Verification and certification report form for CDM programme of activities

(Version 03.0)

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

BASIC INFORMATION		
Title and UNFCCC reference number of the programme of activities (PoA)	Impact Carbon Global Safe Water Programme of Activities (PoA) UNFCCC Ref. No.9948	
Version number(s) of the PoA-DD(s) to which this report applies	7.0	
Version number of the verification and certification report	3.0	
Completion date of the verification and certification report	21/08/2020	
Monitoring period number and duration of this morning period	Monitoring Period Number: Third Monitoring Period: 23/05/2019-31/12/2019 (both days inclusive)	
Number and version number of the monitoring report to which this report applies	Version: 3 Monitoring Report Number: 2	
Coordinating/managing entity (CME)	Impact Carbon	
Host Parties	Host Parties of the PoA	Is this a host Party to a CPA covered in this report? (yes/no)
	Rwanda	No
	Uganda	No
	Nigeria	Yes
	Kenya	No
Applied methodologies and standardized baselines	Methodology: AMS-III.AV. Low greenhouse gas emitting safe drinking water production systems (Version 4.0) Standardized Baseline: Not Applicable	
Mandatory sectoral scopes	3: Energy Demand	
Conditional sectoral scopes, if applicable	Not Applicable	
Estimated amount of GHG emission reductions or GHG removals for this monitoring period in the included CPAs covered in this report	1,267,385 tCO_2e	
Certified amount of GHG emission reductions or GHG removals for this monitoring period for the included CPAs covered in this report	227,787 tCO_2e	
Name and UNFCCC reference number of the	Earthood Services Private Limited	

DOE	E-0066
Name, position and signature of the approver of the verification and certification report	 Dr. Kaviraj Singh Managing Director

SECTION A. Executive summary

The PoA aims at distribution of the low carbon emissions water purification technologies to households, communities and institutions in Rwanda, Nigeria, Kenya and Uganda. Thus, PoA through the dissemination of these technologies aims to address the issue of lack of access to safe drinking water.

In absence of the PoA, boiling water using fossil fuels / non-renewable woody biomass would have been the means of availing safe drinking water. The project Water Purification Systems (WPS) provides safe drinking water without the use of non-renewable biomass/ fossil fuel, thus leading to reduction in Green-house gas (GHG) emissions attributed to boiling in the baseline. This verification covers implemented CPAs 9948-P1-0043-CP1 to 9948-P1-0077-CP1 (35 CPAs).

The verification team confirms that the total emission reductions achieved under this monitoring period from 23/05/2019 to 31/12/2019 (inclusive of both days) are 227,787 tCO_2e.

Scope of verification:

The verification is an independent and objective review, of ex-post determination of the monitored reductions in GHG emissions, by the DOE. The verification includes the implementation and operation of the PoA as set out in the revised accepted PoA-DD & CPA-DDs viz., 9948-P1-0043-CP1 to 9948-P1-0077-CP1 (35 CPAs) in the monitoring period.

The verification tests the data and assertions set out in the monitoring report prepared for this monitoring period by the CMEs and is based on the following:

(i) The approved methodology AMS-III.AV. ver.4 “Low greenhouse gas emitting safe drinking water production systems” /6/ applied in the PoA-DD & CPA-DDs/1,2/

(ii) The registered and revised accepted PoA-DD & CPA-DDs and monitoring plan/1,2/

(iii) UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords

(iv) The CDM Validation and Verification Standard (VVS) for PoA version 2.0/9/

(v) The CDM Project Standard (PS) /7/ and Project Cycle Procedure (PCP) for PoA version 2.0 /8/

(vi) Relevant decisions, guidance and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity’s reported emission reductions

The verification has considered both quantitative and qualitative aspects on stated/reported emission reductions. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC, as appropriate to the PoA. The verification is not meant to provide any consulting or recommendations to the CME/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

Verification Process:

The verification process is conducted as per internal CDM Quality Manual, which includes the following steps;

a) Contract with CME and appointment of verification team and technical review team (refer Section B.1 and B.2 of this report)

b) Completeness check of Monitoring Report

c) Publication of Monitoring Report at UNFCCC website

d) Desk review (refer Section D.1 of this report) of Monitoring Report/13/ and corresponding ER sheet /4/ by verification team and planning of onsite audit (including sampling approach (refer Section D.4 of this report) to be applied)

e) Remote Audit Survey (refer Section D.2 of this report) (interview with relevant stakeholders) by verification team consistent of Team Leader and all Technical Experts, as a minimum

f) Follow up activities e.g., interviews (refer Section D.3 of this report)

g) Reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report (refer Section D.5 of this report)

h) Independent technical review (refer Section F of this report) of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidences)

i) Reporting and closure of TR comments/findings (refer Section D.5 of this report) (CARs/CLs/FARs) and final approval for the decision made (refer Section G and H of this report).

j) Issuance of final verification report to contracted CME (or authorized representatives) and submission of request for issuance, as appropriate.

Verification Conclusion:

Based on the outcome of the verification process of the registered/revised accepted PoA **"**Impact Carbon Global Safe Water Programme of Activities (PoA)**"** and its 35 CPAs (**9948-P1-0043-CP1 to 9948-P1-0077-CP1**) for the monitoring period **23/05/2019 – 31/12/2019** (including both dates) we confirm that the implementation of referenced registered/revised accepted PoA and CPAs is complying with applicable CDM rules and regulations as stated in the Monitoring Report (final) **Ver 3, dated 19/08/2020** /13/. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodologies AMS-III.AV. ver.4 "Low greenhouse gas emitting safe drinking water production systems" /6/ and the monitoring plan contained in the revised accepted PoA-DD/1/.

Earthood Services Private Limited is able to certify that the emission reductions from the registered CDM PoA UN#9948 "Impact Carbon Global Safe Water Programme of Activities (PoA)" in Nigeria during the period **23/05/2019 – 31/12/2019** (including both days) amount to **227,787** tCO_2e. Therefore, this is being submitted for request for issuance, as per UNFCCC procedures

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team members

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*	Interview(s)	Verification findings
1.	Team Leader	IR	Mahala	Deepika	Central Office	Y	N	Y	Y
2.	Verifier	IR	Vatsa	Vaishali	Central Office	Y	N	Y	Y
3.	Technical Expert	IR	Mahala	Deepika	Central Office	Y	N	Y	Y
4.	Methodology Expert	IR	Mahala	Deepika	Central Office	Y	N	Y	Y
5.	Local Expert	IR	Luka	Kumden	Central Office	Y	N	N**	Y

*****Remote Audit Survey was conducted instead of on-site audit. Refer to section D.2 for details.

******The interviews were conducted with the head of the institution of the schools who were well versed with English language. They were able to understand and respond to our remote audit survey questions in English. Thus, no linguistic issue was faced during this remote audit survey.

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	Gautam	Ashok	Central Office
2,	TA to TR	IR	Gautam	Ashok	Central Office
3.	Approver	IR	Singh	Kaviraj	Central Office

SECTION C. Application of materiality in conducting the verification

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.	Observational error by monitoring survey staff of CME/CPA implementer while recording the responses of users in relation to survey parameters	High	The survey is conducted for representative samples of population, which may impact the population significantly. Surveyors may be unsupervised at the site.	Verification team randomly selected the samples from CME surveyed sampled WPS. The recorded survey forms by CME were checked with DOE remote audit survey observations. The verification team also interviewed the monitoring staff and checked their training records.
2.	Calculation Errors	Med	The process is manual and therefore there is potential risk of errors / omissions/misstatements.	All calculations were checked by verification team concerning applicable requirements under various documents viz., methodology, registered PoA DD/1/, CPA DDs/2/ etc.

