



**Validation report form for post-registration changes for
CDM project activities
(Version 02.0)**

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

| | |
|--|---|
| Title and UNFCCC reference number of the project activity | Itezhi Tezhi Hydro Power UNFCCC Ref. No.: 10188 |
| Process track | <input type="checkbox"/> Prior approval <input checked="" type="checkbox"/> Issuance <input type="checkbox"/> Renewal of crediting period |
| Version number of the validation report on PRCs | 02 |
| Completion date of the validation report on PRCs | 05/07/2018 |
| Type(s) of PRCs | <input type="checkbox"/> Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines <input type="checkbox"/> Corrections <input type="checkbox"/> Changes to the start date of the crediting period <input type="checkbox"/> Inclusion of a monitoring plan <input type="checkbox"/> Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools <input checked="" type="checkbox"/> Changes to the project design <input type="checkbox"/> Changes specific to afforestation and reforestation project activities |
| Version number of PDD to which this report applies | 09.0 |
| Project participants | Itezhi Tezhi Power Corporation (ITPC) |
| Host Party | Zambia |
| Applied methodologies and standardized baselines | ACM0002 "Grid-connected electricity generation from renewable sources" (version 16.0). ASB0001 "Grid emission factor for the Southern African power pool" (version 01.0) |
| Mandatory sectoral scopes linked to the applied methodology | 1: Energy industries (renewable-/non renewable sources) |
| Conditional sectoral scopes linked to the applied methodologies | N/A |
| Name and UNFCCC reference number of | E-0052: Carbon Check (India) Private Ltd. |

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| the DOE | |
| Name, position and signature of the approver of the validation report on PRCs |  Vikash Kumar Singh, Compliance Officer |

SECTION A. Executive summary

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Purpose, general description and location of the project activity:

Itezhi Tezhi Power Corporation (ITPC), here after referred as “Project Participants” (PP), has appointed the DOE, Carbon Check (India) Private Ltd. (CCIPL) to perform an independent verification along with the validation of the post registration changes of the CDM Project Activity “Itezhi tezhi Hydro Power” (UNFCCC Ref. No.: 10188) in Zambia (hereafter referred to as “Project Activity”). The project activity is a greenfield 120 MW hydropower plant in the central province of Zambia and is connected to the Southern African Power Pool (SAPP) grid system. The project activity has been developed on the existing Itezhi Tezhi dam on Kafue river in Zambia.

Scope of validation:

This validation is an independent and objective review of the post registration changes in registered PDD. The scope of the validation of post registration changes is to determine whether there are proposed or actual changes to the project design of the registered CDM project activity. CCIPL also determined whether the description in the revised PDD submitted by project participants, which describe the nature and extent of the actual changes, accurately reflects the implementation, operation and monitoring of the modified project activity. The validation of post registration changes in the revised PDD were based on the following:

- (i) Approved consolidated methodology ACM0002 (version 16.0) /B02/ and the applied tools
- (ii) Revised PDD (in track change and clean mode) /01/
- (iii) CDM VVS for Project Activities (version 01.0) /B01-1/
- (iv) CDM PS for Project Activities (version 01.0) and /B01-2/
- (v) CDM PCP for Project Activities (version 01.0) /B01-3/
- (vi) Relevant decisions, guidance and clarifications of the CMP and CDM EB

Validation process:

The validation process for post registration changes includes the following steps:

- (a) Contract with project participants and appointment of validation team and technical review team
- (b) Desk review of the revised PDD by validation team and planning of onsite visit
- (c) On site visit and follow up interviews by the validation team
- (d) Reporting and closure of findings (CARs/CLs/FARs) and preparation of validation report
- (e) Independent technical review of the validation report
- (f) Issuance of final validation report to contracted PP and submission to UNFCCC for approval of post registration changes as appropriate.

Conclusion:

Considering the validation of post registration changes has occurred during the verification and considering the proposed change falls under Appendix titled “Indicative list of post-registration changes that may be suitable for approval under the issuance track” of CDM PS for Project Activities (version 01.0), therefore, the design change is being submitted along with the issuance request for approval. The validation confirms that the implementation of the post registration changes is in line with the applied methodology and all other applicable tools and guidance.

This report is the combined assessment opinion for all the changes that are proposed in the PDD and request is submitted for approval by CDM EB along with issuance request.

