

Validation Opinion for Post Registration Changes

Report for:
International Bank for Reconstruction and
Development (IBRD) as Trustee of the
Prototype Carbon Fund (PCF)

CDM project for
Jepirachi Wind Power Project
(UNFCCC Ref No 0194)

LRQA Reference : TCJAN00313_WBJEP_A_PRC
Version 02.1

Date : 13/11/2013

Validation Team

Name	: Competences
Cintia Dias	: Team Leader
Natalie Kehle	: Team Leader under training
Vicente San Valero	: Team Member (Sector Expert)

Technical Reviewer	: Archak Pattanaik
Decision Maker	: Ketan S Deshmukh



Validation opinion

Lloyd's Register Quality Assurance Limited (LRQA) has been contracted by International Bank for Reconstruction and Development (IBRD) as Trustee of the Prototype Carbon Fund (PCF), the project participant (PP), to undertake the first periodic verification of the registered project activity Jepirachi Wind Power Project, project reference number 0194 registered as a CDM project activity on 01/04/2006.

LRQA conducted an independent third party assessment of the Post Registration Changes from the project activity as described in the registered PDD following the VVS, section 9.5 and the PS section 12.8 for Post Registration Changes.

LRQA has verified that the corrections made by the PP in the revised PDD comply with the requirements of the PS and accurately reflects the actual project information. The corrections identified are as follows:

- 1) Few inconsistencies were noted in regards to the technical specifications of the Wind Turbines installed for the project activity as stated in the registered PDD section A.3. The technical specifications of the project wind turbines have been corrected in the revised PDD, version 9, dated 03/10/2013. The technical specifications were verified by checking the data sheet of the wind turbine.

The changes in the revised PDD vis-a-vis registered PDD are as given below:

Parameter	Registered PDD	Revised PDD
Rotor rpm	19/12.7 RPM	19.2/12.8 RPM
Cut in-cut-out-wind	3-5/25 m/s	3-4/25 m/s
Manufacturer	LM, aerpac or similar	LM Dinamarca
Material	Carbon/Glass fibre reinforced plastic/epoxy resin	Glass fibre reinforced plastic/epoxy resin
Synchronous speed	1515 / 1010 rpm	1500 / 1000 r.p.m.
Hub heights	50 m	60 m

- 2) In the registered PDD section B.7.1 the name of the data collection agency had been wrongly mentioned as ISAGEN. Data collection agency is the PP, Empresas Publicas de Medellin. This has been corrected in section B.7.1 of the revised PDD, version 9, dated 03/10/2013.
- 3) As per registered PDD/Monitoring Plan item 4.2 B 1: "...the meters are approximately calibrated once a year depending on the registration of tendencies variations" (as per registered PDD/Monitoring Plan item 4.1, Annex 4 B 1, the electric metering system is calibrated every two years).

This inconsistency in the calibration frequency has been corrected as once in two years in Appendix 5 of the revised PDD, version 9, dated 03/10/2013 which is also in line with the actual monitoring practice being followed.



- 4) The PPs' name were corrected in the Section A.4 and page 1 of the revised PDD, version 9, dated 03/10/2013 in line with the current available names in the project page on UNFCCC web site.

LRQA therefore requests the approval, by the CDM EB, of the post registration changes of the project activity as described above, in accordance to the guidance of the EB in the PCP.

Decision Maker

Ketan S Deshmukh

13 November 2013

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Findings

1. Description of the corrections to project information

- 1) Few inconsistencies were noted in regards to the technical specifications of the Wind Turbines installed for the project activity as stated in the registered PDD section A.4.1.4. The technical specifications of the project wind turbines have been corrected in the revised PDD, version 9, dated 03/10/2013. The technical specifications were verified by checking the data sheet of the wind turbine.

The changes in the revised PDD vis-a-vis registered PDD are as given below:

Parameter	Registered PDD	Revised PDD
Rotor rpm	19/12.7 RPM	19.2/12.8 RPM
Cut in-cut-out-wind	3-5/25 m/s	3-4/25 m/s
Manufacturer	LM, aerpac or similar	LM Dinamarca
Material	Carbon/Glass fibre reinforced plastic/epoxy resin	Glass fibre reinforced plastic/epoxy resin
Synchronous speed	1515 / 1010 rpm	1500 / 1000 r.p.m.
Hub heights	50 m	60 m

- 2) In the registered PDD section B.7.1 the name of the data collection agency had been wrongly mentioned as ISAGEN. Data collection agency is the PP, Empresas Publicas de Medellin. This has been corrected in section B.7.1 of the revised PDD, version 9, dated 03/10/2013.
- 3) As per registered PDD/Monitoring Plan item 4.2 B 1: "...the meters are approximately calibrated once a year depending on the registration of tendencies variations" (as per registered PDD/Monitoring Plan item 4.1, Annex 4 B 1, the electric metering system is calibrated every two years).

