Verification and certification report form for CDM project activities

(Version 03.0)

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

BASIC INFORMATION	
Title and GS reference number of the project activity	Campion II Mini hydro power project GS reference no.: GS5923
Scale of the project activity	☐ Large-scale ☐ Small-scale ☒ Micro-scale
Version number of the verification and certification report	04
Completion date of the verification and certification report	16/06/2021
Monitoring period number and duration of this monitoring period	01 12/05/2017 to 28/02/2019 (Inclusive of both the dates)
Version number of the monitoring report to which this report applies	Version: 04 Date: 17/01/2020
Crediting period of the project activity corresponding to this monitoring period	12/05/2017 – 11/05/2024
Project participants	Bogawanthalawa Tea Estate PLC
Host Party	Sri Lanka
Applied methodologies and standardized baselines	AMS-I.D. (version 18.0)
Mandatory sectoral scopes	1
Conditional sectoral scopes, if applicable	N/A
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	Annual estimated GHG emission reductions: 3,013 tCO_2e. Pro-rata estimated GHG emission reductions during the monitoring period: 5,424 tCO_2e
Certified amount of GHG emission reductions or GHG removals for this monitoring period	12/05/2017 – 31/12/2017: 1,827 tCO_2e 01/01/2018 – 31/12/2018: 3, 503 tCO_2e 01/01/2019 – 28/02/2019: 208 tCO_2e **Total: 5, 538 tCO_2e**
SDG Impacts:	• SDG 7: Affordable and Clean Energy • SDG 8: Decent Work & Economic Growth • SDG 13: Climate
Name and UNFCCC reference number of the DOE	Carbon Check (India) Private Limited
Name, position and signature of the approver of the verification and certification report	

	Vikash Kumar Singh, Compliance Officer

SECTION A. Executive summary

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Carbon Check (India) Private Ltd. (CCIPL) has performed first periodic verification of the GS project "Campion II Mini hydro power project" (GS project id: GS5923) for the period 12/05/2017 to 28/2/2019 (inclusive of both the dates). The verification team assigned by the DOE concludes that the GS Project Activity as described in the revised PDD (version 2.3; Dated: 04/01/2019) /B05-2/ and GS Passport (version 2.3; Dated 03/12/2018) /B06/ and the monitoring report (version 3.0; Dated 17/01/2020) /02/, meets all relevant requirements of the Gold Standard, UNFCCC for CDM project activities including article 12 of the Kyoto Protocol and paragraph 56 and 62 of CDM M & P, the modalities and procedures for CDM (Marrakesh Accords) and the subsequent decisions by the COP/MOP and CDM Executive Board. The verification has been conducted in-line with the requirements of CDM VVS for project activities (version 02.0) /B01-1/, Gold Standard Version 2.2 /B08/ and Gold Standard for the Global Goals Principles & Requirements (version 1.2) /B02/.

Verification methodology and process

The Verification team confirms the contractual relationship signed on the 06/10/2017 between the Carbon Check (India) Private Ltd. (hereafter the "DOE") and the project participant - Bogawanthalawa Tea Estate PLC. The team assigned to the verification meets the Carbon Check (India) Private Ltd's internal procedures including the UNFCCC requirements for the team composition and competence. CCIPL has conducted a thorough contract review as per UNFCCC and Carbon Check's procedures and requirements.

The verification has been performed as per the requirements described in the Gold Standard for the Global Goals Principles & Requirements (version 1.2) /B02/; Gold Standard Toolkit /B08/ and CDM VVS for project activities (version 02.0) /B01-1/ and constitutes the review and completion of the following steps:

- Review of the revised PDD (version 2.3; Dated: 04/01/2019) /B05-2/, including the monitoring plan and the corresponding validation report and the Gold Standard Passport (version 2.3; Dated 03/12/2018) /B06/, the Sustainability Matrix and monitoring data.
- Confirm the monitoring report has been made available to the Gold Standard Registry
- Desk review of the MR, emission reduction spreadsheet
- Review of the applied monitoring methodology "AMS-I.D. Grid Connected renewable electricity generation" (version 18.0) /B03/;
- Review of any CMP and EB decisions, clarifications and guidance and the Gold Standard.
- On-site assessment (18/06/2019 and 19/06/2019)
- Resolution of CARs and CLs raised during verification
- Issuance of Verification Report

In Carbon Check's opinion, the project activity was correctly implemented according to selected monitoring methodology monitoring plan and the revised PDD /B05/. The monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through the review and on-site visit, the verification team confirms that the project has resulted in the 5,538 tCO_2e emission reductions during the first monitoring period. The GHG emission reductions and non-GHG parameters were correctly calculated/monitored based on the approved monitoring methodology "AMS-I.D. Grid Connected renewable electricity generation" (version 18.0) /B03/ and the monitoring plan contained in the revised PDD (version 2.3; Dated: 04/01/2019) /B05/.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification 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	Verification findings
1.	Team Leader/ Technical Expert/ Validator	IR	Anand	Amit	CCIPL	X	X	X	X
2.	Team Member[1]	IR	Chaudhari	Tushar	CCIPL	X			X
3.	Local Expert	ER	Lass	A. Michael	CCIPL		X	X	

Amit Anand: Qualified lead assessor and internal technical reviewer for offset projects validations and verifications under CDM, VCS and Gold Standard (GS) and actively been involved in the validation and verification or internal technical review of more than 200 offset projects. He is qualified as technical expert for TA 1.2, 3.1, 8.1, 13.1 and 14.1 under CDM Sectoral Scope categorisation. He has a professional experience of more than 12 years in various capacities with organizations like MITCON, TUV Rheinland, Deloitte and MGM International in the development and validation/verification of carbon offset projects under different market-based mechanism. He was also involved in validation and verification the following Gold Standard Projects: GS 1078, GS 976, GS 850, and GS 916 PoA (GS 1231 (VPA 01) GS 1029 (VPA 02), GS 1030(VPA 03), GS 1031(VPA 04).

Tushar Chaudhari: He is an appointed Team Member for technical area 1.1,1.2,3.1,13.1. He holds a Masters in Environment Management from North Maharashtra University, Jalgaon and B.Sc. Zoology from M.J. College, in North Maharashtra University, Jalgaon. He is also successfully completed ISO 14001:2015 Lead Auditor course. He had also completed GRI training course. He is having more than 11 years of experience, which involves experience in renewable energy consultancy and auditing. Including 6+ years auditing experience in Climate Change - Clean Development Mechanism. Worked on various projects under CDM, VCS, Gold standard validation and verification process. He has also worked as freelancer EHS, Sustainability consultant and third party auditor for ISO 14001, EHS compliance and GHG quantification, assessment and auditing, carbon foot printing assessment and third party auditing. He has worked on project GS561 as consultant.

A. Michael Lass: is an appointed Local Expert for Sri Lanka. He holds an Intermediate in Science degree in Biological Sciences from Ministry of Education in Sri Lanka. He presently works as and full time Science teacher at the local school and is also associated as freelance in conducting environmental impact assessment studies. He has knowledge of local rules and regulations with respect to Environmental Impact Assessment and other relevant statutory requirements for infrastructure projects in Sri Lanka. He is also well versed with English (language of audit) as well as Tamil and Sinhalese (local languages spoken) in the project area.

[1] Till 20/07/2021

B.2. Technical reviewer and approver of the verification and certification report

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	CCIPL
2.	Approver	IR	Singh	Vikash Kumar	CCIPL

Sanjay Kumar Agarwalla: He is an appointed Team Leader and Technical Expert for technical area 1.1, 1.2, 2.1, 3.1, 4.1, 5.1, 5.2, 8.1, 9.1, 9.2 and 13.1. He is having more than 17 years of experience, which involves more than 10 years of industrial experience and almost seven years in climate change. He worked in various capacities at Kesoram Rayon, Durgapur Chemicals Limited, Gensol Consultants, TUV Rheinland India Pvt Ltd and LRQA. He is involved in more than 70 GHG audits including validation/verification/post registration changes. He also has GS Audit Experience and attended the Gold Standard webinar. The GS projects on which he has worked are 1309, 850, 6191, 411, 1353 and 939.

SECTION C. Application of materiality

The threshold of materiality was evaluated based on "Guideline: Application of materiality in verifications" (version 02.0) /B08/. It was concluded that the materiality threshold applicable to the project activity based on actual emission reductions achieved is 5% of 5,538 tCO2e which is equal to 279 tCO2e.

In planning the verification, verification team took cognizance of §11 and §12 of the "Guideline: Application of materiality in verifications" (version 02.0) /B08/ and a materiality threshold of 279 tCO_2e is determined for the current verification of the project activity.