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

| No. | Role | Type of resource | Last name | First name | Affiliation (e.g. name of central or other office of DOE or outsourced entity) | Involvement in | | | |
|-----|---|------------------|-----------|------------|---|----------------------|--------------------|------------|---------------------|
| | | | | | | Desk/document review | On-site inspection | Interviews | Validation findings |
| 1. | Team Leader / Verifier / Validator / Technical Expert | IR | Anand | Amit | CC IPL | X | X | X | X |

B.2. Technical reviewer and approver of the validation report on PRCs

| 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 | IR | Agarwalla | Sanjay Kumar | CC IPL |
| 2. | Approver | IR | Singh | Vikash Kumar | CC IPL |

SECTION C. Means of validation**C.1. Desk/document review**

List of all documents reviewed or referenced during the validation is provided in Appendix-3 below.

C.2. On-site inspection

| Duration of on-site inspection: 19/02/2018 to 20/02/2018 | | | | |
|--|---|----------------------|------------------------|-------------|
| No. | Activity performed on-site | Site location | Date | Team member |
| 1. | An assessment of the implementation and operation of the registered project activity as per the registered PDD | Itezhi Tezhi, Zambia | 19/02/2018 | Amit Anand |
| 2. | A review of information flows for generating, aggregating and reporting the monitoring parameters | Itezhi Tezhi, Zambia | 19/02/2018 | Amit Anand |
| 3. | Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the PDD | Itezhi Tezhi, Zambia | 19/02/2018; 20/02/2018 | Amit Anand |
| 4. | A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources | Itezhi Tezhi, Zambia | 20/02/2018 | Amit Anand |
| 5. | A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PDD and the selected methodology and corresponding tool(s), where applicable | Itezhi Tezhi, Zambia | 19/02/2018 | Amit Anand |
| 6. | A review of calculations and assumptions made in determining the GHG data and emission reductions | Itezhi Tezhi, Zambia | 20/02/2018 | Amit Anand |
| 7. | An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters | Itezhi Tezhi, Zambia | 20/02/2018 | Amit Anand |

C.3. Interviews

| No. | Interviewee | | | Date | Subject | Team member |
|-----|-------------|------------|---------------|---|---|-------------|
| | Last name | First name | Affiliation | | | |
| 1. | Chijikwa | Royd | ITPC | 19/02/2018 & 20/02/2018 | Project technical specification and operation including metering and QA/QC | Amit Anand |
| 2. | Kakoma | Mufalali | ITPC | 19/02/2018 & 20/02/2018 | Project technical specification and operation including metering and QA/QC | Amit Anand |
| 3. | Maske | Sachin | ITPC | 19/02/2018 & 20/02/2018 | Metering and QA/QC | Amit Anand |
| 4. | Sammur | Francois | Carbon Limits | Via Skype 15/03/2018 25/04/2018 18/05/2018 11/06/2018 13/06/2018 | Project operation, CER calculation and completeness of monitoring report, Quality Assurance – Management and operating system, compliance of monitoring plan with monitoring methodology and CPA-DDs. | Amit Anand |

C.4. Sampling approach

Not Applicable.

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

| Areas of validation findings | No. of CL | No. of CAR | No. of FAR |
|---|-----------|------------|------------|
| Compliance with PDD form | - | - | - |
| Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines | - | - | - |
| Corrections | - | - | - |
| Changes to the start date of the crediting period | - | - | - |
| Inclusion of a monitoring plan | - | - | - |
| Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools | - | - | - |
| Changes to the project design | - | - | - |
| Changes specific to afforestation and reforestation project activities | - | - | - |
| Others (please specify) | - | - | - |
| Total | 0 | 0 | 0 |

SECTION D. Validation findings**D.1. Compliance with PDD form**

| | |
|----------------------------|--|
| Means of validation | DR, I |
| Findings | - - |
| Conclusion | <p>The revised PDD /01/ has been completed using the latest available template of CDM-PDD-FORM /B06/ and has been submitted in both track change and clean versions /03/.</p> <p>Both the registered /B04/ and revised PDD /01/ were reviewed for the consistency of the information and it is confirmed that the information transferred from the previous template to the new template is materially the same as in the registered PDD /B04/ except the changes due to the proposed PRC.</p> <p>This confirms to the requirements of §279 and 280 of the VVS for project activities (version 01.0) /B01-1/.</p> <p>Furthermore, in accordance with §281 (a) of VVS for project activities (version 01.0) /B01-1/, the validation team confirms that:</p> <ul style="list-style-type: none"> (i) The revised PDD /01/ is compliant with the valid version of the CDM-PDD-Form /B06/ and instructions therein; and (ii) The information transferred to the revised PDD /01/ is materially the same as that provided in the registered PDD /B04/. |