This inconsistency in the calibration frequency has been corrected as once in two years in Appendix 5 of the revised PDD, version 9, dated 03/10/2013 which is also in line with the actual monitoring practice being followed.

- 4) The PPs' name were corrected in the revised PDD, version 9, dated 03/10/2013 in line with the current available names in the project page on UNFCCC web site.

2. Validation findings for temporary deviation

2.1 Accuracy of the calculation of emission reductions

Not applicable

2.2 Exact period to which the deviation applies

Not applicable

3. Validation findings for corrections



3.1 Corrected information

The following information is corrected in the revised PDD, version 9 dated 03/10/2013:

- 1) In section A.3 of the revised PDD, some of the technical specifications of the wind turbines have been corrected as below:

Parameter	Revised PDD
Rotor rpm	19.2/12.8 RPM
Cut in-cut-out-wind	3-4/25 m/s
Manufacturer	LM Dinamarca
Material	Glass fibre reinforced plastic/epoxy resin
Synchronous speed	1500 / 1000 r.p.m.
Hub heights	60 m

This was verified to be correct by the verification team from the data sheet for the technical specifications of the wind turbines available from the wind turbine manufacturer.

- 2) Name of the data collection agency has been corrected as the name of PP, Empresas Publicas de Medellin in section B.7.1 of the revised PDD.
- 3) Calibration frequency of the energy meters have been corrected as once in two years, which is consistent in other parts of Appendix 5 of the PDD.
- 4) The PP changes include:
- As per the UNFCCC website (<http://cdm.unfccc.int/Projects/DB/SGS-UKL1135244574.04/view?cp=1>) Canada has withdrawn from the KP effective 15/12/2012. Therefore, it has not been included as a project participant in revised PDD.
 - Withdrawal of MIT Carbon Fund Co., Ltd. (MIT) as project participant, thus being removed in the revised PDD.
 - Mitsui & Co. Ltd. was incorporated as a project participants after the renewal of the crediting period, as per UNFCCC Website (<http://cdm.unfccc.int/Projects/DB/SGS-UKL1135244574.04/view?cp=1>). Therefore, it has been included as a project participant in revised PDD.
 - International Bank for Reconstruction and Development as Trustee of the Prototype Carbon Fund (PCF) has changed to Bilateral and Multilateral Funds, as per the project Website.

3.2 Corrected parameters

Not applicable

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

4.1 New starting date of the crediting period

Not applicable

4.2 Baseline

Not applicable



4.3 Progress made to start the project activity

Not applicable

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

5.1 Level of accuracy and completeness

Not applicable

5.2 Conformance to approved monitoring methodology

Not applicable

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

Not applicable

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

6.1 Description of the changes

Not applicable

6.2 Additionality of the project activity

Not applicable

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

Not applicable

6.4 Applicability and application of approved baseline methodology

Not applicable

7. Appendix

Appendix 1: List of documents reviewed

A 1	Registered PDD version 7, dated 01/03/2011 for the project activity
A 2	Revised PDD version 9, dated 03/10/2013 for the project activity in track changes
A 3	Revised PDD version 9, dated 03/10/2013 for the project activity in clean version
A 4	NORDEX Energy "FACTS AND FIGURES Brochure" containing the cut-in-cut-out wind speeds, rotor speed, blade material, generator synchronous speed and type, dated 02/2003 and NORDEX Energy "NORDEX N60 Turbine Design", containing the wind turbine hub height, dated 20/11/2002
A 5	CDM Jepirachi Wind Power Project Website, containing list of project participants changes MoCs, Website accessed on 20/09/2013 http://cdm.unfccc.int/Projects/DB/SGS-UKL1135244574.04/view?cp=1
A 6	Validation and Verification Standard, version 04.0
A 7	Guideline for Completing the Monitoring Report Form, version 04.0



A 8	Clean development mechanism project standard, version 04.0
A 9	Clean development mechanism project cycle procedure, version 04.0
A 10	Community Development Carbon Fund Website, visited on 14/10/2013 http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCARBONFINANCE/0,,contentMDK:21631530~menuPK:5216145~pagePK:64168445~piPK:64168309~theSitePK:4125853,00.html