C.2. Consideration of materiality in conducting the verification

In accordance with CDM VVS for PoAs, Version 02.0/9/ the prescribed thresholds for materiality for CDM PoAs are as under;

Type of PoA	PoAs comprising large-scale CPAs			PoAs comprising only small-scale CPAs	PoAs comprising only micro-scale CPAs
Emission Reductions (tCO2e)/year	500,000 or more	300,001 to 499,999	300,000 or less		
Materiality Threshold	0.5%	1.0%	2.0%	5.0%	10.0%

The applicable materiality threshold is 5% as PoA comprises only small-scale CPAs.

Particulars / Monitoring Report	MR Version (Public)	MR Version (Revised/Final)
Emission Reductions Achieved (tCO2e) in this monitoring period	303,908	227,787*
Applicable Threshold (%) as per CDM VVS for PoAs Version 02.0	5.0%	5.0%

The verification team has identified the impact of errors observed and those have been corrected by CME during verification for all monitoring parameter at individual and aggregate level.

Monitored Parameter (Symbol / Description)	Reporting Frequency	Number of Discrete Data* (Total) Total (100%)	Sample selected for verification Sample (100%)	Type of error identified	Impact on ERs	
					ERs impacted (Sample)	ERs impacted (Population based on extrapolation)
9948-P1-0043-CP1 to 9948-P1-0077-CP1						
For water purifier						
QPW_y	Annual or at least biennial	35 calculated parameter for each CPA)	35 (100%)	There were errors in calculation which have	All the errors have been	No extrapolation is required

				been corrected (35).	corrected *	as 100% values checked and corrected.
n_{WB}	Continuously or at least biennial	1	1	None	NA	NA
Tyi	Continuous	4,201 UltaFLO 8,240 UltraTAB (12,441)	4,201 UltaFLO 8,240 UltraTAB Sales database/5/ was checked for the information. 11 WPS were checked during remote audit survey for cross check.	None	NA	NA
Nyi	Continuous	11,447	Entire sales database was checked for the information.	None	NA	NA
Water quality (WQ)	Annually	66	11 (based on acceptance sampling)	None	NA	NA
Operational $Units_i$	At least once per verification	70	11 (based on acceptance sampling)	None	NA	NA
f_{NRB}	Continuously	1	1	None	NA	NA
$EF_{projected\_fossilfuel}$	Continuously	1	1	None	NA	NA
Existence of public distribution network of safe drinking water	Annually	66	11 (based on acceptance sampling)	None	NA	NA

*The ERs mentioned in MR (public) and the ER sheet submitted were found to be different. An inconsistency was identified between the MR and the ER sheet after the MR was published for webhosting by the DoE. Thus, CAR#01 was raised and resolved for the inconsistency identified.
Based on the above table it can be confirmed that the actual individual and aggregated material error is determined for the registered PoA as per CDM VVS for PoA/09/. The applicable threshold for materiality in accordance with CDM PoA VVS Version 2 para 308(d)/9/ is 5%.

SECTION D. Means of verification

D.1. Desk/document review

A desk review was conducted by the verification team that included:

a) A review of data and information provided for its completeness.
b) A review of registered monitoring plan, monitoring methodologies including applicable tools, standards, and the applicable applied standardized baselines.

All the documents reviewed during the verification process are listed in the Appendix 3 of VCR.

D.2. On-site inspection[1]

Duration of on-site inspection: NA*				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	Interview of the monitoring personnel and CME representative	**-**	31/03/2020-01/04/2020	Deepika Mahala and Vaishali Vatsa
2.	Interview of the head of the institution related to the DoE sampled project devices	**-**	31/03/2020-01/04/2020	Deepika Mahala and Vaishali Vatsa

*No physical site-visit was conducted. Alternative means were adopted, under which remote audit survey was conducted.

Mandatory Site-visit

The site-visit for the current verification was mandatory as the number of credits being verified since last verification are more than 300,000 as per webhosted MR in-line to para 321 of VVS for PoA Version 2.0 /9/.

Planned On-Site Visit

The on-site visit was initially planned from 30/03/2020 – 04/04/2020. In view of the COVID-19 outbreak and increased exposure due to international travel and nation-wide lockdown in India (DOE office country), on-site visit was not possible as per original plan. An advisory issued by Ministry of Health & FW on 19/03/2019 said that "No scheduled international commercial passenger aircraft shall take off from any foreign airport for any airport in India, after 0001 hrs GMT of March 22, 2020 (*i.e. 0531 hrs Indian Standard Time (IST) of March 22, 2020) - these instructions shall remain in force till 0001 hrs GMT of March 29, 2020"/43/.
Also, the Indian government has imposed 21-day lockdown. In an attempt to slow spread of the coronavirus with effect from 26/03/2020- 15/04/2020. During this, period there is total ban on venturing out of the homes/41,43/. In such situation, conducting a site visit in a foreign country became an implausible activity for the verification team.

Issue with the postponement of Site-visit:

The on-site audit assessment for this verification could not be postponed as the cases of coronavirus started rising suddenly with a very high number of death rates in many countries/40/. The Indian government also foresaw the same situation to happen in India. The lockdown was imposed across the country. By each passing day it was not clear whether the lockdown would get relaxed or extended. Delaying the site visit would lead to delayed issuance of the CERs. The CME relies upon the CER revenue generated from the project for the working capital of the project. It was clarified by the CME that along with the impact on the working capital of the project, the delay might also cause ERPA/35/ being cancelled. In light of the argument and evidence (CME Mail /34/) made available by the CME a clarification for the exemption of the onsite visit was sought from CDM EB.

Exemption by CDM EB

In response to the clarification requested, an exemption (for the on-site visits scheduled from.23/03/2020-23/06/2020) was provided by CDM EB. Due to the on-site visit exemption provided by the CDM-EB concerning the COVID-19 outbreak, a checklist as per the ESPL CDM QMS was made available for the application of alternative means for verifying the project related details. A declaration (Checklist for alternative means for site-visit exemption in accordance with the ESPL CDM QMS) was submitted to the Technical Manager for approval.

Alternative means applied

Following alternative means have been used to verify the project details:
Remote Audit Surveys including interviews of CME/CPA Implementer, end users and the personnel's involved in monitoring and preparation of the monitoring report and related documents via e-meeting. Random samples for eleven WPS systems (details on sampling provided in section D.3) were drawn from the CME's monitoring sample survey sheet and interviewed through skype calls.

[1] This table lists down the activities conducted during the remote audit survey

1. Photographic evidences of the water quality testing kits/30/, installed WPS with Unique Product IDs/27/, Monitoring Survey (filled) Forms/18/.
2. Complaint Log (Scanned Samples) /37/
3. Monitoring personnel training certificates/20/
4. Review of Other Documentary evidences (ER sheet/4/, Sample Size Calculation sheet, Monitoring Data sheet)
5. Videos of the 11 selected samples of WPS showing the WPS installed along with the basic information related to the installation (Purchase order/14/, Delivery Notes/21/) and the interview of the respective school representatives**.**

D.3. Interviews[2]

