

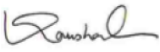


**Validation report form for post-registration changes for
CDM project activities
(Version 03.0)**

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Title: 10MW solar PV based power generation by Helios Beau Champ Limited in Mauritius UNFCCC reference number: 10543
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	02
Completion date of the validation report	27/04/2021
Type(s) of PRCs	<input checked="" type="checkbox"/> Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents ¹ <input checked="" 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 methodological regulatory documents <input 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	05
Project participants	Helios Beau Champ Limited
Host Party	Mauritius
Applied methodologies and standardized baselines	AMS I.D-Grid connected renewable electricity generation, Version 18.0, valid from 28/11/2014 Standardized baseline: NA
Mandatory sectoral scopes	Sectoral scope – 01 Energy industries (renewable - / non-renewable sources)
Conditional sectoral scopes, if applicable	NA
Name and UNFCCC reference number of	KBS Certification Services Private Limited (KBS) Ref. No. E-0051

¹ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

the DOE	
Name, position and signature of the approver of the validation report	 Mr. Kaushal Goyal Managing Director

SECTION A. Executive summary

>> The project activity is the installation and operation of the solar photovoltaic (PV) power plant with a capacity of 10.3 MW_{DC}, consisting of 38,016 ground mounted polycrystalline modules (of 270 Wp) and 132 invertors (of 66 kVA). The electricity generated by the operation of project activity is exported to the grid, under an Energy supply and purchase agreement (ESPA) /6/ with the Central Electricity Board (CEB). The project reduces anthropogenic emissions of greenhouse gases (GHG's), by displacing equivalent amount of electricity from fossil-fuel based power plants connected to the grid. 'Helios Beau Champ Limited' is the developer of the project activity, which is located at Ernest Florent site, Beau Champ, District of Flacq, Mauritius.

The summary of proposed changes are summarized as follows:

Post Registration Changes	
Sl. No.	Corrections in the PDD
1.	Total aggregated installed capacity of 132 invertors has been corrected from 9.0 MW _{AC} to 8.712 MW _{AC} . As per the registered PDD, there were 132 invertors each of 66 kV, the aggregate of which comes out to be 8.712 MW _{AC} and not 9.0 MW _{ac} . However, the ESPA /6/ states the maximum AC power export capacity as 9.0 MW _{AC} , therefore, it has been separately indicated as export capacity.
2.	The word "tri vector" for meters have been removed.
3.	The accuracy class of the meters have been corrected from 0.5s to 0.2s which is more accurate and hence, acceptable.
Temporary deviation	
1.	The start date of the current monitoring period for the project activity is 30/11/2019. However, the billing cycle for the project starts from 01/11/2019 and the exact data for '30/11/2019' could not be produced by the PP based on the monthly invoices. Therefore, PP has demonstrated a conservative approach which involves simply using the DGR values of export and use of entire import data of November 2019 (as per invoice/8/), for one day i.e., '30/11/2019'. The approach is in compliance with the para 231 (b) of CDM PS, version 02/16/ and is therefore, acceptable to the verification team.

The scope of the validation is defined as an independent and objective review of the revised project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the CDM Validation and Verification Standard (version 02) and Project Standard (version 02), Kyoto Protocol requirements and UNFCCC rules. The report is based on the assessment of the revised project design document undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., remote audit, electronic (telephone or e-mail) interviews) and also the review of the applicable approved methodological and relevant tools, guidance and CDM decisions.

Validation methodology and process

The validation has been performed as described in the VVS version 02.0 and constitutes the following steps:

- Desk review of the revised PDD and the relevant documents
- Interviews
- Issuance of Validation Report for the post-registration changes

Validation criteria

The following CDM requirements have been considered:

- Article 12 of the Kyoto Protocol,
- Modalities and procedures for CDM (Marrakech Accords)
- Subsequent decisions by the COP/MOP and CDM Executive Board
- Host country criteria
- Criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided KBS with sufficient evidence to determine the project's fulfillment of all the stated criteria. In our opinion, the project meets all applicable UNFCCC requirements for the CDM.