Appendix 2: List of persons interviewed

Date	Location	Team Members on site	Subjects covered	Persons interviewed
28/05/2013 & 29/05/2013	area between Cabo de la Vela and Puerto Bolivar, within the municipality of Uribia near Kasiwolin, Arutkajuy and Medialuna Communities, in the Department of Guajira in the northeast region of Colombia.	Vicente San Valero	<p>Implementation and operation of the project activity as per registered PDD (plant installations, wind turbines-generators, electrical substation/s, electricity generation meters, system control/s).</p> <p>*Monitoring of data, review of operation flow, aggregating and reporting of monitoring parameters.</p> <p>*Interviews with relevant personnel to confirm operational and data collection procedures.</p> <p>*Cross-check MR info against data from other sources (generation to grid, calibration certificates, etc.).</p> <p>*Check monitoring equipment's (calibration, management and on-going maintenance, monitoring practices) against PDD/Monitoring Plan and Methodology/Tools.</p> <p>*Review of calculations/assumptions to determine GHG data and emission reductions.</p> <p>*Review of QA/QC procedures to identify possible errors or omissions in the reported monitored parameters (both document review and visit to the plant, substations and meters location).</p> <p>*Monitoring of data, review of operation flow, aggregating and reporting of monitoring parameters.</p> <p>*Review of calculations/assumptions to</p>	<p>Jaime Aramburo – Planning Specialist</p> <p>Clara Teresa – Social Expert</p> <p>Jaime Trujillo – Environmental Management</p> <p>Rafael Reinoso – Environmental Professional</p> <p>Nelson Dario Betacur - Environmental Professional</p> <p>Sergio R. Quintero - Environmental Professional</p> <p>Walter Del Rio – Technical Professional</p> <p>John Castañeda – Generation Professional</p> <p>Pedro Solano - Technical Professional</p> <p>Henry Giraldo – Generation Operator</p> <p>Patricia Marcos Huidobro – Carbon Finance Specialist</p> <p>David Reinstein – Senior Energy Specialist</p> <p>Ruth Tiffer – Senior Environmental Specialist</p> <p>Alonso Zarzar – Senior Social Specialist</p> <p>Nancy Gutierrez – Community Representative</p>



			determine GHG data and emission reductions.	
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Protocol

- Part 1 Validation of temporary deviations from the registered monitoring plan and/or monitoring methodology
- Part 2 Validation of corrections
- Part 3 Validation of changes to the start date of the crediting period of the Project Activity or CPA
- Part 4 Validation of permanent changes from the registered monitoring plan or monitoring methodology
- Part 5 Validation of changes to the project design of a registered project activity
- Part 6 Validation of changes to the project design of a registered PoA



1- Validation of temporary deviations

Team conclusions	
1-1. Documentation from the PP	
1-1.1. Is the alternative monitoring proposal completed?	Not applicable
1-1.2. Has the supplemental documentation been submitted as appropriate, especially when further explanation is necessary on the alternative monitoring?	Not applicable
1-2. Level of accuracy (Para 253 of the VVS)	
1-2.1. Determine whether the deviation is likely to lead to a reduction in the accuracy of the calculation of emission reductions: Have the project participants applied conservative assumptions or discount factors to the calculations to the extent required to ensure that emission reductions will not be over-estimated as a result of the deviation?	Not applicable



2- Validation of corrections

Team conclusions	
2-1. Documentation from the PP	
2-1.1. Is the revised PDD with the corrections completed in clean and track change versions?	Yes, the revised PDD with corrections was provided in a track-change version, see Appendix 1 document [A 2] and in a clean version, see Appendix 1, document [A 1].
2-1.2. Has the supplemental documentation been submitted as appropriate?	<p>Yes, the following documents were submitted to the Validation Team and deemed appropriate as they are documents directly from the equipment manufacturers or from the UNFCCC Website.</p> <ol style="list-style-type: none">1- The following manuals were provided to the Validation Team to support the corrections in the revised PDD Table A.3. Technical Characteristics of Wind Turbines for Jepirachi, see Appendix 1 documents [A 4].2- The project Website was reviewed in regards to updating the PDD to reflect the changes in project participants (as already communicated and accepted by the CDM-EB on the project Website), see Appendix 1 document [A 5]. The added bilateral/multilateral fund International Bank for Reconstruction and Development (IBRD) as Trustee of the Prototype Carbon Fund (PCF) was validated to ensure that the fund is not considered as ODA towards the project. Using the official PCF Website, see Appendix 1 document [A 10], it was confirmed that the PCF is a carbon finance program rather than development assistance.
2-2. Means of verification (Para 258 of the VVS)	



2-2.1. Determine whether the corrected information is an accurate reflection of actual project information.