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Brown	Julie	Impact Carbon	31/03/2020-01/04/2020	Sampling Surveys	Deepika Mahala, Vaishali Vatsa
2.	Neville	Tim	Impact Water	31/03/2020-01/04/2020	Implementation	Deepika Mahala, Vaishali Vatsa
3.	Akinyemi	Zacch	Impact Water Nigeria	31/03/2020-01/04/2020	Implementation, Sales records	Deepika Mahala, Vaishali Vatsa
4.	Obunaya	Samuel	Impact Water Nigeria	31/03/2020-01/04/2020	Database management	Deepika Mahala, Vaishali Vatsa
5.	Huelsenbeck	Mark	Impact Water Nigeria	31/03/2020-01/04/2020	Monitoring surveys	Deepika Mahala, Vaishali Vatsa
6.	Lohia	Rohit	Climate Secure India Private Limited	31/03/2020-01/04/2020	Monitoring Report, Sampling methodology, ER calculations	Deepika Mahala, Vaishali Vatsa
7.	-	Nihar	Climate Secure India Private Limited	31/03/2020-01/04/2020	ER calculation and Sampling	Deepika Mahala, Vaishali Vatsa
8.	Augustine B	Ogunseye	Saint Joohn Primary School (Head Teacher)	31/03/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa
9.	Mercy	Ogazie	Divine Group of Schools (School Head)	31/03/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa
10.	Nyine	Eyi Mimmi	SPS I OGALE (Head Teacher)	31/03/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa
11.	O.O	Ogundeji	St.Paul Primary School I (Head Teacher)	01/04/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa
12.	-	Adeboye	Centre of Learning nursery (Head Mistress)	31/03/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa
13.	Olaniyi	Ilori Micheal	Methodist Primary School (Head Teacher)	31/03/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa
14.	A.O.	Soleye	L.G. School (Head Mistress)	31/03/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa
15.	Awawu	Badmus	Ansar-Udeen Nursery and Primary School (School Secretary)	31/03/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa
16.	-	Olukoya	United Anglican Primary School	31/03/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa

[2] Interviews were conducted Via Skype Call

			(health officer)			
17.	-	Abysa	Unison Nursery and Primary School (Head teacher)	31/03/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa
18.	B.B	Popoola	C.P.S (Principal)	01/04/2020	DOE Remote audit survey	Deepika Mahala, Vaishali Vatsa

D.4. Sampling approach

CME Sampling approach

For the purpose of sampling, CME has followed the CDM guidelines for Sampling and surveys for CDM project activities and programmes of activities version 4.0/31/ and Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 8/19/ which is in-line with the revised accepted PoA DD/1/. The CME has applied Stratified Random Sampling at PoA level for different monitoring parameters as per validated revised accepted/registered PoA DD /1/and registered CPA DDs/2/. 95/10 confidence precision was applied by CME in the sampling which is appropriate as per the single sampling covering 35 CPAs. Thus, CPA wide single sampling plan was used by the CME.

DOE Sampling approach

In order to meet the requirements of paragraph 28 of Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 8/19/ the verification team applied acceptance sampling in the verification (in accordance with para 28).

According to para 30 of Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 8/19/, The maximum errors associated with the determination have been kept at following level:

(a) A 10 per cent chance that the DOE will wrongly reject the project participants' or the coordinating/managing entity's records (i.e. reject a set of records of acceptable quality);

(b) A 10 per cent chance that the DOE will wrongly accept the project participants' or the coordinating/managing entity's records (i.e. accept a set of records which is unacceptable).

Verification team has applied following AQL and UQL level using its own judgement:

0.5% AQL- Acceptable quality level (AQL) or the level of assurance, that is the proportion of acceptable discrepancies between the project participants' or the coordinating/managing entity's sample records and the DOE sample records

20% UQL- Unacceptable quality level (UQL), that is the proportion of unacceptable discrepancies between the project participants' or the coordinating/managing entity's sample records and the DOE sample records.

The verification team selected the sample size as 11 water purification systems for the purpose of remote survey to check the acceptability of CME's sampling results or otherwise.

Sample Size:

CPA Ref No.	AQL	UQL	Producer Risk	Consumer Risk	Sample Size; Min	Acceptance No.
9948-P1-0043-CP1 to 9948-P1-0077-CP1	0.5%	20%	10%	10%	11	0

The verification team selected random samples from CME's sampled units to check the acceptability (or otherwise) of the monitoring data for each such record with CME's sample records, and determine if the CME's sample records meet the requirements.
The distribution breakup from sales database is as follows:

Type of WPS	No. of units
Ultra FLO	4,201
Ultra Tab	8,240

Since, the distribution ratio between the two categories is 2:1, the DOE's sample size of 11 WPS units was also divided in a similar ratio. These 11 samples were chosen randomly (using website www.randomizer.org) out of total of 70 CME's monitored samples (as part of monitoring survey). As per plan, 11 systems (WPS) were required and DOE surveyed 4 samples of Ultra FLO type and 7 samples of Ultra Tab type. No inconsistency between the CME results and DOE's observations during the remote survey were found.

D.5. Clarification requests, corrective action requests and forward action requests raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
General	-	-	-
Compliance of the monitoring report with the monitoring report form	-	-	-
Remaining forward action requests from validation and/or previous verifications	-	-	-
CPAs considered for verification and covered in this report	-	-	-
Programme of activities	-	-	-
Compliance of the programme implementation with the registered PoA-DD	-	-	-
Implementation and operation of the management system	-	-	-
Post-registration changes	-	-	-
• Corrections	-	-	-
• Inclusion of a monitoring plan	-	-	-
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents[3]	-	-	-
• Changes to the programme design	-	-	-
• Addition of CPA inclusion template	-	-	-
• Change of coordinating/managing entity	-	-	-
• Changes specific to afforestation and reforestation activities	-	-	-
Component project activities	-	-	-
Compliance of the CPA implementation with the included CPA design document	CL#03	CAR#02	-
Post-registration changes	-	-	-
• Temporary deviations from registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents	-	-	-
• Corrections	-	-	-
• Changes to the start date-of the crediting period	-	-	-
• Inclusion of a monitoring plan	-	-	-
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	-	-	-
• Changes to the project design	-	-	-
• Changes specific to afforestation and reforestation activities	-	-	-
Compliance of the registered monitoring plan with applied methodologies and standardized baselines	-	-	-
Compliance of monitoring activities with the registered monitoring plan	-	-	-
• Data and parameters fixed ex ante or at renewal of crediting period	-	-	-
• Data and parameters monitored	CL#01	CAR#03	-
• Implementation of sampling plan	CL#02	-	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals	-	-	-

[3] 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).

• Calculation of baseline GHG emissions or baseline net GHG removals by sinks	CL#04	-	-
• Calculation of project GHG emissions or actual net GHG removals by sinks	-	-	-
• Calculation of leakage GHG emissions	-	-	-
• Summary of calculation of GHG emission reductions or net GHG removals by sinks	-	CAR#01	-
• Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA	-	-	-
• Remarks on difference from estimated value in included CPA	-	-	-
Assessment of reported sustainable development co-benefits	-	-	-
Global stakeholder consultation	-	-	-
Others (please specify)	-	-	-
Total	04	03	-

SECTION E. Verification findings

E.1. General

E.1.1. Compliance of the monitoring report with the monitoring report form

Means of verification	The monitoring report form used is CDM-PoA-MR-FORM version 03.0/10/ which is an appropriate form and the latest version available at the time of verification/submission for request for issuance. All the sections of the aforesaid form were duly filled as per the guidelines and provided all the relevant details.
Findings	No Finding was raised and resolved.
Conclusion	The final monitoring report /13/ is found to be in-line with the latest CDM-PoA-MR-form/10/ available and the instructions therein.

E.1.2. Remaining forward action requests from validation and/or previous verifications

No FAR was found to be raised during the validation of inclusion of CPAs/03/.