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Human error in the quantification of emissions	Low	According to the monitoring plan and the Monitoring Report, there are QA/QC procedures applied for monitoring parameters and data management/information flow. Calculation spreadsheets are used to determine the emissions reductions. Further data collected are through calibrated meters and automated system.	Verification team of CCIPL has focused on assessment of the following: • Procedure of raw data collection/ Monitoring procedures. • Data & information flow with a special focus on any material mistake • Calculation spreadsheets. • Procedures/QA/QC established to detect and correct any error or omission in monitoring parameters. • Quality control for monitored parameters and metering systems. Complete verification (100 % data) of all the monitoring records (measurement records, invoices and the calibration certificates) was done by the verification team

				and compared with the values indicated in the emission reduction spread-sheet. No risk identified.

C.2. Consideration of materiality in conducting the verification

In line with Guidelines for Application of materiality in verifications /B07/, a reasonable level of assurance is defined for the verification of the project by complete verification of all the monitoring records (measurement records, invoices and the calibration certificates) was done by the verification team and compared with the values indicated in the emission reduction spreadsheet.

Some inconsistencies were identified and subsequently finding was raised. These findings are detailed in Appendix 4 and they were successfully closed. Therefore, related identified mistakes as listed in findings in Appendix 4 to this report have been determined to be immaterial. And thus, it is confirmed that there are no material errors, omissions or misstatements and a reasonable level of assurance is established

SECTION D. Means of verification

D.1. Desk/document review

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The verification was performed primarily based on the review of the Monitoring report /01/ and the supporting documentation. This process included review of data and information presented to verify their completeness and review of the monitoring plan and monitoring methodology. Documents reviewed or referenced during the verification are listed in Appendix 3 below.

D.2. On-site inspection

Duration of on-site inspection: 18/06/2019 to 19/06/2019				
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	Hatton, Sri Lanka	18/06/2019 & 19/06/2019	Amit Anand (AA) and A. Michael Lass (AML)
2.	A review of information flows for generating, aggregating and reporting the monitoring parameters	Hatton, Sri Lanka	18/06/2019 & 19/06/2019	Amit Anand and A. Michael Lass
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	Hatton, Sri Lanka	18/06/2019 & 19/06/2019	Amit Anand and A. Michael Lass
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	Hatton, Sri Lanka	18/06/2019 & 19/06/2019	Amit Anand and A. Michael Lass
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	Hatton, Sri Lanka	18/06/2019 & 19/06/2019	Amit Anand and A. Michael Lass
6.	A review of calculations and assumptions made in determining the GHG data and emission reductions	Hatton, Sri Lanka	18/06/2019 & 19/06/2019	Amit Anand and A. Michael Lass
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	Hatton, Sri Lanka	18/06/2019 & 19/06/2019	Amit Anand and A. Michael Lass

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Bandara	Thusitha	Bogawanthalawa Tea Estate PLC	18/06/2019 & 19/06/2019	Data and information flow, Data input device, Roles and responsibility, Project implementation and operation, monitoring procedure, Training, Discussion on SD monitoring and Grievance Mechanism – Handling of Grievances	Amit Anand and A. Michael Lass
2.	Sadaruwan	G. H.	Bogawanthalawa Tea Estate PLC	18/06/2019	Data and information flow, Data input device, Roles and responsibility, Project implementation and operation, monitoring procedure, Training, Discussion on SD monitoring and Grievance Mechanism – Handling of Grievances	Amit Anand and A. Michael Lass
3.	Harsumal	Himesh	Climate SI	18/06/2019 & 19/06/2019	Project operation, CER calculation and completeness of monitoring report, Quality Assurance – Management and operating system, compliance of monitoring plan with monitoring methodology and PDD.	Amit Anand and A. Michael Lass
4.	Kumar	Pradeep	Campion Hydro (Pvt.) Ltd.	18/06/2019	Project technical specification and operation including metering and QA/QC, training, employment, salary	Amit Anand and A. Michael Lass

5.	Ramajaya m	Jayaram	Campion Hydro (Pvt.) Ltd.	18/06/2019	Project technical specification and operation including metering and QA/QC, training, employment, salary	Amit Anand and A. Michael Lass
6.	Sasikumar	G. G.	Campion Hydro (Pvt.) Ltd.	18/06/2019	Project technical specification and operation including metering and QA/QC, training, employment, salary	Amit Anand and A. Michael Lass

D.4. Sampling approach

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Not Applicable

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

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	--	01	--
Compliance of the project implementation and operation with the registered PDD	02	01	--
Post-registration changes	--	--	--
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	02	--	--
Compliance of monitoring activities with the registered monitoring plan	--	01	--
Compliance with the calibration frequency requirements for measuring instruments	--	01	--
Assessment of data and calculation of emission reductions or net removals	--	01	--
Assessment of reported sustainable development co-benefits	--	--	--
Global stakeholder consultation	--	--	--
Others (Supporting documents)	01	--	--
Other (Sustainability Monitoring)	03	01	--
Total	08	06	--

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	DR, I
Findings	CAR 01 had been raised in this regard and successfully closed. Please refer to Appendix 4 of this report for more details.
Conclusion	In accordance with § 352 of CDM validation and verification standard for project activities, version 02.0/B01-1/, verification team confirms that final monitoring report/02/ is completed using the latest valid version of applicable monitoring report form/B04/.

E.2. Remaining forward action requests from validation and/or previous verifications

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There is no pending FAR from validation to be addressed during the 1st verification.

E.3. Compliance of the project implementation and operation with the registered project design document

Means of verification	DR, I
Findings	CL 01, CL 05, CL 07 and CAR 04 had been raised in this regard and successfully closed. Please refer to Appendix 4 of this report for more details.
Conclusion	The project is in-stream mini hydropower project which provides clean renewable electricity to the Sri Lanka national grid ("the national grid"), which is owned and operated by Ceylon Electricity Board (CEB). The project was constructed to have approximately equal lengths of canal and penstocks for water conveyance. The water stream was partially blocked by building a weir and was diverted via a channel along the bank of the river to reach the forebay tank. Then the water is carried down to the turbine via steel penstocks. After running through turbines, the tail water is diverted back to the same stream. The install capacity is 1MW and the project was jointly developed by Bogawanthalawa Tea Estate PLC and Campion Hydro Pvt Ltd. The same is verified during on-site visit, commissioning certificate of power plant/07/, technical specification/08/, electricity generation records/06/ and ER sheet/04/. The operational and management structured is verified from document review and site visit interview. Verification team has checked the monitored data through monthly electricity generation reports/records /06-1/, corresponding copies of invoices raised by Campion to CEB for each month during the monitoring period/06-2/ and ER sheet/04/. Further the energy meter (monitoring meter) calibration report/13/ during the monitoring period has also been checked and found appropriate. The monitoring staff of PP is competent as verified during onsite interview and also from the training and competency records /14/. The project capacity is 1 MW which is well below the SSC threshold of 15 MW for type I project activities i.e., renewable energy project. Verification team has checked the lifetime of the project from technical specifications/08/ documents which is 20 years. The project is operating well as verified during on-site visit and also from the documents. As verified during the on-site visit, the project implementation and operation, all physical features of the project comply with the project design document /B05/. Verification team has checked the information in the monitoring report/02/ and compared against the registered PDD/B05/ and found consistent. During the on-site inspection, the verification team has checked the project location, implementation, technology applied, project equipment, physical features and monitoring system against the information in the registered PDD/B05/. The verification team based on the site visit and document review, was able to conclude that the project activity has been commissioned and implemented as per the registered PDD/B05/ and that physical features of the project are in place. To check for double counting and ensure that the project is not registered under any other GHG mitigation mechanism (VERs/CERs) or not claiming any benefits under Renewable Energy certificates (RECs), the VVB has reviewed the following registries: 1. CDM (https://cdm.unfccc.int/Projects/projsearch.html) 2. VERRA (https://registry.verra.org/app/search/VCS/All%20Projects) 3. GCC (https://projects.globalcarboncouncil.com/pages/submitted_projects) 4. The International REC Standard (https://www.irecstandard.org) 5. IREC registry (https://evident.services/device-register)

	As per § 354 and § 355 of CDM VVS for project activities, version 02/B01/, the verification team confirms that: a) The project activity is implemented as per registered PDD/B05/. b) The actual operation of the proposed CDM project activity is in line with the registered PDD/B05/. c) It has reviewed the registered PDD/B05/ including the monitoring plan, the applied monitoring methodology, relevant decisions from CMP and the CDM EB and found that the final MR/02/ for this monitoring period is in line with all the above-mentioned documents.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents[2]

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Not Applicable

E.4.2. Corrections

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Not Applicable

E.4.3. Changes to the start date of the crediting period

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Not Applicable

E.4.4. Inclusion of a monitoring plan

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Not Applicable

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

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Not Applicable

E.4.6. Changes to the project design

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PP has mentioned change in the of length of the penstock in the monitoring report/01/. During the on-site visit verification team confirmed that the actual penstock length (947 m) is significantly higher than the value in FSR (550 m). However, increased penstock length can lead to higher total investment, which will make the project activity even less economically attractive than what was expected in the registered PDD/B05/. Penstock dimensions can influence gross power generation too. Penstock loss was considered as 2.1% for a length of 550m. If all other conditions remain the same, a 947m penstock can be expected to have a loss of 3.7%. Thus, this will reduce the efficiency by 1.6% from the values given in the PDD/B05/. This change can be neglected as the increased penstock length does not leads to overestimation of GHG emissions.