D.2. Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines

| | |
|----------------------------|----------------|
| Means of validation | DR, I |
| Findings | Not Applicable |
| Conclusion | Not Applicable |

D.3. Corrections

| | |
|----------------------------|----------------|
| Means of validation | DR, I |
| Findings | Not Applicable |
| Conclusion | Not Applicable |

D.4. Changes to the start date of the crediting period

| | |
|----------------------------|----------------|
| Means of validation | DR, I |
| Findings | Not Applicable |
| Conclusion | Not Applicable |

D.5. Inclusion of a monitoring plan

| | |
|----------------------------|----------------|
| Means of validation | DR, I |
| Findings | Not Applicable |
| Conclusion | Not Applicable |

D.6. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools

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|----------------------------|----------------|
| Means of validation | DR, I |
| Findings | Not Applicable |
| Conclusion | Not Applicable |

D.7. Changes to the project design

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|----------------------------|---|
| Means of validation | DR, I |
| Findings | - |
| Conclusion | The current project design involves changes compared to the project design in the registered project activity /B04/. The project design changes to the project activity is: |

The current project design involves changes compared to the project design in the registered project activity /B04/. The revised project description in the revised PDD now includes a 33kV transmission line (also called Kataba line) which supplies a part of generated electricity to the nearby town of Kataba. This 33 kV transmission line is separate from an existing 220 kV transmission line, which is Mumbwa 220 kV single circuit transmission line that originates from a 220 kV substation on the South bank of the Kafue River at the Itezhi Tezhi dam, located about 100m from the power house and supplies electricity to Mumbwa substation.

The metering arrangement for electricity exported to Kataba town using this 33 kV transmission line is totally separate from the electricity exported to the SAPP grid using 220 kV transmission line. Furthermore, the export of electricity to Kataba town is not covered under the existing PPA /02/ signed between ZESCO and ITPC and is also not considered for the calculation of emission reduction achieved by the project activity. The same was validated by the VT during the OSV and through review of single line diagram showing transformers, feeders of the wind farm and the evacuation of electricity to the grid at 220 kVA /03/.

The actual changes in the project design as compared to the description of project design as provided in the registered PDD has been assessed in accordance with §309 (a) of VVS for project activities (version 01.0) /B01-1/ and the validation team confirms that this change is in accordance with the §242 of the CDM Project Standard for Project Activities (version 01.0) /B01-2/. The validation team further confirms that this project design change does not have any adverse impact on the compliance of the monitoring plan, the level of accuracy of the monitoring activity, the applied monitoring methodology including applicable tool(s) thereby complying with §302 of VVS for project activities (version 01.0) /B01-1/.

Further in line with §309 (b) of VVS for project activities (version 01.0) /B01-1/, the VT based on OSV interviews with PP and its representatives confirms that the changes to the project design occurred during the implementation stage and these changes were not known/anticipated prior to the registration of the CDM project activity. It was also clearly explained by PP to VT that reasons for making these changes is to remove any ambiguity between project design as stated in the registered PDD and the actual implemented design and to simplify the monitoring procedures and ER estimation (by not considering electricity exported via 33 kV Kataba line for ER estimation). Furthermore, the VT based on the assessment of revised PDD /01/ also confirms that these changes would have no impact on the overall operation/ability of the CDM project activity to deliver emission reductions as stated in the revised PDD /01/.

Further in line with §309 (c) of VVS for project activities (version 01.0) /B01-1/, the validation team has assessed the effect of the project design change as below:

(i) **Additionality of the registered CDM project activity:**

The current project design involves changes compared to the project design in the registered project activity /B04/. The project boundary now includes a 33kV transmission line (also called Kataba line) which supplies a part of generated electricity to the nearby town of Kataba. This 33 kV transmission line is separate from an existing 220 kV transmission line, which is Mumbwa 220 kV single circuit transmission line that originates from a 220 kV substation on the South bank of the Kafue River at the Itezhi Tezhi dam, located about 100m from the power house and supplies electricity to Mumbwa substation.