E.1.3. CPAs considered for verification and covered in this report

Title and UNFCCC reference number of the CPA included in the PoA as of the end of this monitoring period	Is the CPA considered for this verification? (yes/no)	The date when the CPA was included	Version of the PoA-DD	Confirmation that a request for issuance including the CPA has been published for the previous monitoring period (Y/N)
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 1, Version: 3.0, Ref No.:9948-P1-0001-CP1	No	01/05/2014	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 2, Version: 3.0, 9948-P1-0002-CP1	No	01/05/2014	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 3, Version: 1.3, 9948-P1-0003-CP1	No	08/05/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 4, Version: 01.2, 9948-P1-0004-CP1	No	02/07/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 5, Version: 5.0, 9948-P1-0005-CP1	No	04/10/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 6, Version: 5.0, 9948-P1-0006-CP1	No	04/10/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 7, Version: 5.0, 9948-P1-0007-CP1	No	04/10/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 8, Version: 5.0, 9948-P1-0008-CP1	No	04/10/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 9, Version: 5.0, 9948-P1-0009-CP1	No	04/10/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 10, Version: 5.0, 9948-P1-0010-CP1	No	04/10/2017	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 11, Version: 5.0, 9948-P1-0011-CP1	No	04/10/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 12, Version: 5.0, 9948-P1-0012-CP1	No	04/10/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 13, Version: 5.0, 9948-P1-0013-CP1	No	04/10/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 14, Version: 1.0, 9948-P1-0014-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 15, Version: 1.0, 9948-P1-0015-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 16, Version: 5.0, 9948-P1-0016-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 17, Version: 5.0, 9948-P1-0017-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 18, Version: 5.0, 9948-P1-0018-CP1	No	21/11/2017	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 19, Version: 5.0, 9948-P1-0019-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 20, Version: 5.0, 9948-P1-0020-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 21, Version: 5.0, 9948-P1-0021-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 22, Version: 5.0, 9948-P1-0022-CP1	No	21/11/2017	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 23, Version: 4.0, 9948-P1-0023-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 24, Version: 4.0, 9948-P1-0024-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 25, Version: 4.0, 9948-P1-0025-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 26, Version: 4.0, 9948-P1-0026-CP1	No	18/11/2018	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 27, Version: 4.0, 9948-P1-0027-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 28, Version: 4.0, 9948-P1-0028-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 29, Version: 4.0, 9948-P1-0029	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 30, Version: 4.0, 9948-P1-0030-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 31, Version: 4.0, 9948-P1-0031-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 32, Version: 4.0, 9948-P1-0032-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 33, Version: 4.0, 9948-P1-0033-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 34, Version: 4.0, 9948-P1-0034-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 35, Version: 4.0, 9948-P1-0035-CP1	No	18/11/2018	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 36, Version: 4.0, 9948-P1-0036-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 37, Version: 4.0, 9948-P1-0037-CP1	No	18/11/2018	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 38 supported by Republic of Korea, Version: 2.0, 9948-P1-0038-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 39 supported by Republic of Korea, Version: 2.0, 9948-P1-0039-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 40 supported by Republic of Korea, Version: 2.0, 9948-P1-0040-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 41 supported by Republic of Korea, Version: 2.0, 9948-P1-0041-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 42 supported by Republic of Korea, Version: 2.0, 9948-P1-0042-CP1	No	26/04/2019	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 43 supported by Republic of Korea, Version: 1.0, 9948-P1-0043-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 44 supported by Republic of Korea, Version: 1.0, 9948-P1-0044-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 45 supported by Republic of Korea, Version: 1.0, 9948-P1-0045-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 46 supported by Republic of Korea, Version: 1.0, 9948-P1-0046-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 47 supported by Republic of Korea, Version: 1.0, 9948-P1-0047-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 48 supported by Republic of Korea, Version: 1.0, 9948-P1-0048-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 49 supported by Republic of Korea, Version: 1.0, 9948-P1-0049-CP1	Yes	26/04/2019	7.0	Yes

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 50 supported by Republic of Korea, Version: 1.0, 9948-P1-0050-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 51 supported by Republic of Korea, Version: 1.0, 9948-P1-0051-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 52 supported by Republic of Korea, Version: 1.0, 9948-P1-0052-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 53 supported by Republic of Korea, Version: 1.0, 9948-P1-0053-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 54 supported by Republic of Korea, Version: 1.0, 9948-P1-0054-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 55 supported by Republic of Korea, Version: 1.0, 9948-P1-0055-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 56 supported by Republic of Korea, Version: 1.0, 9948-P1-0056-CP1	Yes	26/04/2019	7.0	Yes

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 57 supported by Republic of Korea, Version: 1.0, 9948-P1-0057-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 58 supported by Republic of Korea, Version: 1.0, 9948-P1-0058-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 59 supported by Republic of Korea, Version: 1.0, 9948-P1-0059-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 60 supported by Republic of Korea, Version: 1.0, 9948-P1-0060-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 61 supported by Republic of Korea, Version: 1.0, 9948-P1-0061-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 62 supported by Republic of Korea, Version: 1.0, 9948-P1-0062-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 63 supported by Republic of Korea, Version: 1.0, 9948-P1-0063-CP1	Yes	26/04/2019	7.0	Yes

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 64 supported by Republic of Korea, Version: 1.0, 9948-P1-0064-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 65 supported by Republic of Korea, Version: 1.0, 9948-P1-0065-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 66 supported by Republic of Korea, Version: 1.0, 9948-P1-0066-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 67 supported by Republic of Korea, Version: 1.0, 9948-P1-0067-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 68 supported by Republic of Korea, Version: 1.0, 9948-P1-0068-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 69 supported by Republic of Korea, Version: 1.0, 9948-P1-0069-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 70 supported by Republic of Korea, Version: 1.0, 9948-P1-0070-CP1	Yes	26/04/2019	7.0	Yes

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 71 supported by Republic of Korea, Version: 1.0, 9948-P1-0071-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 72 supported by Republic of Korea, Version: 1.0, 9948-P1-0072-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 73 supported by Republic of Korea, Version: 1.0, 9948-P1-0073-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 74 supported by Republic of Korea, Version: 1.0, 9948-P1-0074-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 75 supported by Republic of Korea, Version: 1.0, 9948-P1-0075-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 76 supported by Republic of Korea, Version: 1.0, 9948-P1-0076-CP1	Yes	26/04/2019	7.0	Yes
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 77 supported by Republic of Korea, Version: 1.0, 9948-P1-0077-CP1	Yes	26/04/2019	7.0	Yes

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 78 supported by Republic of Korea, Version: 1.0, 9948-P1-0078-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 79 supported by Republic of Korea, Version: 1.0, 9948-P1-0079-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 80 supported by Republic of Korea, Version: 1.0, 9948-P1-0080-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 81 supported by Republic of Korea, Version: 1.0, 9948-P1-0081-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 82 supported by Republic of Korea, Version: 1.0, 9948-P1-0082-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 83 supported by Republic of Korea, Version: 1.0, 9948-P1-0083-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 84 supported by Republic of Korea, Version: 1.0, 9948-P1-0084-CP1	No	26/04/2019	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 85 supported by Republic of Korea, Version: 1.0, 9948-P1-0085-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 86 supported by Republic of Korea, Version: 1.0, 9948-P1-0086-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 87 supported by Republic of Korea, Version: 1.0, 9948-P1-0087-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 88 supported by Republic of Korea, Version: 1.0, 9948-P1-0088-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 89 supported by Republic of Korea, Version: 1.0, 9948-P1-0089-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 90 supported by Republic of Korea, Version: 1.0, 9948-P1-0090-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 91 supported by Republic of Korea, Version: 1.0, 9948-P1-0091-CP1	No	26/04/2019	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 92 supported by Republic of Korea, Version: 1.0, 9948-P1-0092-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 93 supported by Republic of Korea, Version: 1.0, 9948-P1-0093-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 94 supported by Republic of Korea, Version: 1.0, 9948-P1-0094-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 95 supported by Republic of Korea, Version: 1.0, 9948-P1-0095-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 96 supported by Republic of Korea, Version: 1.0, 9948-P1-0096-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 97 supported by Republic of Korea, Version: 1.0, 9948-P1-0097-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 98 supported by Republic of Korea, Version: 1.0, 9948-P1-0098-CP1	No	26/04/2019	7.0	NA

Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 99 supported by Republic of Korea, Version: 1.0, 9948-P1-0099-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 100 supported By Republic of Korea, Version: 1.0, 9948-P1-0100-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 101 supported By Republic of Korea, Version: 1.0, 9948-P1-0101-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 102 supported By Republic of Korea, Version: 1.0, 9948-P1-0102-CP1	No	26/04/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 103 supported By Republic of Korea, Version: 1.0, 9948-P1-0103-CP1	No	11/06/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 104 supported By Republic of Korea, Version: 1.0, 9948-P1-0104-CP1	No	11/06/2019	7.0	NA
Impact Carbon Global Safe Water Programme of Activities (PoA): CPA 105 supported By Republic of Korea, Version: 1.0, 9948-P1-0105-CP1	No	11/06/2019	7.0	NA

E.2. Programme of activities

E.2.1. Compliance of the programme implementation with the registered programme design document

Means of verification

The PoA aims at disseminating water purification systems (WPS) technologies to target countries like Rwanda, Nigeria, Uganda, and Kenya for addressing the problem of safe drinking water. For this monitoring period, 35 CPA's of Type 2: Technologies for institutional water consumption, with no project emissions have been covered under the MR. This monitoring period includes the implementation and monitoring of 35 CPAs from 9948-P1-0043-CP1 to 9948-P1-0077-CP1 in Nigeria. The coordinating and managing entity (CME) is Impact Carbon, and CERPD Co., Ltd (CERPD) is the CPA Implementer/15/. CERPD has provided all implementation costs for the CPAs. CERPD has fully sponsored the WPS to make WPS affordable to beneficiary schools, as well covered the cost of operation and management of the CPAs in a financially sustainable condition. CERPD fully owns all the CERs specified in this monitoring report by virtue of an agreement with the CME. Their roles and responsibilities are defined in the signed agreement.

In absence of the project activity, the water would have been boiled using non-renewable biomass/fossil fuels leading to release of GHG emissions in the baseline. The implementation of the technology helps in replacing the use of non-renewable biomass / fossil fuel for boiling with the WPS, reducing amount of equivalent GHG emissions.

CPAs covered in the MR involve dissemination of two types of water purification systems:

1. Ultra FLO
2. Ultra Tab

Description	**Ultra FLO**	**Ultra Tab**
Size / Dimensions	Cartridge Length: ~12 cm Cartridge height: ~10 cm Cartridge circumference: ~22 cm	Strip size: ~13 cm X ~5.5 cm (100 tablets per packet)
Application	Piped water	Un-piped water
Flow rate	20L/min	1 tablet treats 100 L
Capacity/lifespan	340,000 L / 5-year expiry	10,000 L / 5-year expiry
Fixed or Portable	Fixed	Portable
Removal of E. Coli	99 (2-log)	99 (2-log)
Watts/Voltage	Not applicable	Not applicable

All the deployed systems meet the eligibility requirements of the PoA DD, page 65/1/. The details of the systems were verified from the manufacturer's specification/28/ provided by the CME.

Through the remote audit survey videos/38/ the installation of WPS claimed by the CME were checked and found to be in-line with the technical description provided in the registered PoA-DD/1/ and Monitoring report/13/.

Also, the verification team checked the implementation status of the project activity through interviewing the CME, CPA implementer, Monitoring personnel and WPS User as defined in the registered PoA DD/1/, and MR/13/.

Interview of the monitoring personnel via skype call involved in the QA/QC procedures revealed that the procedures mentioned in the PoA DD/1/ are being followed and the Training records/20/ regarding the trained personnel were checked.

The project location and coordinates shared by CME were verified using the "Google Map app" and found to be in-line with the registered PoA-DD/1/ and

	MR/13/. Further, based on the review of sales database (presented in ER sheet)/4/, remote audit survey observations and interview conducted during the e-meeting, the verification team found that: • The CPA(s) were implemented within the boundary of the PoA as described in the revised accepted PoA-DD/1/. • The CME is same as that mentioned in the revised accepted PoA-DD/1/ • The implementation and operation of the project activity has been conducted in accordance with the description contained in the revised accepted PoA-DD/1/ and included CPA-DDs/2/. • All physical features of the CPA proposed in the included CPA-DDs/2/ were in place • The project participants/CPA implementer has operated the CPAs as per the included CPA DDs/2/. A remote audit survey and e-meeting was conducted by the verification team; 11 WPS (4 for Ultra FLO units,7 for Ultra TAB units) were surveyed. The uniqueness of the system was identified from UID written on the units (either on cartridges or on TAB box packs)/27/. Along with the unique ID the following details are also noted in the database: a) Type of system (UltraFLO / UltraTAB) b) Unique serial number of the units installed / distributed c) Date of installation / distribution d) Address and details of school and contact detail (if available) of representative e) Type of School (Boarding / Non-boarding) f) School population count (number of students / staff in boarding / non-boarding category) The information of the installed device was also verified from the CME database/5/ which was cross checked for 11 WPS samples with the purchase orders/14/. The emission reductions being claimed during this monitoring period are lesser than the estimated emission reductions in the revised or included CPA-DDs/2/, as given in the table under section E.3.6.5. for comparable estimated ERs in the CPA DDs/2/ for the corresponding period. The CPAs are within the threshold limits of the applied methodology/6/. The monitoring report was compared and verified against the description provided in the revised accepted PoA-DD/1/ and found to be correct.
Findings	No finding was raised
Conclusion	In view of the information's verified through the remote audit survey and e-meeting, the verification team is able to confirm that all physical features (technology, project equipment, and monitoring and metering equipment) of the registered CDM program of activities were in place and that the CME has operated the project activity as per the registered PoA-DD/1/ during the concerned monitoring period. The emission reductions achieved during the current monitoring period are 227,787 tCO_2e. Justification for this has been assessed in further sections of report.

E.2.2. Implementation and operation of the management system

Means of verification	The verification team through interviewing the CME, CPA Implementer, Monitoring Personnel and WPS End-users and reviewing the selected sample videos assessed the management systems in place to implement the monitoring of the PoA. This included the roles and responsibilities, data collection, transfer and aggregation procedures, data storage and archiving for the monitoring system

	through physical inspection. The roles and responsibilities, data collection, transfer and aggregation procedures, data storage and archiving for the monitoring system have been provided in the MR /13/ and were verified through interviews with the CME and other people involved in the project. CPA implementers fill purchase order/14/ to note the details of the institution and provide delivery note/21/ at the time of installation (receipt of tablets in case of Ultra TAB). All the information is transferred to Salesforce software by the CME which was checked by interviewing the monitoring personnel to confirm that the management system is in place. The sales database was crosschecked with purchase order, delivery notes and Salesforce data to confirm that information for any system installed (unique ID) is consistent between the records. The unique ID code of WPS is combination of system type code, year code, country code and a serial number. The unique IDs of the WPS were checked for all the sampled systems surveyed during remote audit survey to ensure that no number is repeating in the database and the same system is not credited in any other CPA either, thus avoiding the double counting. The CME also has a customer care centre which contacts the schools to ensure if the cartridge replacement Ultra FLO or new packets of tablets (Ultra TAB) are required or not. For data survey, a monitoring team has been organized by the CME consisting of trained monitoring staff, who conducted the Aquagenx tests (water quality tests) and Usage surveys. The monitoring manager at the CME is responsible for QA/QC of the data, analysis and reporting in the monitoring report. QA/QC procedures were found being as confirmed from the CME during the interview via telephonic call. Scanned copies of purchase order /14/ and completed monitoring survey forms with test results/18/ were made available to the verification team for assessment of the information of institutions and survey and test results, in the sales data and monitoring data mentioned in ER calculator /4/. Monitoring team staff were interviewed by the verification team regarding the monitoring procedures, using the water quality testing kits and filling the monitoring questionnaires. The staff explained the complete procedure followed for Aquagenx tests and the monitoring survey form filling. The evaluation of the water quality test is done in the country office. The verification team also checked training records of the monitoring & data recording personnel/20/. Thus, it can be confirmed that the Implementation and operation of the management system has been done in line with the registered PoA DD/1/ and CPA DDs/2/.
Findings	No findings were raised.
Conclusion	The verification team from the desk review and remote audit survey assessment confirms that the monitoring management system of the PoA is in place with the responsibilities properly identified and established.