E.4.7. Changes specific to afforestation and reforestation project activities

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Not Applicable

[2] 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).

E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	DR, I
Findings	CL 06 and CL 08 had been raised in this regard and successfully closed. Please refer to Appendix 4 of this report for more details.
Conclusion	The verification team has checked the actual monitoring plan against the latest approved monitoring plan and monitoring methodology and applicable tools. Furthermore, the verification team has checked monitoring system during the onsite inspection by means of comparison with the information given in the monitoring plan and monitoring methodology. The monitoring plan is completely in accordance with the approved methodology /B03/ applied by the registered PDD /B05/. All the parameters need to be monitored and corresponding monitoring approach have been discussed in the monitoring plan in the registered PDD /B05/ and QA/QC procedure has been stipulated. The verification team confirms that the monitoring plan complies with the applied methodology /B03/ and the monitoring system and all applied procedures are completely in compliance to the latest approved monitoring plan and the methodology AMS-I.D. (version 18.0) /B03/. The verification team took cognizance of §357 and §358 of CDM VVS for project activities (version 02.0) /B01-1/.

E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	DR, I
Findings	--
Conclusion	The verification team's assessment of each data and parameter fixed ex-ante is provided below:

Parameter	Description	Value	Unit	Source	Assessment
$EF_{grid,OM,y}$	Operating margin CO_2 emission factor for grid connected power generation in year y.	0.6938	tCO_2/MWh	Grid Emission factors published by Sustainable Energy Authority of Sri Lanka (Sri Lanka Energy Balance 2015)	The value is consistent with registered PDD /B05/ and fixed ex-ante for the duration of the crediting period of the project activity.
$EF_{grid,BM,y}$	Build margin CO_2 emission factor for grid connected power generation	0.7490	tCO_2/MWh	Grid Emission factors published by Sustainable Energy Authority of Sri Lanka (Sri Lanka Energy Balance 2015)	The value is consistent with registered PDD /B05/ and fixed ex-ante for the duration of the crediting period of the project activity.
$EF_{grid,CM,y}$	Combined margin CO_2 emission factor for grid connected power generation	0.7210	tCO_2/MWh	Grid Emission factors published by Sustainable Energy Authority of Sri Lanka	The value is consistent with registered PDD /B05/ and fixed ex-ante for the duration of the crediting period of the project activity.

					(Sri Lanka Energy Balance 2015)	

The value is consistent with the registered PDD /B05/ and defined fixed ex-ante for the duration of the crediting period of the project activity. The fixed ex-ante data and parameter has been listed in the monitoring report and confirmed by the verification team as correct and consistent with that stated in the registered PDD /B05/.

The verification team took cognizance of § 360 of CDM VVS for project activities, (Version 02.0) /B01-1/.

E.6.2. Data and parameters monitored

Means of verification	DR, I
Findings	CAR 03 had been raised in this regard and successfully closed. Please refer to Appendix 4 of this report for more details.
Conclusion	Verification team confirms through onsite visit and from document review, the actual monitoring system complies with the monitoring plan mentioned in the registered PDD/B05/. During the verification, the monitoring parameter of the registered monitoring plan/B05/ have been verified with regards to appropriateness of verification method; correctness of values applied for ER calculations, the accuracy and applied QA/QC measures. The assessment for the monitoring parameter is given below: Data/parameter: $EG_{BL,y}$ Unit: MWh/year Description: Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity. Value(s) of monitored parameter: The value of the monitoring parameter is reported in the ER sheet/02/. The value for the period 12/05/2017 to 28/02/2019 (Inclusive of both the dates) have been verified through review of Separate monthly invoice issued by the CEB to the power developer/06-01/ and electricity sales invoice /06-02/. For the month of May 2017, only 20 days of this month are considered in this MP (from 12/05/2017 to 31/05/2017). For these 20 days the value of net electricity exported has been verified by verification team through review of daily generation log sheet /10/. PP has considered the net electricity exported value from daily generation log sheet for the month of May 2017. Verification team checked the same and found conservative. During on-site visit, the verification team witnessed the daily meter reading procedure being conducted at the site by power plant staff from the calibrated energy meters, which are the same meters used for monitoring and recording by CEB. The daily generation log provides a more accurate and correct value of the electricity exported by the project activity and hence is deemed acceptable by the verification team. The verification team took cognizance of § 360, § 361 and § 364 of CDM VVS for project activities (version 02.0) /B01-1/. • The monitoring has been carried out in accordance with the monitoring plan in the registered PDD /B05/. • All parameters required by the monitoring plan have been measured /

	determined without material misstatements and in line with all applicable standards and relevant requirements.

E.6.3. Implementation of sampling plan

Means of verification	Not Applicable
Findings	Not Applicable.
Conclusion	The PDD does not have any provision of sampling.

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	DR, I and OSV
Findings	CAR 05 had been raised in this regard and successfully closed. Please refer to Appendix 4 of this report for more details.
Conclusion	The verification team confirms that all the energy meters have been installed in the project activity as per the registered PDD /B05/. In summary, the verification team is able to verify that the accuracy of the monitoring equipment was set according to the approved monitoring plan. During this monitoring period, new energy meters were installed which were calibrated by the manufacturer before installation. However, PP couldn't provide the initial calibration test reports of the energy meter to the verification team. Furthermore, in accordance with the PPA /11/ signed between CEB and Campion Hydro (Pvt.) Ltd., the accuracy tests for the energy meters have to be conducted annually. However, the accuracy tests of the energy meter were not conducted annually but were delayed and conducted after the end date of the monitoring period. PP had provided the delayed calibration test reports/13/ of the energy meters to the verification team. Hence, in accordance with guidelines under Appendix-Calibration" of VVS for CDM project activities (version 02.0) the electricity export and import data have been adjusted by applying maximum permissible error of 0.5% (as provided by the equipment supplier) to calculate the net exported electricity and the emission reductions accrued by the project activity. The maximum permissible error of 0.5% as provided by the equipment supplier) was applied as the average error identified (0.076%) in the delayed calibration is smaller than the maximum permissible error. PP has submitted initial Interconnection certificate /13-a)/ for the entire project testing dated 28/04/2017. This certificate exclusively mentioned about embedded generator test record including generating plant details, energy meter. The same has been checked and found that energy meter serial number is consistent with delayed calibration certificate/13-b)/ dated 28/12/2018. PP has mentioned the delayed calibration period from 27/04/2018 to 28/12/2018 and applied correction factor to calculate the emission reduction calculations /02/, /04/. The same is in accordance with the guideline provided under Appendix-Calibration" of VVS for CDM project activities (version 02.0) /B01-1/. Verification team deems this approach adopted by PP to address the issue of delayed calibration acceptable. **<u>Main Meter</u>** Make: EDMI MK6N GENIUS CEB Serial No.: DD2-9205435 Manufacturer Serial No.: 214586122 Accuracy class: 0.5 Calibration frequency: At least once a year as per registered PDD /B05/ Meter accuracy tests: Annual Date of initial test: /13-a)/: 28/04/2017 Date of last test: /13-b)/: 28/12/2018 Validity: 27/12/2019

	Note: There is no change in the main meter during the reported monitoring period. **Backup meter:** Note: There is no backup meter has installed during the reported monitoring period. However, PP initiated the process of installation of backup meter on site and submitted the quotation for backup meter given by CEB as supportive evidence for the same/18/. Verification team vetted the provided supportive document/18/ and confirms the PP's action plan for installation of backup meter. Verification team has raised 01 FAR in this regard which needs to be taken care in subsequent verifications. Verification team confirms that the accuracy of monitoring equipment is assured. The verification team took cognizance of § 365 of CDM VVS for project activities (version 02.0) /B01-1/.