The metering arrangement for electricity exported to Kataba town using this 33 kV transmission line is totally separate from the electricity exported to the SAPP grid using 220 kV transmission line. Furthermore, the export of electricity to Kataba town is not covered under the existing PPA /02/ signed between ZESCO and ITPC and is also not considered for the calculation of emission reduction achieved by the project activity. The same was validated by the VT during the OSV and through review of single line diagram showing

transformers, feeders of the wind farm and the evacuation of electricity to the grid at 220 kVA /03/.

The additionality of the project was demonstrated using Step 3: Barrier Analysis, especially Investment Barrier (access to capital) in accordance with § 51 (a) of the methodological tool: "Tool for the demonstration and assessment of additionality" (Version 07.0) and the same arguments are valid even after the design change.

(ii) **Scale of the registered CDM project activity:**

The project is a large-scale project activity and the project design change does not adversely affect the scale of the project activity.

(iii) **Applicability and application of the approved baseline methodology under which the CDM project activity has been registered:**

The applicability conditions of the applied methodology ACM0002 (version 16.0) are demonstrated as below:

| Applicability Criteria | Justification / Assessment |
|---|---|
| <p><i>This methodology is applicable to grid-connected renewable energy power generation project activities that:</i></p> <p>(a) <i>Install a Greenfield power plant;</i></p> <p>(b) <i>Involve a capacity addition to (an) existing plant(s);</i></p> <p>(c) <i>Involve a retrofit of (an) existing operating plants/units;</i></p> <p>(d) <i>Involve a rehabilitation of (an) existing plant(s)/unit(s); or</i></p> <p>(e) <i>Involve a replacement of (an) existing plant(s)/unit(s).</i></p> | <p>The proposed project activity is installation of a Greenfield power plant. The dam was originally built in the 1970s and was used for seasonal stream flow regulation. The closest existing power plant is the Kafue gorge upper hydro project which is situated 230 km downstream of the existing dam. The project activity involves installation of a Greenfield power plant (new grid connected renewable power plant (hydropower) at a site where no renewable power plant was operated prior to the implementation of the project activity).</p> <p>Conclusion: The design change has no impact on the fulfilment of thus applicability criterion of the methodology by the project activity.</p> |
| <p><i>The methodology is applicable under the following conditions:</i></p> <p>(a) <i>The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;</i></p> <p>(b) <i>In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used</i></p> | <p>(a) The project activity involves installation of a hydro power plant using an existing reservoir/dam.</p> <p>(b) The project activity involves installation of a Greenfield power plant. Although using an existing reservoir/dam, no capacity additions, retrofits or replacements are involved, thus this condition is not applicable.</p> |

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| | <p>for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.</p> | <p>Conclusion: The design change has no impact on the fulfilment of thus applicability criterion of the methodology by the project activity.</p> |
| | <p>§ 5: In case of hydro power plants, one of the following conditions shall apply:</p> <p>(a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or</p> <p>(b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (3), is greater than 4 W/m²; or</p> <p>(c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (3), is greater than 4 W/m²; or</p> <p>(d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (3), is lower than or equal to 4 W/m², all of the following conditions shall apply:</p> <p>(i) The power density calculated using the total installed capacity of the integrated project, as per equation (4), is greater than 4 W/m²;</p> <p>(ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity;</p> <p>(iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² shall be:</p> <p>a. Lower than or equal to 15 MW; and</p> <p>b. Less than 10 per cent of the total installed capacity of integrated hydro power project.</p> | <ul style="list-style-type: none"> • The project activity is implemented in the existing reservoir (Itezhi Tezhi dam) and no change in reservoir volume is planned. • Since the project activity does not imply the construction of a new dam or increase in existing dam volume, but rather utilization of the existing dam, power density is not considered. The project activity does not involve an integrated hydro power project. <p>Conclusion: The design change has no impact on the fulfilment of thus applicability criterion of the methodology by the project activity.</p> |
| | <p>In the case of integrated hydro power projects, project proponent shall:</p> <p>(a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or</p> <p>(b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and</p> | <p>The project activity uses the existing single reservoir, not multiple reservoirs. Thus, not applicable.</p> <p>Conclusion: The design change has no impact on the fulfilment of thus applicability criterion of the methodology by the project activity.</p> |