E.2.3. Post-registration changes

E.2.3.1. Corrections

No correction observed

E.2.3.2. Inclusion of a monitoring plan

N/A

E.2.3.3. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

N/A

E.2.3.4. Changes to the programme design

The request of approval of changes from the PoA as described in the registered PoA-DD was submitted by CME under the following request no. and approval date:

PRC request number	Approval Status	Date of Approval	Reference Link
PRC-9948-002	Approved	03/07/2017	https://cdm.unfccc.int/PRCContainer/DB/prcp445611461/view
PRC-9948-001	Approved	08/05/2017	https://cdm.unfccc.int/PRCContainer/DB/prcp266525508/view

E.2.3.5. Addition of CPA inclusion template

N/A

E.2.3.6. Change of coordination/managing entity

N/A

E.2.3.7. Changes specific to afforestation and reforestation activities

N/A

E.3. Component project activities

E.3.1. Compliance of the CPA implementation with the included CPA design document

Means of verification

The registered PoA aims to provide safe drinking water to the institutions in Nigeria, Rwanda, Uganda and Kenya. The PoA is primarily designed to replace the existing fossil fuel / non-renewable woody biomass based means of purifying water by installing low emission / emission free Water purification systems to provide safe drinking water. CERPD is the implementer of the CPAs and has fully implemented the CPAs with the help of Sales and Distribution Partner (SDP). The same has been verified from the agreement between the CME and CPAI/15/. This monitoring period includes the implementation and monitoring of 35 CPAs - CPA 9948-P1-0043-CP1 to 9948-P1-0077-CP1 in Nigeria.

CPA no.	First WPS Installation date	Inclusion date	Crediting period	No. of units		Estimated ERs	ERs achieved
				FLO	TAB		
9948-P1-0043-CP1	23/04/2019	26/04/2019	26/04/2019-25/04/2026	255	188	36,211	11,161
9948-P1-0044-CP1	23/04/2019	26/04/2019	26/04/2019-25/04/2026	290	276	36,211	10,835
9948-P1-0045-CP1	23/04/2019	26/04/2019	26/04/2019-25/04/2026	234	265	36,211	10,832
9948-P1-0046-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	27	494	36,211	9,056
9948-P1-0047-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	159	351	36,211	8,457
9948-P1-0048-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	373	123	36,211	8,339
9948-P1-0049-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	156	237	36,211	6,622
9948-P1-0050-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	110	151	36,211	6,695
9948-P1-0051-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	70	147	36,211	5,891
9948-P1-0052-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	10	202	36,211	4,652
9948-P1-0053-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	22	264	36,211	4,503
9948-P1-0054-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	7	287	36,211	4,454
9948-P1-0055-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	21	358	36,211	4,420
9948-P1-0056-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	40	335	36,211	4,486

9948-P1-0057-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	18	483	36,211	3,344
9948-P1-0058-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	35	291	36,211	3,412
9948-P1-0059-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	65	346	36,211	3,398
9948-P1-0060-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	42	238	36,211	2,081
9948-P1-0061-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	103	200	36,211	1,924
9948-P1-0062-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	243	101	36,211	1,819
9948-P1-0063-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	774	174	36,211	32,679
9948-P1-0064-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	465	523	36,211	30,493
9948-P1-0065-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	5	2	36,211	142
9948-P1-0066-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	5	2	36,211	197
9948-P1-0067-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	19	268	36,211	4,385
9948-P1-0068-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	21	376	36,211	4,302
9948-P1-0069-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	15	482	36,211	4,297
9948-P1-0070-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	22	481	36,211	4,299
9948-P1-0071-CP1	24/04/2019	26/04/2019	26/04/2019-25/04/2026	542	583	36,211	28,438
9948-P1-0072-CP1	25/04/2019	26/04/2019	26/04/2019-25/04/2026	25	2	36,211	894
9948-P1-0073-CP1	25/04/2019	26/04/2019	26/04/2019-25/04/2026	6	2	36,211	267
9948-P1-0074-CP1	25/04/2019	26/04/2019	26/04/2019-25/04/2026	6	2	36,211	266
9948-P1-0075-CP1	25/04/2019	26/04/2019	26/04/2019-25/04/2026	6	2	36,211	177
9948-P1-0076-CP1	25/04/2019	26/04/2019	26/04/2019-25/04/2026	6	2	36,211	277
9948-P1-0077-CP1	25/04/2019	26/04/2019	26/04/2019-25/04/2026	4	2	36,211	293
	As checked from the delivery notes/21/	Checked from the UN website /12/	Checked from the UN website /12/	Check-ed from sales data base/5/	Check-ed from sales data base/5/	Checked from the ER sheet/4/	Checked from the ER sheet/4/

As per the registered PoA-DD page 59 *"products deployed under the project activity are assumed be in operation as of the start of the next month following the date of sale"*. Thus, any installation in the month of May 2019 will be eligible for crediting only in the month of June 2019. Given, the current monitoring period is ending in 31st December 2019, therefore only the units installed till November 2019 (up to 30-November-2019) are eligible for crediting under the concerned monitoring period. Thus, the CME has considered 30-November-2019 as the cut-off date of installation for this monitoring period.

It has been checked by the verification team from the ER sheet/4/ that the ERs achieved for the CPAs lies between 177 tCO2e – 32,679 tCO2e, which is below the threshold of small-scale activity. It has been confirmed that:

1. Each of these CPAs achieves an annual emission reduction equal to or less than 60,000 tCO_2 e per year thus complying with the applied methodology SSC threshold/6/,
2. Each of the technologies installed under these CPAs achieves an annual emission reduction

	equal to or less than 3,000 tCO_2 e per year (5% of the SSC limit) thus fulfilling the additionality criteria stated in the CPA DD/2/ and PoA DD/1/. 3. Each of the independent subsystems/measures included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the applied methodology (i.e. not exceeding 600 tCO_2e for SSC type III methodologies) thus fulfilling the additionality criteria stated in the CPA DD/2/ and PoA DD/1/. The implementation of the CPA as mentioned above is within the geographical boundary of PoA-DD/1/, which constitutes the physical boundary as well. Impact Carbon is the CME of the CPA and CERPD is the CPAI/15/. The reference number and the inclusion date of CPAs have been checked and verified from the UN website/12/ and the details are found correct and consistent. The start date of CPAs was confirmed from the delivery notes/21/. The WPS are installed across Nigeria.
Findings	CAR#02 and CL#03 was raised and resolved.
Conclusion	a) The verification team is of the opinion that physical features of the CPA have been implemented in accordance with the registered CPA-DD. b) No specific monitoring equipment had to be installed according to the monitoring plan. c) It is also confirmed, through the remote audit survey and review of the supporting documentation that physical features of the component CPA have been implemented in accordance with the CPA-DD. d) The CPA was also found to be completely operational in line with the CPA-DD. e) The information provided in the relevant sections of the monitoring report appropriately describes the implementation and operational status of the PoA

E.3.2. Post-registration changes

E.3.2.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

No deviations identified in the current verification and there exist no previously approved deviations for the CPAs under verification.