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	DR, I
Findings	--
Conclusion	Baseline emissions are the product of the baseline emission factor ($EF_{grid,CM,y}$) times the net electricity supplied by the project activity to the grid ($EG_{fL,y}$). $BE_y = EG_{BL,y} \times EF_{grid,CM\,y}$ The registered PDD /B05/ has selected ex-ante option for grid emission factor and the value for the same is fixed for the crediting period. The MR has accordingly used the grid emission factor fixed ex-ante. $EF_{grid,CM,y}$ of the proposed project in the registered PDD is 0.7210 tCO_2/MWh, which has been verified though review of which has been sourced from the Sri Lanka - Energy Balance 2015 - An Analysis of Energy Sector Performance /16/, in line with the "Tool to calculate the emission factor for an electricity system" (version 05.0) /B09/. $EG_{BL,y}$ is the net electricity generation supplied to the grid, which is determined by the electricity supplied to the grid minus the imported electricity from the grid. The electricity exported to and imported from the grid was derived from the main meter in monitoring period and cross-checked by the sale invoices /06-1/, /06-2/ by the verification team.

Sl. No.	Items	Description	Units	Values
1.	$EG_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity	MWh	7,680.48
2.	$EF_{grid,CM,y}$	Combined margin CO_2 emission factor for grid connected power generation	tCO_2/MWh	0.7210
3.	BE_y	Baseline emission in a year y	tCO_2/yr	5,538

The verification team has checked invoices issued by CEB to Campion Hydro (Pvt.) Ltd. /06-1/, invoice raised by Campion Hydro (Pvt.) Ltd to CEB /06-2/ and also daily generation logs /10/ during OSV applicable for the monitoring period and found all the parameters are monitored and recorded as per the monitoring plan in the registered PDD /B05/. The verification team has cross-checked the ER sheet /04/ and monitoring report data with the invoices issued by CEB to Campion Hydro (Pvt.) Ltd. /06-1/, invoice raised by Campion Hydro (Pvt.) Ltd to CEB /06-2/ and found all the values are consistent.

The verification took cognizance of § 372 of CDM VVS for project activities (version

	02.0) /B01-1/ and confirms that: • A complete set of data for the monitoring period is available. • Information on the baseline GHG emission calculation provided in the monitoring report has been cross-checked with other sources. • Calculations of baseline emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology. • Appropriate emission factor values have been correctly applied. • No errors, miscalculations, omissions, misstatements or incomplete information has been identified.

E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	DR,I
Findings	--
Conclusion	The project emissions from the project is zero, thus is in accordance with AMS.I.D. (version 18.0) /B03/, registered PDD /B05/.

E.8.3. Calculation of leakage GHG emissions

Means of verification	DR,I
Findings	--
Conclusion	The leakage from the project is zero, thus is in accordance with AMS.I.D. (version 18.0) /B03/, registered PDD /B05/.

E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	DR, I
Findings	--
Conclusion	The verification team assessed whether the calculation of GHG emission reductions as presented in the monitoring report /02/ and the ER spread-sheet /04/ are in accordance with the formulae and methods described in the registered PDD /B05/. According to the applied methodology, the emission reductions are calculated as: $$ER_y = BE_y - PE_y - LE_y$$ **Sl. No. | Parameters | Description | Units | Values** 1. | ER_y | Emission reductions in year y | tCO_2/yr | **5,538** 2. | BE_y | Baseline emission in a year y | tCO_2/yr | 5,538 3. | PE_y | Project emission in a year y | tCO_2/yr | 0 4. | LE_y | Leakage emission in a year y | tCO_2/yr | 0 The verification team confirms that all parameters are used correctly in the calculations, all results are verifiable and transparent, all assumptions are described and based on verifiable evidence and calculations are done in accordance with the pre-defined formulae from registered PDD/B05/. The total number of CERs achieved during the monitoring period is **5,538** tCO_2e. According to § 372 of CDM VVS for project activities (version 02.0) the verification team confirms that: • A complete set of data for the monitoring period is available. • Information provided in the monitoring report has been cross-checked with other sources, electricity sales receipts; • Calculations of baseline emissions and emission reduction has been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology. • Appropriate/correct emission factor value has been applied

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	DR, I
Findings	--
Conclusion	The actual emission reductions in the monitoring period are 5,538 tCO_2e which is more than the estimated emission reductions 5,424 tCO_2e (for an equivalent period of 658 days) as per the registered PDD /B04/. The verification team has checked all the monthly invoices issued by CEB to Campion Hydro (Pvt.) Ltd. /06-1/, invoice raised by Campion Hydro (Pvt.) Ltd to CEB /06-2/ and also daily generation logs /10/ during OSV applicable for the monitoring period and confirmed that the net electricity exported to the grid is correct and consistent. Therefore, the actual emission reductions from 12/05/2017 to 28/02/2019 (both days inclusive) are calculated correctly and are more than the estimated emission reduction. According to § 372 of CDM VVS for project activities (version 02.0) the verification team confirms that a comparison of actual GHG emission reductions or net anthropogenic GHG removal of the project activity achieved during this monitoring period with the estimates in the registered PDD has been provided.

E.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	DR, I
Findings	CAR 02 had been raised in this regards and successfully closed. Please refer to Appendix 4 of this report for more details.
Conclusion	The actual emission reductions in the monitoring period are 5,538 tCO_2e which is more than the estimated emission reductions 5,424 tCO_2e (for an equivalent period of 658 days) as per the registered PDD /B05/ i.e., there is an increase of 2.10% in volume of ERs achieved as against the estimated volume of ERs for the equivalent period. The increase in GHG emission reductions achieved compared to the amount based on the ex-ante estimation in the registered PDD /B05/ is due to favourable hydrological conditions (higher rainfall) during the monitoring period (which is beyond the control of PP) as compared to the projected hydrological conditions used for estimation of emission reductions during the feasibility study. The same was verified through review of hydrological data sheet in the project area/19/. The rainfall data of previous years was checked from provided in the initial feasibility study records and for the current monitoring period the same was checked through review of records kept at power plant during the on-site visit and review of declaration on rainfall provided by PP/19/. From the review and comparison of the data it was concluded that the measured electricity generation during the monitoring period were above the estimated in the PDD due to favorable seasonable hydrological conditions (i.e. higher rainfall) compared to the projected hydrological conditions used for the initial feasibility study. Furthermore, the verification team confirms that there has been no increase in installed capacity of the plant during the monitoring period. Verification team deems the same acceptable. The verification took cognizance of § 356(d) of CDM VVS for project activities (version 02.0) /B01-1/.

E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Means of verification	DR, I
Findings	--
Conclusion	CERs achieved from 1st January 2013 onwards – 5,538 t CO_2e.

E.9. Assessment of reported sustainable development co-benefits

Means of verification	Not Applicable
Findings	Not Applicable.
Conclusion	Not Applicable.

E.10. Global stakeholder consultation

Means of verification	Not Applicable
Findings	Not Applicable.
Conclusion	Not Applicable.

SECTION F. Internal quality control

>>

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

SECTION G. Verification opinion

>>

Carbon Check (India) Private Ltd. (CCIPL) has performed the first (01st) verification of the registered GS Project Activity "Campion II Mini hydro power project" in Sri Lanka having GS reference number GS5923.

The verification team assigned by the DOE concludes that the project activity as described in the registered PDD (version 2.3; dated 04/01/2019) /B05/ and the monitoring report (version 03 dated 17/01/2020) /02/, meets all relevant GS4GG requirements for project activity and UNFCCC requirements including article 12 of the Kyoto Protocol and paragraph 62 of CDM Modalities & Procedures, the modalities and procedures for CDM Executive Board (Marrakesh Accords) and subsequent decisions by the COP/MOP and CDM Executive Board. The verification has been conducted in-line with the requirements of VVS for CDM project activities (version 02.0) /B01-1/.

Verification methodology and process

The verification team confirms the contractual relationship signed on 06/10/2017 between the DOE, Carbon Check (India) Private Ltd. And Project Participant (Campion Hydro (Pvt) Ltd.). The team assigned to the verification meets the CCIPL's internal procedures including the UNFCCC requirements for the team composition and competence. The verification team has conducted thorough review as per UNFCCC and CCIPL's procedures and requirements.

The verification has been performed as per the requirements described in the VVS for CDM project activities (version 02.0) /B01-1/and constitutes the review and completion of the following steps:

- Reviewing the registered PDD (version 2.3; dated 04/01/2019) /B05/;
- Reviewing the GS passport (version 2.3; dated 03/12/2018) /B06/;
- Receipt of the MR (Version 01 dated 01/05/2019) /01/;
- Desk review of the MR /01/ and other relevant documents;
- Review of the applied monitoring methodology (AMS.I.D. version 18.0) /B03/;
- Review of any CMP and EB decisions, clarifications and guidance;
- On-site assessment (18/06/2019 – 19/06/2019);
- Resolution of CARs and CLs raised during verification;
- Issuance of Verification Report

The project activity was correctly implemented according to the selected monitoring methodology and registered PDD /B05/. The monitoring system was installed, maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through the review an on-site visit the verification team confirms that the project activity has resulted in 5,538 tCO_2e emission reductions during the first(01^{st}) monitoring period.