SECTION B. Validation team, technical reviewer and approver

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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/ Remote audit	Interviews	Validation findings
1.	Team Leader, Technical Expert (1.2)	IR	Sharma	Shikha	Central office	x	Remote audit	x	x
2.	Verifier-Trainee	IR	Malik	Ananya	Central office	x	Remote audit	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 (TA 1.2)	IR	Kandari	Sanjay	Central office
2.	Manager (Technical & Certification)	IR	Chaudhari	Tushar	Central office
3.	Authorizer	IR	Goyal	Kaushal	Central office

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

>>A desk review is undertaken, involving but not limited to,

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

The list of documents reviewed is included in the section 'Appendix 3' of this report.

C.2. On-site inspection

As a result of the COVID-19 pandemic, taking into account the CDM Executive Board announcement to relax mandatory site visits till 30 June 2021/14/, rules of relevant national and local authorities (local to the DOE offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the DOE and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), A DOE may postpone site visits for onsite inspections required by the “CDM validation and verification standard for project activities (version 02.0) (VVS-PA)”/10/.

If the site visits cannot be postponed, a proper justification should be provided by the DOE why the site visits cannot be postponed, including the demonstration of a significant impact of delaying the site visits on the DOE, or project participants or coordinating/ managing entity (e.g. commitment/ timeline as per the validation or verification contract, CER delivery commitment by project participants) reliance on applicable force majeure provisions in the validation or verification contracts, if needed.

KBS has contractual commitment for the verification process with PP and therefore, due to contractual obligations, the site visit cannot be postponed for an indefinite period of time. On consideration of the health risks posed by the COVID- 19 pandemic along with the dynamic nature of travel restrictions (throughout India), it has been determined that the physical site visit cannot be conducted in the current circumstances. Since, the site visit cannot be postponed but is not conducted due to the pandemic, DOE has used other standard auditing techniques (recommended by CDM EB) for verification as referred to in sections 9.1.3 of the VVS for PA /10/.

Assessment team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of validation. Along with desk review, audit team has conducted remote audit interview as follows:

- A complete desk review of the revised PDD.
- Assessment team has performed Microsoft teams application interview with PP in order to check the changes in the project design.
- Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in revised PDD and supporting documents.

Details of interviewees, topics covered and additional information presented in the below section “C.3 Interviews”.

Duration of on-site inspection: DD/MM/YYYY to DD/MM/YYYY				
No.	Activity performed on-site	Site location	Date	Team member
4.				
...				

C.3. Interviews

No.	Interviewee			Date	Subject	Team member	
	Last name	First name	Affiliation				
1.	Chand	Phool	CDM Consultant	16/03/2021 (Microsoft teams application interview)	Corrections in PDD.	Shikha	Sharma
2.	Ungapan	Kartikay	O&M incharge, Helios Beau Champ Limited			(Team Technical Expert (1.2)) and Malik (Verifier-trainee)	Leader, Expert Ananya (Verifier-trainee)

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	00	00	00
Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents	00	00	00
Corrections	00	00	00
Changes to the start date of the crediting period	00	00	00
Inclusion of a monitoring plan	00	00	00
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents	00	00	00
Changes to the project design	00	00	00
Changes specific to afforestation and reforestation project activities	00	00	00
Others (please specify)	00	00	00
Total	00	00	00

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	The validation team reviewed the PDD/1/ that was provided by PP as part of proposed PRC and compared them with the current valid templates/form for PDD/13/ as available at UNFCCC website and found that these were consistent.
Findings	No findings raised
Conclusion	The validation team confirms that the proposed post registration changes as included in the revised PDD/1/ were presented by using the registered PDD/2/ and inline with the latest valid version of CDM-PDD-FORM/13/ and is in compliance with the instructions contained therein.

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

Means of validation	The start date of the current monitoring period for the project activity is 30/11/2019. However, the billing cycle for the project starts from 01/11/2019 and the exact data for '30/11/2019' could not be produced by the PP based on the monthly invoices. Therefore, PP has demonstrated a conservative approach which involves simply using the DGR values of export and use of entire import data of November 2019 (as per invoice/8/), for one day i.e., '30/11/2019'. The approach is in compliance with the para 231 (b) of CDM PS, version 02/16/ and is therefore, acceptable to the verification team.
Findings	No finding raised.
Conclusion	The temporary deviation applied by the PP is in accordance with the para 231 (b) of CDM PS, version 02.