E.3.2.2. Corrections

Not Applicable

E.3.2.3. Changes to the start-date of the crediting period

No changes to the start date of crediting period.

E.3.2.4. Inclusion of a monitoring plan

Not Applicable

E.3.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

Not Applicable

E.3.2.6. Changes to the project design

Not Applicable

E.3.2.7. Changes specific to afforestation and reforestation activities

Not Applicable

E.3.3. Compliance of the registered monitoring plan with applied methodologies and standardized baselines

Means of verification	The monitoring plan as contained in CPA-DDs/2/ were reviewed against the monitoring requirements of the applied methodology AMS-III.AV version 04 /6/ as well as PoA-DD/1/ with reference to the technology involved. Based on this review, it was found that the monitoring plan contained in the CPA DDs/2/ includes all the required parameters to be monitored in the context of the CPA design and description and allows proper determination of emission reductions in accordance with PoA DD/1/ and applied methodology AMS-III.AV version 04/6/.
Findings	No findings were raised
Conclusion	The monitoring plan is in line with the approved methodology AMS III A.V Ver.4/6/, that is included in the CPA-DDs/2/.

E.3.4. Compliance of monitoring activities with the registered monitoring plan

E.3.4.1. Data and parameters fixed ex ante or at renewal of crediting period

Case 1 or Case 2: Project activities implemented in rural or urban areas of countries with proportion of rural or urban population using an improved drinking-water source equal to or less than 60 % (Case1) or above 60% (Case2), Case1 or Case 2

Means of verification	The CPAs located in Nigeria fall under Case 1. It was checked from CPA DDs/2/ and study report MICS 2016-2017/23/ which states that only 22.7% of the Nigerian population has access to clean drinking water, hence Case 1 is applied.
Findings	No findings were raised
Conclusion	The value applied is found to be consistent with the registered CPA-DDs/2/ which is correct and justified.

Specific Heat of water, WH, Kj/L ^{o}C

Means of verification	The value of the parameter is fixed at the time of validation and the value has been sourced from Methodology A.M.S.-III.AV Ver.4/6/. The value considered is 4.186 Kj/L°C and is found to be consistent with the CPA-DD/2/.
Findings	No findings were raised
Conclusion	The value in the MR/13/ and ER sheet /4/ are consistent with the registered PoA-DD/1/ & CPA-DDs/2/. The applied value is correct and justified.

Final Temperature, T_f, (^{o}C)

Means of verification	The value of the parameter is fixed at the time of validation and the value is sourced from the methodology AMS-III.AV version 4.0/6/. The values as available in MR is 100^{o}C which is found consistent with the values in CPA-DD/2/.
Findings	No findings were raised
Conclusion	The value in the MR/13/ and ER sheet /4/ are consistent with the registered PoA-DD/1/ & CPA-DDs/2/. The applied value is correct and justified.

Initial Temperature, T_i

Means of verification	The value of the parameter is fixed at the time of validation and the value is sourced from the methodology AMS-III.AV version 4.0/6/. The value considered is 20 ^{o}C and is found to be consistent with the CPA-DD/2/.
Findings	No findings were raised
Conclusion	The value in the MR/13/ and ER sheet /4/ are consistent with the registered PoA-DD/1/ & CPA-DDs/2/. The applied value is correct and justified.

Latent heat of Water Evaporation, WHE, Kj/L

Means of verification	The value of the parameter is fixed at the time of validation and the value is sourced from the methodology A.M.S.III AV- version 4/6/. The value considered is 2,260 Kj/L and is found to be consistent with the CPA-DDs/2/.

Findings	No findings were raised
Conclusion	The value in the MR and ER sheet /13,4/ are consistent with the registered PoA-DD/1/ & CPA-DDs/2/. The applied value is correct and justified.

Leakage, L

Means of verification	The value of the parameter is fixed at the time of validation and the value is sourced from the methodology AMS-I.E version 5.0 /25/. The value considered is 0.95 and is found to be consistent with the CPA-DDs/2/.
Findings	No findings were raised
Conclusion	The value in the MR /13/and ER sheet /4/ are consistent with the registered PoA-DD/1/ & CPA-DD/2/. The applied value is correct and justified.

Average volume of drinking water per person per day, Ryi, Litres/Person/day

Means of verification	The value of the parameter is fixed at the time of validation and the value is sourced from the report WHO Minimum water quantity needed for domestic use in emergencies/24/. The value considered is 2 Litres/Person/day (for day schools) and 3.5 Litres/Person/day (for boarding schools, prisons) and is found to be consistent with the CPA-DD/2/.
Findings	No findings were raised
Conclusion	The value in the MR and ER sheet /13,4/ are consistent with the registered PoA-DD/1/ & CPA-DD/2/. The applied value is correct and justified.

E.3.4.2. Data and parameters monitored

Quantity of purified water in year y, QPWy (liters/year):

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes.
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The value applied is 883,998,813 litres/year. The parameter is a calculated parameter determined through following equation: $QPW_y = \Sigma (T_{y,i} \times N_{y,i} \times R_{y,i} \times 365 \times \text{Water Quality}_i \times \text{Operational Units}_i)$ The formula is correct and in line to the applied methodology/6/, PoA DD/1/ and CPA DDs/2/. The installation for CPAs under the verification has been done between 23/04/2019-30/11/2019. As per the page 59 of revised approved PoA DD/1/, "*The date of installation for each unit is used to determine the portion of the monitoring period during which the unit was*

		active. Products deployed under the project activity are assumed be in operation as of the start of the next month following the date of sale, i.e. if the date of sale is April 1st, the start of operation is May 1" Thus, for all the WPS installed in April, ERs will be claimed in May 2019. The end date of the monitoring period is 31/12/2019. The ER sheet/4/ was checked to confirm that the formula has been applied correctly.
	If applicable, has the reported data been cross-checked with other available data?	Yes. The equation used for the calculation is correct and is sourced from the paragraph 11 of the applied methodology/6/
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	NA
Findings	No finding was raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Efficiency of water boiling system being replaced, η_{wb}, fraction

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The parameter is determined by sourcing a default value from the applied methodology/6/ and multiplying it with the proportion of population of the institutions different type of stove. The GACC report for Nigeria, 2016/16/ was reviewed to confirm that the all public institutions cook with wood on traditional three stone fire. Therefore, a value of 0.1 for unimproved stove was applied.
	If applicable, has the reported data been cross-checked with other	Yes. Sampled number of entries (11 WPS systems) were surveyed. The

	available data?	head/deputy head teacher of the institutions were interviewed to know the treatment method used in the absence of the WPS installation. All interviewed people replied that unsafe drinking water was used from boreholes/wells and boiling water would have been the cheapest option to get safe drinking water. No other means were deemed affordable by the institutions.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	NA
Findings	CL#01 was raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Total distributed water purification systems, $T_{y,i}$, Number

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The total number of systems reported in the monitoring report are as following: 4,201 UltraFLO 8,240 UltraTAB The CME keeps purchase order/14/, delivery notes/21/ and details of each system on salesforce as checked from the survey videos provided by CME. Each unit of Ultra FLO system has unique ID, which is listed in the database and has been claimed for ERs. For Ultra TAB system, the value of the parameter has been determined by considering each institution as a unit system. Therefore, for institutions with Ultra TAB, the number of tab systems is same as number of institutions. The entries in database were checked

		to confirm the total number presented in the MR. 11 WPS samples were remotely surveyed also, to confirm that the details of the entries in the database/5/ are correct.
	If applicable, has the reported data been cross-checked with other available data?	Yes. Sampled number of entries (11) were checked with the purchase orders/14/ and the delivery notes/21/.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	NA
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