Through documentation review (see Appendix 1) and during the site visit, the corrections made in the revised PDD reflect accurately the actual project information as given below:

- 1) In section A.3 of the revised PDD, some of the technical specifications of the wind turbines have been corrected as below:

Parameter	Revised PDD
Rotor rpm	19.2/12.8 RPM
Cut in-cut-out-wind	3-4/25 m/s
Manufacturer	LM Dinamarca
Material	Glass fibre reinforced plastic/epoxy resi
Synchronous speed	1500 / 1000 r.p.m.
Hub heights	60 m

This was verified to be correct by the verification team from the data sheet for the technical specifications of the wind turbines available from the wind turbine manufacturer.

- 2) Name of the data collection agency has been corrected as the name of PP, Empresas Publicas de Medellin in section B.7.1 of the revised PDD.
- 3) Calibration frequency of the energy meters have been corrected as once in two years, which is consistent with other parts of Appendix 5 of the PDD.
- 4) The PP changes include:
 - As per the UNFCCC website (<http://cdm.unfccc.int/Projects/DB/SGS->



	<p>UKL1135244574.04/view?cp=1) Canada has withdrawn from the KP effective 15/12/2012. Therefore, it has not been included as a project participant in revised PDD.</p> <ul style="list-style-type: none"> • Withdrawal of MIT Carbon Fund Co., Ltd. (MIT) as project participant, thus being removed in the revised PDD. • Mitsui & Co. Ltd. was incorporated as a project participants after the renewal of the crediting period, as per UNFCCC Website (http://cdm.unfccc.int/Projects/DB/SGS-UKL1135244574.04/view?cp=1). Therefore, it has been included as a project participant in revised PDD. • International Bank for Reconstruction and Development as Trustee of the Prototype Carbon Fund (PCF) has changed to Bilateral and Multilateral Funds, as per the project Website. <p>The verification team confirms that the above permanent change in the PDD do not affect the design of the project activity and the corrected information is an accurate reflection of actual project information thereby satisfying the requirement of paragraph 258 of VVS, version 04.0. Hence the above permanent changes qualify as “Corrections” as per Appendix 1 of Project Standard, version 04.0 and does not require prior approval by the Board.</p> <p>In accordance to paragraph 212 and 213 of Project Standard, version 04.0, PP has informed the verification team regarding the above corrections and submitted a revised PDD.</p> <p>Hence in accordance to paragraph 135 of Project Cycle Procedure, version 04.0, the above change in the PDD is being submitted to EB for acceptance as part of request of issuance.</p>
2-2.2. Determine whether the corrected parameters are in accordance with the applied methodology and/or selected	The corrections do not affect the applied monitoring methodology neither the monitoring plan since they are the minor changes to the technical characteristics of the project.



monitoring plan.	

3- Validation of changes to the starting date of the crediting period of the Project Activity or CPA

	Team conclusions
3-1. Documentation from the PP or the CME	
3-1.1. Is a demonstration of no changes to the project activity or CPA that would result in a less conservative baseline provided?	Not applicable
3-1.2. Has supplemental documentation been submitted to demonstrate that substantive progress has been made by the project participants or the CME to start the project activity?	Not applicable
3-2. Assessment of the demonstration (Para 217 of the PS)	
3-2.1. Determine whether the baseline is affected by the delay in the starting day of the crediting period. If it is affected, verify if the new baseline is less conservative or not.	Not applicable



3-2.2. Assess if the PPs have implemented actions to start the project activity or CPA. List these actions and determine if the new start date of the crediting period can be met.