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| | <p>without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity.</p> | |
| | <p>The methodology is not applicable to:</p> <p>(a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site;</p> <p>(b) Biomass fired power plants/units.</p> | <p>(a) The project activity involves the installation of new hydropower plant and does not involve switching from fossil fuels to renewable energy sources at the site of the project.</p> <p>(b) The project activity is the development, installation and operation of a hydropower plant and no biomass fired power plants are involved.</p> <p>Conclusion: The design change has no impact on the fulfilment of thus applicability criterion of the methodology by the project activity.</p> |
| | <p>In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance"</p> | <p>The proposed project activity involves implementation of a Greenfield 120 MW hydro power generation plant thus this applicability criterion is not applicable.</p> <p>Conclusion: The design change has no impact on the fulfilment of thus applicability criterion of the methodology by the project activity.</p> |
| | <p>In addition, the applicability conditions included in the tools referred to below apply</p> | <p>All applicability criteria of the tools mentioned were checked and found to be correctly being included and thus accepted.</p> <p>This is noteworthy that the additionality for the proposed project activity has been demonstrated based on the Tool for the demonstration and assessment of additionality (version 07.0.0.).</p> <p>Conclusion: The design change has no impact on the fulfilment of thus applicability criterion of the methodology by the project activity.</p> |

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| | <p>(iv) <u>The compliance of the monitoring plan with the applied monitoring methodology:</u> The validation team confirms that due to the project design change, there is no change in the monitoring plan of the registered PDD /B04/ and the monitoring methodology. Hence the original monitoring plan is being retained. This is appropriate and deemed acceptable.</p> <p>(v) <u>The level of accuracy of the monitoring compared with the requirements contained in the registered monitoring plan:</u> The validation team confirms that due to the project design change, there is no change in the monitoring plan of the registered PDD /B04/. Hence, there is no change in the level of accuracy of the monitoring compared with the requirements contained in the registered monitoring plan.</p> <p>The verification team confirms that PP has submitted the revised PDD /01/ in the latest valid applicable PDD Form /B06/ as per the requirement of §230 of PS for Project Activities (version 01.0) /B01-2/ and §279 of VVS for Project Activities (version 01.0) /B01-1/ for the applicable project design change for the project activity. The verification team also confirms that information transferred to the later valid version of the PDD form is materially the same as that in the registered PDD /B04/ in line with §280 of VVS for project activities (version 01.0) /B01-1/.</p> |
|--|---|

D.8. Changes specific to afforestation and reforestation project activities

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|----------------------------|----------------|
| Means of validation | DR, I |
| Findings | Not Applicable |
| Conclusion | Not Applicable |

SECTION E. Internal quality control

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The final validation report passed a technical review before being submitted to the UNFCCC Executive Board. A technical reviewer qualified in accordance with the CCIPL's qualification scheme for CDM validation and verification performed the technical review.

SECTION F. Validation opinion

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Carbon Check (India) Private Ltd. (CC IPL) has performed the validation of the post-registration changes for the registered CDM Project Activity "Itezhi Tezhi Hydro Power" having UNFCCC reference number 10188. During the validation of the post-registration changes to the project activity, design change from registered project activity has been identified. The post registration changes (PRC) to registered project activity has been validated in line with the requirements of PCP for project activities (version 01.0) /B01-3/, PS for project activities (version 01.0) /B01-2/ and VVS for project activities (version 01.0) /B01-1/. In line with §308 of VVS for project activities (version 01.0), CCIPL confirms that the post registration changes information in the revised PDD (version 9.0, Dated 13/04/2018) /01/ reflects actual changes related to the registered PDD /B04/ and the proposed change falls under Appendix titled "Indicative list of post-registration changes that may be suitable for approval under the issuance track" of CDM PS for Project Activities (version 01.0) /B01-2/, therefore, the design change is being submitted along with the issuance request for approval..

The validation was performed on the basis of rules and requirements defined by UNFCCC for the CDM project activities. The review of the revised PDD /01/, supporting documentation and subsequent follow-up actions (including interviews), have provided CCIPL with sufficient evidence to determine the fulfilment of stated criteria.


The description in the revised PDD (version 9.0, Dated 13/04/2018) /01/ meets all relevant UNFCCC requirements for the CDM and correctly applies the selected baseline and monitoring methodology.