D.3. Corrections

Means of validation	The following corrections are proposed in the revised PDD, which is summarized as follows:	
		Post Registration Changes
	S. No.	Corrections in the revised PDD
	1.	Total aggregated installed capacity of 132 invertors has been corrected from 9.0 MW _{AC} to 8.712 MW _{AC} . As per the registered PDD, there were 132 invertors each of 66 kV, the aggregate of which comes out to be 8.712 MW _{AC} and not 9.0 MW _{ac} However, the ESPA /6/ states the maximum AC power export capacity as 9.0 MW _{AC} , therefore, it has been separately indicated as export capacity.
	2.	The word “tri vector” for meters have been removed as per the current

		implementation status of meters.
	3.	The accuracy class of the meters have been corrected from 0.5s to 0.2s which is more accurate and hence, acceptable.
	The assessment team confirms that the corrected information is the reflection of actual project information and does not affect any provision of the applied methodology in any manner, as a result, is in accordance with the applied methodology.	
Findings	No findings raised.	
Conclusion	<p>Based on the review of PDD and interview with PP, the validation team has accepted all the proposed corrections in the PDD in accordance with requirements of VVS for project activities (version 02.0). The assessment team confirms that the corrected information is an accurate reflection of actual project information and are in accordance with the applied methodology, the monitoring plan.</p> <p>The validation team confirms</p> <ul style="list-style-type: none"> ✓ The corrected information is an accurate reflection of actual project information; ✓ The corrected information is in accordance with the applied methodology and registered monitoring plan. ✓ the proposed revision points have been described, and an assessment has been provided to substantiate the reasons for each of the proposed revision points of the registered PDD, using objective evidence; ✓ the proposed revision of the PDD ensures that the level of accuracy and completeness in the monitoring and verification process is not reduced as a result of the revisions; ✓ the proposed revision of the monitoring plan is in accordance with the approved monitoring methodology (AMS I.D, Version 18.0) applicable to the project whilst ensuring the conservativeness of the emission reductions calculation; ✓ the information included in the latest PDD template is materially the same as the information in the registered PDD. The changes that are subject of the request for approval are in track change. 	

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

Means of validation	Not applicable.
Findings	Not applicable.
Conclusion	Not applicable.

D.5. Inclusion of a monitoring plan

Means of validation	Not applicable.
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 methodological regulatory documents

Means of validation	Not applicable.
Findings	Not applicable.
Conclusion	Not applicable.

D.7. Changes to the project design

Means of validation	Not applicable.
Findings	Not applicable.
Conclusion	Not applicable.

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

Means of validation	Not applicable.
Findings	Not applicable.

Conclusion	Not applicable.
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SECTION E. Internal quality control

>> The draft validation report prepared by team leader is reviewed by an independent technical reviewer (having competence of relevant technical area himself/herself or through an independent technical area expert) to confirm the internal procedures established by KBS are duly followed and the validation report/opinion is reached in an objective manner and complies with the applicable CDM requirements.

The independent technical reviewer may approve or reject the draft validation report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before the request for PRC is submitted to UNFCCC. The final decision is taken by the Manager Technical and Certification. The technical reviewer and Manager (Technical & Certification) can be same person.

The final decision is authorized by Managing Director, KBS once the report is approved by the Manager (Technical & Certification).

SECTION F. Validation opinion

>>KBS Certification Services Pvt. Ltd. has been contracted by 'Helios Beau Champ Limited' to undertake independent validation of the post registration changes of the CDM Project activity "10MW solar PV based power generation by Helios Beau Champ Limited in Mauritius" and UNFCCC Reference Number 10543 to ensure that the post registration changes meet all relevant requirements of the UNFCCC for CDM project activities including CDM VVS.

Validation methodology and process:

The validation has been performed as described in the VVS, version 02.0, and consists of the following steps:

- Review of the Registered PDD, version 04 dated 15/11/2019
- Review of the Revised PDD, Version 05 dated 31/03/2021
- Remote audit Interviews
- Preparation of the Validation Report

It is DOE's opinion that the revised documentation submitted is conforming to the requirements for Post Registration Changes as stipulated in the Clean Development Mechanism Validation and Verification Standard and thus DOE is recommending the approval of the post registration changes