The break-up of emission reduction up to 31/12/2012 and 01/01/2013 onwards as verified during the course of verification are as below:

Item	Emission reductions up to 31 December 2012	Emission reductions from 1 January 2013 onwards
Emission reductions (t CO_2e)	0	**5,538**

CCIPL therefore pleased to issue a positive verification opinion expressed in the attached Certification statement.

SECTION H. Certification statement

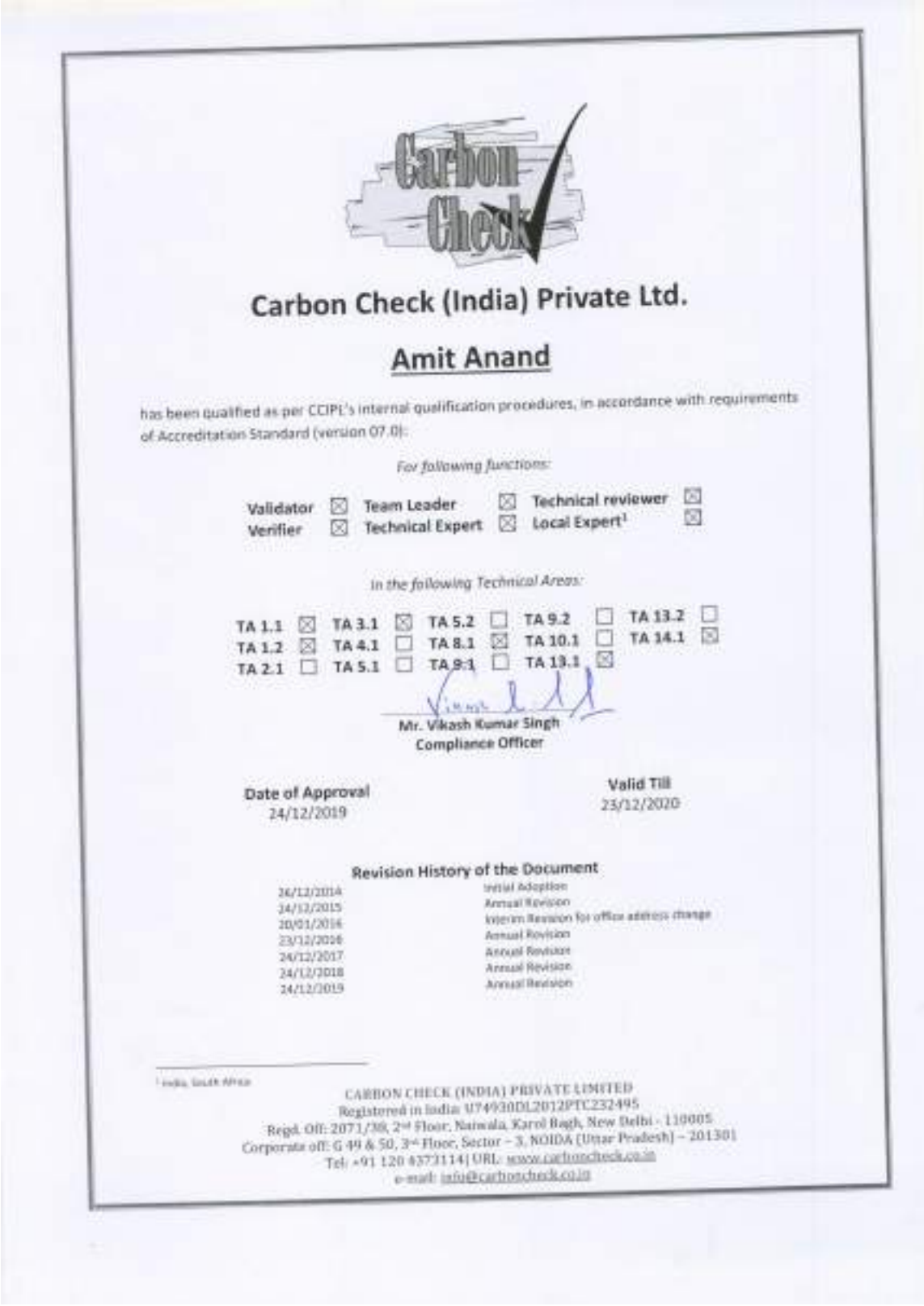
>>

It is CCIPL's opinion that the GHG emission reductions stated in the monitoring report, version 03 dated 17/01/2020 for project activity, "Campion II Mini hydro power project" for period 12/05/2017 to 28/02/2019 (Inclusive of both the dates) are fairly stated. The GHG emission reductions were calculated correctly on the basis of the approved monitoring methodology, AMS.I.D., version 18.0. Hence, CCIPL able to certify that the emission reductions from the project during the monitoring period 12/05/2017 to 28/02/2019 (Inclusive of both the dates) amount to 5,538 t CO_2e.

Appendix 1. Abbreviations

Abbreviations	Full texts
CDM	Clean Development Mechanism
CEE	Central Environmental Authority
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Ltd.
CEB	Ceylon Electricity Board
CL	Clarification Request
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DR	Document review
DOE	Designated Operational Entities
DVR	Draft Validation Report
EB	CDM Executive Board
EF	Emission Factor
EI	External individual
ER	Emission Reduction
FA	Final Approval
FAR	Forward Action Request
FVR	Final validation Report
FSR	Feasibility Study Report
GHG	Greenhouse gas(es)
GSF	Gold standard Foundation
GS4GG	Gold standard for Global Goals
I	Interview
IEE	Initial Environmental Examination Report
IPCC	Intergovernmental Panel on ClimateChange
IR	Internal resource
MW	Mega Watt
MWh	Mega Watt hours
PDD	Project Design Document
PP	Project Participant
OSV	On Site Visit
QC/QA	Quality control /Quality assurance
SS	Sectoral Scope
SSEA	Sri Lanka Sustainable Energy Authority
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reduction
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



Carbon Check (India) Private Ltd.

Amit Anand

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator	☒	Team Leader	☒	Technical reviewer	☒		
Verifier	☒	Technical Expert	☒	Local Expert[1]	☒		

In the following Technical Areas:

TA 1.1	☒	TA 3.1	☒	TA 5.2	☐	TA 9.2	☐	TA 13.2	☐
TA 1.2	☒	TA 4.1	☐	TA 8.1	☒	TA 10.1	☐	TA 14.1	☒
TA 2.1	☐	TA 5.1	☐	TA 9.1	☐	TA 13.1	☒		

Mr. Vikash Kumar Singh
Compliance Officer

Date of Approval
24/12/2019

Valid Till
23/12/2020

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
24/12/2018	Annual Revision
24/12/2019	Annual Revision

[1] India, South Africa

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Regd. Off: 2071/30, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005
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Carbon Check (India) Private Ltd.

Tushar Eknath Choudhari

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

For following functions:

Validator	☒	Team Leader	☐	Technical reviewer	☐
Verifier	☒	Technical Expert	☒	Local Expert[1]	☒

In the following Technical Areas:

TA 1.1	☒	TA 3.1	☐	TA 5.2	☐	TA 9.2	☐	TA 13.2	☐
TA 1.2	☒	TA 4.1	☐	TA 8.1	☐	TA 10.1	☐	TA 14.1	☐
TA 2.1	☐	TA 5.1	☐	TA 9.1	☐	TA 13.1	☒		

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Date of Approval
24/12/2019

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Revision History of the Document	
26/12/2014	Initial Adoption
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24/12/2018	Annual Revision
24/12/2019	Annual Revision

[1] India

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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	☒	Team Leader	☒	Technical reviewer	☒
Verifier	☒	Technical Expert	☒	Local Expert[1]	☒

In the following Technical Areas:

TA 1.1	☒	TA 3.1	☒	TA 5.2	☒	TA 9.2	☒	TA 13.2	☐
TA 1.2	☒	TA 4.1	☒	TA 8.1	☐	TA 10.1	☐	TA 14.1	☐
TA 2.1	☒	TA 5.1	☒	TA 9.1	☒	TA 13.1	☒		

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Date of Approval
24/12/2019

Valid Till
23/12/2020

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
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23/12/2017	Annual Revision
24/12/2018	Annual Revision
24/12/2019	Annual Revision

[1] India

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e-mail: info@carboncheck.co.in