This report is the assessment opinion for the changes that are proposed in the revised PDD /01/ and request is submitted for acceptance of the Board as a part of request for issuance in line with §199 of the PCP for project activities (version 01.0) /B01-3/.

Appendix 1. Abbreviations

| Abbreviations | Full texts |
|------------------|---|
| BE | Baseline Emissions |
| CA | Corrective Action/ Clarification Action |
| CER | Certified Emission Reduction |
| CAR | Corrective Action Request |
| CC IPL | Carbon Check (India) Private Ltd. |
| CDM | Clean Development Mechanism |
| CL | Clarification Request |
| CO ₂ | Carbon Dioxide |
| CO _{2e} | Carbon Dioxide Equivalent |
| DOE | Designated Operational Entity |
| DVR | Draft Validation Report |
| EB | CDM Executive Board |
| EF | Emission Factor |
| FA | Final Approval |
| FAR | Forward Action Request |
| FVR | Final Validation Report |
| GHG | Greenhouse gas(es) |
| GWh | Giga Watt Hour |
| GWP | Global Warming Potential |
| IPCC | Intergovernmental Panel on Climate Change |
| LoA | Letter of Approval(s) |
| LE | Leakage Emissions |
| MoC | Modalities of Communication |
| MP | Monitoring Period |
| MR | Monitoring Report |
| MWh | Mega Watt Hour |
| OSV | On Site Visit |
| PE | Project Emissions |
| PP(s) | Project Participant(s) |
| PRC | Post registration change |
| QC/QA | Quality Control/ Quality Assurance |
| TA | Technical Area |
| TR | Technical Review |
| UNFCCC | United Nations Framework Convention on Climate Change |
| VVS | Validation and Verification Standard |
| VT | Validation / Verification team |

Appendix 2. Competence of team members and technical reviewers



Carbon Check (India) Private Ltd.

Amit Anand

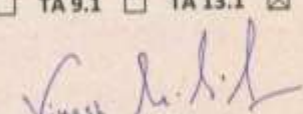
has been qualified as per CCIP's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 06.0):

For following functions:

| | | | | | |
|-----------|-------------------------------------|------------------|-------------------------------------|---------------------------|-------------------------------------|
| Validator | <input checked="" type="checkbox"/> | Team Leader | <input checked="" type="checkbox"/> | Technical reviewer | <input checked="" type="checkbox"/> |
| Verifier | <input checked="" type="checkbox"/> | Technical Expert | <input checked="" type="checkbox"/> | Local Expert ¹ | <input checked="" type="checkbox"/> |

In the following Technical Areas:

| | | | | | | | | | |
|--------|-------------------------------------|--------|-------------------------------------|--------|-------------------------------------|---------|-------------------------------------|---------|-------------------------------------|
| TA 1.1 | <input type="checkbox"/> | TA 3.1 | <input checked="" type="checkbox"/> | TA 5.2 | <input type="checkbox"/> | TA 9.2 | <input type="checkbox"/> | TA 13.2 | <input type="checkbox"/> |
| TA 1.2 | <input checked="" type="checkbox"/> | TA 4.1 | <input type="checkbox"/> | TA 8.1 | <input checked="" type="checkbox"/> | TA 10.1 | <input type="checkbox"/> | TA 14.1 | <input checked="" type="checkbox"/> |
| TA 2.1 | <input type="checkbox"/> | TA 5.1 | <input type="checkbox"/> | TA 9.1 | <input type="checkbox"/> | TA 13.1 | <input checked="" type="checkbox"/> | | |



Mr. Vikash Kumar Singh
Compliance Officer

Date of Approval
24/12/2017

Valid Till
23/12/2018

Revision History of the Document

| | |
|------------|--|
| 26/12/2014 | Initial Adoption |
| 24/12/2015 | Annual Revision |
| 20/01/2016 | Interim Revision for office address change |
| 23/12/2016 | Annual Revision |
| 24/12/2017 | Annual Revision |

¹India, South Africa

CARBON CHECK (INDIA) PRIVATE LIMITED
Registered in India: U74930DL2012PTC232495
Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005
Corporate off: G 49 & 50, 3rd Floor, Sector - 3, NOIDA (Uttar Pradesh) - 201301
Tel: +91 120 4373114 | URL: www.carboncheck.co.in
e-mail: info@carboncheck.co.in



Carbon Check (India) Private Ltd.