Appendix 1. Abbreviations

Abbreviations	Full texts
ACM	Approved Consolidated Methodology
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM AS	CDM Accreditation Standard
CDM EB	CDM Executive Board
CERs	Certified Emission Reductions
CL	Clarification Request
CO ₂ e	Carbon dioxide equivalent
COP	Conference of Parties
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EI	External Individuals
ERs	Emission Reductions
FAR	Forward Action Request
GHGs	Greenhouse Gas(es)
ISO	International Organization of Standardization
IPCC	Intergovernmental Panel on Climate Change
IR	Internal Resource
KP	Kyoto Protocol
kWh	Kilo Watt Hour
LE	Leakage Emissions
MR	Monitoring Report
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt Hour
O & M	Operation and Maintenance
PE	Project Emissions
PDD	Project Design Document
PS	Project Standard
PCP	Project Cycle Procedure
QA/QC	Quality Assurance/Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation & Verification Standard

Appendix 2. Competence of team members and technical reviewers

Personnel Name:		Ms. Shikha Sharma	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal		
Approved by (Manager C & T)	Sanjay Kandari		
Approval date:	14/01/2021		

Personnel Name:		Ms. Ananya Malik	
Qualified to work as:			
Team Leader (Trainee)	<input type="checkbox"/>	Technical Expert	<input type="checkbox"/>
Validator/Verifier- Trainee	<input checked="" type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input type="checkbox"/>	Local Expert	<input type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
-	-		
Approved by (Manager C & T)	Sanjay Kandari		
Approval date:	07/12/2020		

Personnel Name:		Sanjay Kandari	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal TA 13.2 Manure		
Approved by (Manager C & T)	Akhilesh Joshi		
Approval date:	11/12/2015		

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	PP	Revised PDD	Version 05 dated 31/03/2021	PP
2.	PP	Registered PDD https://cdm.unfccc.int/filestorage/5/H/A/5HAJMXZLT0OUG67CWNFSRKEV14B32D/PDD.pdf?t=SiZ8cXF0eHllfDAzTzThiXiXHgtw_9TJeWS	Version 04 dated 15/11/2019	UNFCCC website
3.	KBS Certification Services Pvt. Ltd.	Validation Report https://cdm.unfccc.int/filestorage/7/G/N/7GN43FBS6OA8UT0EY5JQZX9LRDHCPM/Validation%20Report.pdf?t=bjR8cXF0eHlyfDA3ea5IFG9oiuTz83VVvWh9	Version 04 dated 28/11/2019	UNFCCC website
4.	CEB Mauritius (buyer) and PP (seller)	Energy supply and purchase agreement (ESPA) between Helios Beau Champ Limited and Central Electricity Board, Mauritius	dated 22/02/2017	PP
5.	PP	Completion certificate: certifying that the project is commissioned and tested in accordance with ESPA and is fit to proceed for commercial operation.	Version 1, Reference: PR110703 dated 29/11/2018	PP
6.	PP	Name plates of the equipments, Photographic evidence of the equipments including solar panels, transformers, energy meters etc.	-	PP
7.	CEB	CO ₂ baseline database for Mauritius Power Sector https://www.ceb.mu/	July 2018	Web link
8.	UNFCCC	Project webpage	https://cdm.unfccc.int/Projects/DB/KBS_Cert1575096332.44/view	Web link
9.	UNFCCC	AMS I.D-Grid connected renewable electricity generation, Version 18.0, valid from 28/11/2014	-	UNFCCC
10.	UNFCCC	CDM Validation and Verification Standard for PA	version 02	UNFCCC
11.	UNFCCC	Clean development mechanism project standard for PA	version 02	UNFCCC
12.	UNFCCC	Guidelines for Application of materiality in verifications version 2.0	-	Publicly Available
13.	UNFCCC	PDD Form, version 11	-	UNFCCC
14.	UNFCCC Secretariat	CDM Executive Board announcement to relax mandatory site visits by designated operational entities (DOEs) for an extended period till 30 June, 2021 due to the continuing COVID-19 pandemic	CDM EB 108 th meeting report	UNFCCC Secretariat

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

Table 1. CLs from this validation

No CLs raised.

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

No CARs raised.

CAR ID		Section no.	Date:
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

No FARs raised.

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

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none">• Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN);• Make editorial improvements.
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.
Decision Class: Regulatory Document Type: Form Business Function: Registration Keywords: post-registration change, project activities, validation report		