Appendix 3. Documents reviewed or referenced

No.	*Reference Document*
/01/	Initial monitoring report (Version: 01; Dated: 01/05/2019)
/02/	Final monitoring report (Version: 04; Dated: 17/01/2020)
/03/	Emission reduction calculation spread sheet corresponding to /01/
/04/	Emission reduction calculation spread sheet corresponding to /02/
/05/	Letter of Engagement between DOE and PP
/06/	1. Invoice/bill raised by CEB to Campion during the monitoring period to cross check the data of the quantity of electricity delivered to the project plant/unit from the grid ($EG_{import,y}$) 2. Copy of invoice raised by Campion to CEB for each month during the monitoring period to cross check the data of the quantity of electricity supplied by the project/unit to the grid ($EG_{gross,y}$);
/07/	Commissioning certificate of the power plant
/08/	Technical specifications of: • Turbine • Generator • Electricity Meters
/09/	Single line diagram showing energy meters, transformers, feeders of the power plant and the evacuation of electricity to the grid
/10/	Daily generation logs
/11/	Standardized Power Purchase Agreement (SPPA) between Ceylon Electricity Board and Campion Hydro (Pvt) Ltd
/12/	Electricity generation License to Campion Hydro (Pvt) Ltd
/13/	Calibration certificates for main energy meter covering the entire monitoring period: a) Initial Interconnection certificate dated 28/04/2017 for the entire project testing including meter Sl. No.: 214586122 testing. b) Energy meter Sl. No.: 214586122 calibration certificate dated 28/12/2018
/14/	Records of training and competency of the project operators
/15/	Evidence for the monitoring records for the sustainable development parameters: a) Quality of employment (training certificates) b) Quantitative employment and income generation (Employment contracts including payment evidence) c) Access to affordable and clean energy services (Energy generation records)
/16/	Sri Lanka – Energy Balance 2015 – An Analysis of Energy Sector Performance (Proof of Grid Emission Factor)
/17/	Salary Slip and employment contract of employees of Campion Hydro (Pvt) Ltd.
/18/	CEB's Quotation for supply and installation of HV backup meter for Campion Hydro (Pvt.) Ltd.
/19/	Declaration regarding Rainfall data for Bogawana Estate, Bogawantalawa from May 2017 till February 2019.
/20/	Gold Standard for the Global Goals - Transition Annex (20210513_Campion Hydro_GS_ Approved Transition Annex_v4_ClimateSI.pdf)
/21/	Transition Review under Gold Standard for the Global Goals – Final Report (12/05/2021) - GS 5923_Transition Review_final_12052021.pdf
Background Documents	
/B01/	1. CDM VVS for PA (version 02.0) 2. CDM PS for PA (version 02.0) 3. CDM PCP for PA (version 02.0)
/B02/	Gold Standard for the Global Goals Principles & Requirements (Version 1.2)
/B03/	"AMS-I.D. Grid connected renewable electricity generation (version 18.0)
/B04/	Gold standard for the global goals Monitoring report (Version 1 – June 2017)
/B05/	Registered PDD (Version 2.3; Dated 04/01/2019) and its corresponding validation report version 04, dated 03/12/2018
/B06/	GS Passport (Version 2.3; Dated: 03/12/2018)
/B07/	Guideline on the application of Materiality in verifications (version 02.0)
/B08/	Website: 1. CDM (https://cdm.unfccc.int/Projects/projsearch.html) 2. VERRA (https://registry.verra.org/app/search/VCS/All%20Projects)

	3. GCC (https://projects.globalcarboncouncil.com/pages/submitted_projects) 4. The International REC Standard (https://www.irecstandard.org) 5. IREC registry (https://evident.services/device-register)
/B09/	Methodological Tool: “Tool to calculate the emission factor for an electricity system’ (Version 05.0)

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

Table 1. Remaining FAR from validation and/or previous verifications

FAR ID	xx	**Section no.**	E.2	**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

Table 2. CL from this verification

CL ID	01	**Section no.**	E.3	**Date:** 28/06/2019
Description of CL				
In Section B.1 of MR, PP has only provided technical characteristics/specifications of the project activity. As per para 256 of Project Standard, PP shall provide a description of the implemented registered project activity as follows: a) Installed capacity of technical equipment b) Information of the implementation and actual operation of the project activity, including relevant dates (e.g. construction, commissioning, start date of operation etc.) c) Indicate whether there are any temporary deviations from the registered monitoring plan, the applied methodologies				
Project participant response				**Date:** 23/08/2019
a) Installed capacities of technical equipment were added in section MR - B.1 PAGE 5. Photographs of equipment name plates are attached in annex 08. *b) All the requested information is added in section MR - A.1* *c) Sustainability monitoring plan was revised in section B.2 (page Nos.8 and 9)*				
Documentation provided by project participant				
Revised monitoring report				
DOE assessment				**Date:** 24/10/2019
a) PP has now incorporated installed capacity in the detailed technical specification table in the section B.1 of the MR. Further, PP has also provided the photographs of turbine name plates. The same has been checked and found ok. b) However, the PP has mentioned the information on the implementation status and timeline chronology in the section A.1 of the MR. The same has been checked and found ok. c) Temporary deviation/delays compared to information in approved project as required for the section by the template. **Thus, CL 01 has been kept open.**				
Project participant response				**Date:** 19/11/2019
Section B.2.1 has been updated with including of temporary deviation from the approved Passport and PDD.				
Documentation provided by project participant				
Updated monitoring report section				
DOE assessment				**Date:** 05/12/2019
PP has now incorporated temporary deviation/delays during this monitoring period in the section B.2.1 of revised MR. The same has been checked and found ok. **Thus, CL 01 has been closed.**				

CL ID	02	Section no.	Appendix 5	Date: 23/08/2019
Description of CL				
For sustainability monitoring discussed in section F.1 of MR, PP shall provide the detail of trainings conducted in this monitoring period including date, content, attendees and certificates etc. in support sustainability indicator "quality of employment".				
Project participant response				**Date:** 23/08/2019
ANNEX 01 shows the attendance for the Health and Safety Training Program conducted for the employees on 22-05-2018. ANNEX 02 shows the Certificate of Participation at the above workshop awarded to one employee.				
Documentation provided by project participant				
Attendance sheet and Certificate of Participation of the Health and Safety Training Program conducted on 22-05-2018.				
DOE assessment				**Date:** 24/10/2019
PP has now provided referred attendance sheet and certificate of participation for health and safety training. The same has been checked and found ok. **Thus, CL 02 has been closed.**				

CL ID	03	Section no.	Appendix 5	Date: 28/06/2019
Description of CL				
For sustainability monitoring discussed in section D.2 and section E.5 of MR, PP shall submit the documentary evidence of number of jobs created and income generation under the sustainability indicator "quantitative employment and income generation" during the monitoring period.				
Project participant response				**Date:** 23/08/2019
Pay sheets of all ten employees for the month of December 2018 are attached as the ANNEX 03				
Documentation provided by project participant				
Pay sheets of ten employees for the month of December 2018				
DOE assessment				**Date:** 24/10/2019
PP has now provided monthly pay/salary slip for all employees those who employed during project operation phase to support the SD indicator "Quantitative employment and income generation" monitoring. The same has been checked and found ok. However, PP has not used the monitoring parameter table as per the GS MR template. **Thus, CL 03 has been kept open**.				
Project participant response				**Date:** 20/11/2019
Monitoring parameters have been updated in section D.2 and E.5 as per the GS MR template.				
Documentation provided by project participant				
Updated Monitoring report				
DOE assessment				**Date:** 05/12/2019
PP has now mentioned the information in the tables under section D.2 and E.5 consistent with GS MR template. **Thus, CL 03 has been closed.**				

CL ID	04	Section no.	Appendix 5	Date: 28/06/2019
Description of CL				
For sustainability monitoring discussed in section F.1 of MR, PP has included the following neutral parameters (i.e., parameters which scored 0 in the sustainable development matrix in the registered GS passport): a) Air Quality b) Soil Condition c) Technology transfer and technological self-reliance PP shall explain the reason for their inclusion in the sustainability monitoring section of the MR.				
Project participant response				**Date:** 23/08/2019
Monitoring report was revised in section D2.				
Documentation provided by project participant				
Revised monitoring report				

DOE assessment	Date: 24/10/2019
PP has now incorporated only the parameters with significant impact in line with registered GS passport, in the section D.2 of the revised monitoring report. The same has been checked and found ok. **Thus, CL 04 has been closed.**	