Not applicable



4- Validation of permanent changes from the registered monitoring plan and/or monitoring methodology

Team conclusions	
4-1. Documentation from the PP	
4-1.1. Does the revised PDD contain a revised monitoring plan completed in clean and track change versions?	Not applicable
4-1.2. Has the supplemental documentation been submitted as appropriate, especially when further explanation is necessary on the revised monitoring plan?	Not applicable
4-2. Level of accuracy (Para 263 VVS)	
4-2.1. Did the revision of the monitoring plan ensure that the level of accuracy in the monitoring and verification process was not reduced as a result of revision? 1) frequency of measurements 2) quality of monitoring equipment 3) calibration requirements 4) QA/QC procedures.	Not applicable
4-3. Completeness (Para 266 VVS)	



<p>4-3.1. Ensure that the permanent changes are not likely to lead to a reduction in the accuracy of the calculation of emission reductions</p> <p>4-3.2. In case the permanent changes will lead to a reduction in the accuracy of the calculation of emission reductions, request the PPs to apply conservative assumptions or discount factors to the calculations to the extent required to ensure that emission reductions will not be over-estimated as a result of the permanent change.</p>	Not applicable
4-4. Compliance with approved monitoring methodology (Para 264 VVS)	
<p>4-4.1. If the proposed revision refers to a later version of the applied methodology, does the revised monitoring plan ensure that the application does not compromise the conservativeness in the monitoring and verification process and of the ER calculations?</p>	Not applicable
4-5. Findings of previous verification reports	
<p>4-5.1. If there are findings in the previous verifications related to the proposed revision of the monitoring plan, have the findings been taken into account?</p>	Not applicable



5- Validation of changes to the project design of a registered project activity

Team conclusions	
5-1. Background (Section 12.8 of the PS)	
5-1.1. Identify concerns related to the conformity of the actual project activity and its operation with the registered PDD.	Not applicable



<p>5-1.2. If the identified changes fall in the following, check the elements in 5-2 below.</p> <ul style="list-style-type: none">(a) Changes in the effective output capacity due to increased installed capacity or increased number of units, or installation of units with lower capacity or units with a technology which is less advanced than that described in the PDD(b) Addition of component or extension of technology(c) Removal or addition of one (or more) sites of a project activity registered with multiple sites(d) Different values of those actual operational parameters relevant to determination of emission reduction which are within the control of project participant and which result in the IRR passing the benchmark as described in the registered PDD. <p>(Para 221 of the PS)</p>	Not applicable
<p>5-1.3. If the identified changes cause a project activity to no longer meet the criteria for small-scale CDM project activities, check the elements in 5-3 below.</p> <p>(Para 222 of the PS)</p>	Not applicable



<p>5-1.4. If the identified changes in the implementation of project activity result in the following, check the elements in 5-4 below.</p> <ul style="list-style-type: none"> (a) the original methodology would no longer be applicable, or (b) another methodology would have been applicable, or (c) another baseline scenario would be more appropriate. <p>(Para 221 of the PS)</p>	<p>Not applicable</p>
<p>5-2. Changes which may impact the additionality of the project activity</p>	
<p>5-2.1. Check the impact of the change on the additionality of the project activity established at the time of registration and the specific conditions (investment / costs variables, barriers, relevant regulations).</p>	<p>Not applicable</p>
<p>5-2.2. Review the investment analysis, if applicable, based on all original input data and check if the PPs have only modified the key parameters in the original spreadsheet calculations.</p>	<p>Not applicable</p>
<p>5-2.3. Check, if applicable, that the barriers are still valid under new circumstances, if only barriers were claimed to demonstrate additionality at the registration stage.</p>	<p>Not applicable</p>
<p>5-3. Changes in the scale of CDM project activity</p>	



5-3.1. Check the changes against the applicable SSC criteria for Type I, Type II or Type III.	Not applicable
5-4. Changes which impact the applicability/application of baseline methodology	
5-4.1. Check the applicability and application of baseline methodology with which the project has been registered.	Not applicable

6- Validation of changes to the project design of a registered PoA

	Team conclusions
6-1. Changes allowed (Para 131 of the PCP)	
6-1.1. PoA boundary: Check that the change is only: <ul style="list-style-type: none"> i. to expand geographical coverage and/or ii. to includes additional host parties 	Not applicable
6-1.2. Eligibility criteria: Check that these changes are under the circumstances indicated in the “Standard for Demonstration of additionality, development of eligibility criteria and application of multiple methodologies for PoA”	Not applicable



Team conclusions	
6-1.3. .Addition of specific case CPA: i. Check that the PoA include more than one generic CPA-DD ii. Check that the new Specific CPA correspond to a generic CPA for which no specific CPA was submitted at the time of registration.	Not applicable
6-1.4. Application of provisions of the most recent version of the “Standard for sampling and surveys of for CDM PAs and PoAs”	Not applicable
6-2. Eligibility criteria	
6-2.1. Check that the CME has updated the Eligibility criteria for inclusion of CPAs in the PoA to reflect the changes above and has included them in new versions of PoA-DD and generic CPA-DD.	Not applicable