MW