CL ID	05	Section no.	E.3	Date: 28/06/2019
Description of CL				
In section B.2.1 of MR it has been mentioned that the length of channel and penstock of the project activity have are different than one mentioned in the registered PDD. In light of the above information, PP shall explain what impacts the change in length of penstock and channel will have on the gross electricity generated by the power plant as compared to the values provided in the registered PDD and provide documentary evidences to substantiate their justification.				
Project participant response				**Date:** 22/07/2019
Estimated length of penstock was 550m and loss of 2.1% had been estimated. When the length of penstock is 974m, the corresponding efficiency loss would be 3.7% on a pro-rata basis. Therefore, the additional reduction of efficiency due to the longer penstock would be only 1.6% and the decrease of electricity generated by the power plant and emission reduction can be neglected.				
Documentation provided by project participant				
Revised monitoring report				
DOE assessment				**Date:** 24/10/2019
PP has now provided the justification on impact of increase length of penstock will have upto 1.6% of resulting emission reduction estimation. The same has been checked with technical expert and found ok. **Thus, CL 05 has been closed.**				

CL ID	06	Section no.	E.5	Date: 28/06/2019
Description of CL				
It was observed during the on-site visit that check meter was not present in the switchyard and has not been installed at the project site for the entire length of monitoring period under consideration. In light of the above observation, PP shall explain how the implemented monitoring plan complies with the registered monitoring plan in the PDD.				
Project participant response				**Date:** 30/08/2019
PP agrees to install a check meter and requested a quote from CEB. It would be purchased and installed through CEB soon. Quotation taken from the CEB is attached as ANNEX 09				
Documentation provided by project participant				
Revised monitoring report, *Revised emission reduction calculation sheet*				
DOE assessment				**Date:** 24/10/2019
In the registered monitoring plan in the PDD, both main and check meter was defined. PP has provided energy bills and energy meter calibration certificate dated 28/12/2018, based on the review of the same it was found that the check meter was not installed during the current monitoring period and the electricity measurement/monitoring was done by only main meter throughout the monitoring period. The calibration frequency for electricity monitoring meter defined in the registered monitoring plan in the PDD as once a year. The meter was commissioned on 28/04/2017 hence the calibration was due on 27/04/2018. The project has delayed calibration of monitoring energy meter. Thus, PP is requested to clarify how the calculation of GHG emission reductions are in compliance with paragraph 366 a) of validation and verification manual, version 02 requirement. **Finding is still not closed.**				
Project participant response				**Date:** 19/11/2019
Emission reduction was calculated considering the average percentage of error in calibration report during the 27/04/2018 to 28/12/2018.				
Documentation provided by project participant				
Updated Emission Reduction calculation sheet *Updated monitoring report*				
DOE assessment				**Date:** 05/12/2019

PP has now submitted revised ER calculation sheet with correction error factor to electricity generation. Further the correction factor has not been applied to Net Output ($EG_{BL,y}$) and not to electricity import and electricity export values as per the guidance provided in Appendix – Calibration of CDM VVS for Project Activities (version 02.0). **Thus, Findings is still open.**

Project participant response	**Date:** 17/01/2029

Selected the correction factor according to the VVS v2 Paragraph 366 a) and applied for both import and export values separately in conservative manner as per referred guidance and VVS v2

Documentation provided by project participant

Updated ER sheet, revised monitoring report version 3.0

DOE assessment	**Date:** 21/01/2020

The provided ER sheet, supportive documents has been checked and found that PP has correctly applied correction factor as per paragraph 366 a) of CDM VVS for Project Activities (version 02.0). The revised monitoring report has been also checked and found appropriate. **Thus, CL 06 has been closed.**

CL ID	07	**Section no.**	Supporting documents	**Date:** 28/06/2019

Description of CL

PP is requested to provide the following documents/evidence for verification:

a) Supporting evidence of commercial operation of the project activity
b) Electrical Single Line diagram
c) Manufacturer's specification of energy meters (make, model, serial Numbers, Accuracy)

Project participant response	**Date:** 23/08/2019

a) Relevant documents for commercial operation of the project activity is attached as ANNEX 04
b) Electrical single line diagram is attached as ANNEX 05
c) Calibration documents of the main meter are attached as ANNEX 06. This includes Manufacturer's information on the meter.

Documentation provided by project participant

Letter no. DGM/EPT/MHP/3150 from CEB,
Interconnection Certificate
Embedded Generator Test Certificate
Single Line Diagram of the Power Plant
Field Meter Test Report dated 28-12-2018 issued by CEB

DOE assessment	**Date:** 24/10/2019

a) PP has now submitted interconnection certificate and embedded generator test record for the project activity both dated 28/04/2017 issued by Ceylon electricity board to support commercial operation of the project activity. The same has been checked and found ok. **Thus, CL 07.a) have been closed.**
b) PP has now submitted single line diagram (SLD) of 33/0.4 kV Wimala surendra GSS substation certified by charted electrical engineer. The SLD clearly showing CEB metering point for the project activity. The SLD has been checked and found consistent with the actual scenario observed during site visit. **Thus, CL 07.b have been closed.**
c) PP has now submitted electricity monitoring main meter calibration certificate dated 28/12/2018 issued by Ceylon electricity board. The same has been checked and following details of the energy meter has been confirmed. **Thus, CL 07.c have been closed.**
Make:EDMI MK6N GENIUS
CEB serial no.DD2-9205435:
Serial No.214586122
Accuracy :0.5

Thus, CL 07 has been closed.

CL ID	08	**Section no.**	E.5	**Date:** 28/06/2019

Description of CL

As per monitoring plan in PDD, the net electricity supplied to the grid is to be calculated as the difference between the export and import. However, in ER sheet the net electricity supplied to grid ($EG_{BL,y}$) is calculated as the difference of Electricity Output ($EG_{gross,y}$) and electricity imported from grid. PP shall explain how it is in compliance with the approved monitoring plan.

Project participant response	**Date:** 23/08/2019

According to the singe line diagram (ANNEX 05), the energy meter is located at the CEB side of the CEB/PP boundary. Therefore, the meter records the net energy export to CEB grid. Consumption of the auxiliaries during the times when both generators are not producing energy, is recorded by the same meter as energy import. The misleading references in the ER worksheet were corrected.

Documentation provided by project participant

Updated ER Calculation Worksheet
DOE assessment **Date:** 24/10/2019
PP has now submitted revised ER calculation worksheet. The same has been checked and found that PP has now revised the title of the electricity monitored consistent with registered monitoring plan. **Thus, CL 08 has been closed.**

Table 3. CAR from this verification

CAR ID	01	**Section no.**	E.1	**Date:** 28/06/2019
Description of CAR				
The template of monitoring report used by PP is not consistent with the MR template June 2017 version available on GS website. PP shall use the latest version of monitoring report template.				
Project participant response				**Date:** 23/08/2019
The template of monitoring report updated to MR template June 2017.				
Documentation provided by project participant				
Revised monitoring report				
DOE assessment				**Date:** 24/10/2019
PP has now submitted revised monitoring report. The title page table, monitoring parameter table, section E.4, E.5, E.6 has not been consistent with GS MR template. Further the section filling guidance for each section has not been deleted in the revised monitoring report. **Thus, CAR 01 have been kept open.**				
Project participant response				**Date:** 19/11/2019
Revised monitoring report has been changed according to the GS MR template which is published in the GS website and also added the section E.4, E.5, and E.6				
Documentation provided by project participant				
Updated monitoring report				
DOE assessment				**Date:** 05/12/2019
PP has now revised monitoring report consistent with GS MR template and has also removed/deleted section filling guidance throughout the revised monitoring report. **Thus, CAR 01 has been closed.**				

CAR ID	02	**Section no.**	E.8.6	**Date:** 28/06/2019
Description of CAR				
In accordance with requirements of para 267 of CDM PS for project activities (Version 02.0), the project participants shall explain the cause of any increase in the actual GHG emission reductions achieved during the monitoring period (e.g. higher water availability, higher plant load factor), including all information (i.e. data and/or parameters) that is different from that stated in the registered PDD. Emission reductions achieved during the monitoring period is 2% (88 tCO2) higher than the estimated value in the PDD. However, the reason for the increase has not been provided in section E.6 of MR. Furthermore, PP shall provide appropriate supporting evidences to justify their claim.				
Project participant response				**Date:** 23/08/2019
PDD has used an annual rainfall value of 2,334mm based on historical data. This works out to 4,201.2mm for the monitoring period. However, the actual rainfall recorded during the monitoring period is 4,503 which is 7.2% higher than the value used in the PDD. Therefore, the increase of annual energy generation and GHG emission reductions by 2% can be attributed to the higher rainfall. *Historical rainfall data sheet is attached in annex 07(a) and Annex 07(b).*				
Documentation provided by project participant				
Historical rainfall data sheet				
DOE assessment				**Date:** 24/10/2019
PP has now incorporated justification for the difference in the estimated value in the PDD and the actual value achieved during the current monitoring period under section E.6 of the revised MR. The same has been checked and found consistent with provided supportive historical rainfall data. **Thus, CAR 02 has been closed.**				