Sanjay Agarwalla

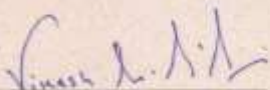
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 06.0):

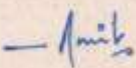
For following functions:

| | | | | | |
|-----------|-------------------------------------|------------------|-------------------------------------|---------------------------|-------------------------------------|
| Validator | <input checked="" type="checkbox"/> | Team Leader | <input checked="" type="checkbox"/> | Technical reviewer | <input checked="" type="checkbox"/> |
| Verifier | <input checked="" type="checkbox"/> | Technical Expert | <input checked="" type="checkbox"/> | Local Expert ¹ | <input checked="" type="checkbox"/> |

In the following Technical Areas:

| | | | | | | | | | |
|--------|-------------------------------------|--------|-------------------------------------|--------|-------------------------------------|---------|-------------------------------------|---------|--------------------------|
| TA 1.1 | <input checked="" type="checkbox"/> | TA 3.1 | <input checked="" type="checkbox"/> | TA 5.2 | <input checked="" type="checkbox"/> | TA 9.2 | <input checked="" type="checkbox"/> | TA 13.2 | <input type="checkbox"/> |
| TA 1.2 | <input checked="" type="checkbox"/> | TA 4.1 | <input checked="" type="checkbox"/> | TA 8.1 | <input type="checkbox"/> | TA 10.1 | <input type="checkbox"/> | TA 14.1 | <input type="checkbox"/> |
| TA 2.1 | <input checked="" type="checkbox"/> | TA 5.1 | <input checked="" type="checkbox"/> | TA 9.1 | <input checked="" type="checkbox"/> | TA 13.1 | <input checked="" type="checkbox"/> | | |


Mr. Vikash Kumar Singh
Compliance Officer


Mr. Amit Anand
CEO

Date of Approval
24/12/2017

Valid Till
23/12/2018

Revision History of the Document

| | |
|------------|--|
| 26/12/2014 | Initial Adoption |
| 24/12/2015 | Annual Revision |
| 20/01/2016 | Interim Revision for office address change |
| 23/12/2017 | Annual Revision |
| 24/12/2017 | Annual Revision |

¹India

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Appendix 3. Documents reviewed or referenced

| No. | Author | Title | References to the document | Provider |
|-------|---------------|---|---|----------|
| 01. | Carbon Limits | Revised PDD | Version: 9.0; Dated: 13/04/2018 | PP |
| 02. | ZESCO | Power Purchase Agreement between ZESCO and ITPC | Dated: 27/10/2014 | PP |
| 03. | ITPC | Single line diagram showing transformers, feeders of the wind farm and the evacuation of electricity to the grid at 220 kVA | Ref. No.: ITT-00-WIG-FS-001 Dated: 06/09/2013 | PP |
| /B01/ | UNFCCC | 1. CDM Validation and Verification Standard for Project Activities 2. CDM Project Standard for Project Activities 3. CDM Project Cycle Procedure for Project Activities | Version: 01.0 | Others |
| /B02/ | UNFCCC | ACM0002 "Grid-connected electricity generation from renewable sources" (version 16.0). | http://cdm.unfccc.int | Others |
| /B03/ | UNFCCC | ASB0001 "Grid emission factor for the Southern African power pool" (version 01.0) | http://cdm.unfccc.int | Others |
| /B04/ | UNFCCC | Registered PDD (version 8.0; Dated: 13/07/2015) and the corresponding validation report | http://cdm.unfccc.int | Others |
| /B05/ | UNFCCC | UNFCCC website: http://cdm.unfccc.int | - | Others |
| /B06/ | UNFCCC | Project Design Document form (CDM-PDD-FORM) and filling instructions | Version: 10.1 | Others |

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

Table 1. CLs from this validation

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

Table 2. CARs from this validation

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

Table 3. FARs 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 |
| - | | | |

- - - - -

Document information

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

| <i>Version</i> | <i>Date</i> | <i>Description</i> |
|---|-------------|--------------------|
| Decision Class: Regulatory | | |
| Document Type: Form | | |
| Business Function: Registration | | |
| Keywords: post-registration change, project activities, validation report | | |