CAR ID	03	Section no.	E.6.2	Date: 28/06/2019
Description of CAR				
In section D.2 of MR, the unit and description of the monitored parameter $EG_{BL,y}$ is not in accordance with the registered PDD. Furthermore, PP shall provide year-wise breakup of the amount of electricity supplied to the grid.				
Project participant response				**Date:** 23/08/2019
The monitoring period spans over three calendar years. Therefore, the Monitoring report was revised to indicate the yearly breakdown of emission reduction.				
Documentation provided by project participant				
DOE assessment				**Date:** 24/10/2019
PP has now incorporated the consistent unit for the monitoring parameter and now also incorporated year wise breakup under the table in the section D.2 of the MR. **Thus, CAR 03 has been closed.**				

CAR ID	04	Section no.	E.3	Date: 28/06/2019
Description of CAR				
The description of monitoring system as provided in section C of the MR, is not in accordance with the information provided in the registered PDD. In accordance, with para 258 of CDM PS for project activities (version 02.0), the description of monitoring system shall contain the following: a) line diagrams (graphical schemes) showing all relevant monitoring points. b) data collection procedures (information flow including data generation, aggregation, recording, calculations and reporting), c) organizational structure, d) roles and responsibilities of personnel, and e) Emergency procedures for the monitoring system.				
Project participant response				**Date:** 23/08/2019
Section C was updated with above details. (Page nos: 7-9)				
Documentation provided by project participant				
DOE assessment				**Date:** 25/10/2019
PP has now provided SLD for the project site clearly showing monitoring point. Further in the section c of the monitoring report PP has now incorporated information on data collection procedures, organisation structure flow chart, roles and responsibilities of the personnel and other relevant information for the monitoring system in the section c of revised monitoring report. The same has been checked and found consistent with actual monitoring plan implemented on site which was observed during site visit. **Thus, CAR 04 has been closed.**				

CAR ID	05	Section no.	D.2 of MR	Date: 28/06/2019
Description of CAR				
As per section D.2 of monitoring report, the electricity exported to the grid is measured by the main meter and check meter installed at the power plant. Also, it is mentioned that calibration of the above meters is done once a year. However, the specification and calibration details of energy meters are not provided in the row titled monitoring equipment. PP shall provide the specifications of installed meters (including the make, model, serial number, accuracy class, etc.) and calibration details (initial Calibration certificate, date of installation of meters, periodic calibration reports) covering the entire monitoring period for all both main and check energy meters.				
Project participant response				**Date:** 23/08/2019
The meter has been supplied by and remain the property of CEB. Therefore, direct information from manufacturers is not available to PP. CEB's Calibration report of the energy meter containing the specifications, is attached in annex 06				
Documentation provided by project participant				
Calibration Report of CEB dated 28-12-2018				
DOE assessment				**Date:** 25/10/2019

PP has now provided calibration report for the monitoring energy meter dated 28/12/2018. However, PP has not mentioned the details of the same (accuracy class, meter serial no., due date of calibration, date of calibration, delayed period of calibration for which correction factor applied by PP during the current monitoring period has not been clearly mentioned the revised monitoring report. **Thus, CAR 05 has been kept open.**
Project participant response **Date:** 19/11/2019
Calibration details were added in section D.2 of revised monitoring report.
Documentation provided by project participant
Updated monitoring report
DOE assessment **Date:** 05/12/2019
PP has now updated the table and incorporated required information on energy meter calibration and delayed period of calibration under section D.2 of the revised monitoring report. The information has been checked with provided calibration certificate and found consistent. **Thus, CAR 05 has been closed.**

CAR ID	06	**Section no.**	Appendix 5	**Date:** 28/06/2019
Description of CAR				
PP has not provided the information of future target achieved for all indicators of sustainability monitoring plan in Section F.1 of MR. Furthermore, PP shall provide the sustainability monitoring parameters using the table format used in section D.2 of MR for other monitoring parameters.				
Project participant response				**Date:** 23/08/2019
Sustainability monitoring plan has been revised in section D.2 (page No.11-13)				
Documentation provided by project participant				
DOE assessment				**Date:** 24/10/2019
PP has now provided revised monitoring report, however the sustainability monitoring parameter has not been mentioned as per table in the template under section D.2. **Thus, CAR 06 is kept open.**				
Project participant response				**Date:** 19/11/2019
Monitoring parameters have been mentioned in section D.2 as the template.				
Documentation provided by project participant				
Updated monitoring report				
DOE assessment				**Date:** 05/12/2019
PP has now revised the tables under section D.2 of revised monitoring report consistent with the GS monitoring report template. **Thus, CAR 06 has been closed.**				

Table 4. FAR from this verification

FAR ID	01	**Section No.**	E.5	**Date:** 08/12/2019
Description of FAR				
As per the registered monitoring plan in the PDD, both main and check meter was defined. During the on-site visit it was found that the check meter was not installed during the current monitoring period. VT during the next verification shall check the installation of check energy meter on site and the compliance of implemented monitoring plan with the registered monitoring plan.				
Project participant response				**Date:** DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				**Date:** DD/MM/YYYY

Appendix 5. Sustainability Monitoring

SDG Indicator	Chosen parameter in the registered GS PDD and monitoring report	Way of monitoring	Assessment	Verified Score
SDG 8 - Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status	**Quality of employment** (Staff was trained by generating awareness of health and safety. (Safeguarding Principle 3 - Community Health, Safety and Working Conditions))	Regular training certificates provided by Campion Energy Service Pvt Ltd	During the current monitoring period 10 people from Campion Hydro (Pvt.) Ltd. Have been provided training on health and safety and sustainability. The same was verified through review of attendance sheet, training certificates /14/, /15-a/ and on-site interviews with the personnel to whom the training was imparted. Hence, rating of this indicator as positive is correct.	+ (positive)
SDG 8- Annual growth rate of real GDP per employed person	**Quantitative employment and income generation/ Livelihood of the poor** (No of job created by Campion Energy Service Pvt Ltd and their salary (Safeguarding Principle 6 – Economic Impacts)	Monthly pay sheets of existing employees throughout the monitoring period	During the current monitoring period PP has employed 10 people for operation and day to day running of the hydropower plant. The same was verified by verification team through review of employment contracts and salary slip /17/ and on-site interviews of the employees. The project improved the livelihood of those hired by providing employment and generating regular income, and thus has a positive impact on their economic well- being. Hence, rating of this indicator as positive is correct.	+ (positive)
SDG 7 – Renewable energy share in the total final energy consumption	**$EG_{BL,y}$** (Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity (Safeguarding Principle 7- Climate and Energy))	Separate monthly invoice issued by the CEB to the power developer certifying the receipt of power from the power plant based on the export	During the current monitoring period, the project activity has exported 7680.48 MWh of electricity to the national grid of Sri Lanka. The same has been verified through review of invoices issued by CEB by Campion Hydro (Pvt.) Ltd. /06-1/, invoice raised by Campion Hydro (Pvt.) Ltd to CEB	+ (positive)

		meter reading and the import of power from the CEB grid based on the import meter reading.	/06-2/ and also through review of daily generation logs /10/ during OSV. Hence, rating of this indicator as positive is correct.	
SDG 13- Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)	**GHG emission reduction** (GHG emission reduction of electricity generation using renewable energy sources by replacing fuel oil and diesel based generating sources (Safeguarding Principle 7 – Climate and Energy))	Separate monthly invoice issued by the CEB to the power developer certifying the receipt of power from the power plant based on the export meter reading and the import of power from the CEB grid based on the import meter reading.	During the current monitoring period, the project activity has exported 7680.48 MWh of electricity to the national grid of Sri Lanka. The same has been verified through review of invoices issued by CEB by Campion Hydro (Pvt.) Ltd. /06-1/, invoice raised by Campion Hydro (Pvt.) Ltd to CEB /06-2/ and also through review of daily generation logs /10/ during OSV. Hence, rating of this indicator as positive is correct.	+ (positive)

Grievance Mechanism:

VVB has reviewed the grievance mechanism put in place by PP during the OSV. As a part of continuous input / grievance mechanism a feedback/complaint register is kept at PP's office. During the OSV the VT through review of the "feedback/complaint register" at the PP's office and through interview with local stakeholders (as listed in section D.3) confirms that a robust and effective mechanism for addressing the grievance of stakeholders is in place and the same was followed by the PP during the reported monitoring period. Furthermore, the VT also confirms that no feedback was received by PP during this monitoring period.

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Document information

Version	*Date*	*Description*
03.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the "CDM validation and verification standard for project activities" (CDM-EB93-A05-STAN); • Make structural and editorial improvements.
02.1	11 January 2018	Editorial revision to correct the numbering of appendices in the instructions.
02.0	31 October 2017	Revision to align with the requirements of the "CDM validation and verification standard for project activities" (version 01.0).
01.0	23 March 2015	Initial publication.

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