The average population serviced by water purification systems, $N_{y,i}$, Persons/equipment

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	At the time of installation, the purchase order form is filled by the CME. This form/14/ notes down the total number of students and staff in boarding/non-boarding schools. These numbers are mentioned for each school in the sales database. For the 11 WPS samples checked by the DOE during the remote audit survey, the same numbers were checked and found to be correct. The CME has also applied formula in the ER sheet/4/ to ensure that the $N_{y,i}$ multiplied by $R_{y,i}$ does not exceed the maximum output of the unit [per unit]. An average value of all the adjusted $N_{y,i}$ has been used for ER calculation respective of each CPA. In general, the average of $N_{y,i}$ for all the CPAs was found to be 378 person/technology. The parameter value is noted at the time of installation by the CME and as the number of systems increases over the time, the value will change

		continuously. The institutions were checked to confirm that CME is recording this information in database and the implementation is in line with PoA DD/1/. As per the CPA DDs (9948-P1-0043 to 9948-P1-0077-CP1) page 15/2/, The value of $N_{y,i}$ is effectively the number of people in the institution. The number of people in the institution will be updated (at least biennially) to reflect change in the institution size over time. The value will be updated in the sales database biennially. For the current monitoring, the value of the parameter was verified from the sales database /5/ and purchase orders/14/. This parameter is neither prescribed nor monitored by CME on sample basis as per registered monitoring plan. The parameter is monitored on absolute basis for each of the installation.
	If applicable, has the reported data been cross-checked with other available data?	Yes. The values in the ER sheet /4/ were checked with remote audit survey observations by the DOE which was further cross-checked with the purchase orders/14/.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	NA
Findings	No Findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Water quality measurement, Water Quality$_i$, Proportion

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	Aquagenx testing kits
	Calibration details	Not Applicable.
	How were the values in the monitoring report verified?	The CME used Aquagenx testing kits to monitor the E.Coli value for sampled institutions.

		The Head teachers/ Deputy Head teachers of the schools interviewed by the DOE during the remote audit survey confirmed that they were visited by monitoring team for the tests. The monitoring forms/18/, Aquagenx testing kits photographs showing achieved results /30/ for all the institutions were checked by the verification team to confirm the monitoring parameter value. It was found that all the tests gave positive results confirming safe drinking water except three sampled schools. Hence, the applied value of 0.95 was found acceptable.
	If applicable, has the reported data been cross-checked with other available data?	Photos of the test/30/ conducted during the monitoring were shared by the CME which confirmed the results in monitoring forms.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The staff conducting the tests were found to be trained as confirmed from training evidences/20/ provided by the CME confirmed that the tests are conducted and evaluated by trained staff.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	NA
Findings	CAR#03 was raised and resolved.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Percent of the monitoring period in which the units are in use, Operational Units$_i$, Percentage

Means of verification	**Criteria/Requirements**	Assessment/Observations
	Measuring /Reading /Recording frequency	Once per verification
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The sampled systems were checked by the CME's monitoring team to monitor the operational status of the WPS units installed in the institutions as checked from the monitoring survey forms/18/. The Head teachers/ dy. Head teachers at the schools visited by the CME representative during the monitoring survey were confirmed to the DOE

		through the remote audit survey that the monitoring team visited the school for the monitoring. Not all the WPS systems checked by the CME representative during the remote survey were found to be operational. Thus, the applied value of 94.13% was found acceptable.
	If applicable, has the reported data been cross-checked with other available data?	Results presented in the ER sheet were checked with monitoring survey forms/18/ and remote survey visit videos.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The staff conducting the tests were found to be trained as confirmed from training evidences/20/ provided by the CME confirmed that the tests are conducted and evaluated by trained staff.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	NA
Findings	CAR#03 was raised and resolved.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Fraction of woody bio-mass saved by the project activity in Year, f_{NRB}, Fraction

Means of verification		
	Criteria/Requirements	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The parameter is determined by sourcing a default value from UNFCCC SSC WG 37_{th} Meeting Report for Nigeria /26/ and multiplying it with the percentage of population using non-renewable woody biomass / fossil fuel. The GACC report for Nigeria, 2016/16/ was reviewed to confirm that the all public institutions cook with wood on traditional three stone fire. Therefore, a value 100% of users using non-renewable woody biomass / fossil fuel was multiplied with default value of 0.93 UNFCCC SSC WG 37th Meeting Report for Nigeria /26/ to the

		final value = 0.93, which was applied in the ER calculation sheet/4/. The applied value was found to be correct. The value has been determined is in line with the PoA DD/1/ and CPA DDs/2/.
	If applicable, has the reported data been cross-checked with other available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	NA
Findings	CAR#03 was raised and resolved.	
Conclusion	The values in the Monitoring Report /13/ and corresponding Emission Reduction Spreadsheet /4/ are consistent with the revised accepted PoA-DD/1/ and CPA-DDs/2/. The values applied for ER calculations/4/ in the relevant CPAs are correct and justified.	

Emission factor as per AMS-I.E. procedures when NRB is displaced or the emission factor of the fossil fuel substituted, EF projected_fossil fuel, tCO2/TJ

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The parameter is determined by sourcing a default value from AMS-I.E /25/ and multiplying it with the % population using non-renewable woody biomass / fossil fuel.. The GACC report for Nigeria, 2016/16/ was reviewed to confirm that the all public institutions cook with wood on traditional three stone fire. Therefore, a value 100% users using non-renewable woody biomass / fossil fuel was multiplied with default value of 81.6 sourced from AMS-I.E./25/ to give the final value = 81.6, which was applied in the ER calculation sheet/4/. The applied value was found to be correct. The value has been determined is in line with the PoA DD/1/ and CPA DDs/2/.
	If applicable, has the reported data been cross-checked with other	Yes. The value sourced form AMS-I.E./25/ was also cross-checked from

	available data?	the IPCC greenhouse gas inventories report/22/.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	NA
Findings	No Findings were raised.	
Conclusion	The values in the Monitoring Report /13/ and corresponding Emission Reduction Spreadsheet /4/ are consistent with the revised accepted PoA-DD/1/ and CPA-DDs/2/. The values were found consistent with IPCC default values for fossil fuels /22/. The applied values are correct and justified.	

Existence of public distribution network of safe drinking water, Fraction, Existence of public distribution network of safe drinking water in year y, Fraction

Means of verification	**Criteria/Requirements**	**Assessment/Observations**
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The institutions of sampled WPS were visited by the CME's monitoring team to check the existence of public distribution network of safe drinking water as checked from the monitoring survey forms/18/. The Head teachers/ dy. Head teachers of the schools visited by the CME representative during the monitoring survey were confirmed to the DOE through the telephonic interview that the monitoring team visited the school for the monitoring. All the institutions of sampled WPS checked by the CME representative during the remote audit survey were found do not have any access to public distribution network of safe drinking water. Their source of water was found to be Borewell/ Well etc. Besides, review of other monitoring survey forms and sales database indicated that safe drinking water based public distribution network was not accessible to project schools. Thus, the applied value of 0 was found acceptable for the current verification.
	If applicable, has the reported data been cross-checked with other	Results presented in the ER sheet were checked with monitoring survey

	available data?	forms/18/ and remote audit survey results.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The staff conducting the tests were found to be trained as confirmed from training evidences/20/ provided by the CME confirmed that the tests are conducted and evaluated by trained staff.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	NA
Findings	CAR#03 was raised and resolved.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

E.3.4.3. Implementation of sampling plan

Means of verification	The monitoring has been carried out in accordance with the monitoring plan contained in the revised approved PoA DD/1/ and CPA DDs/2/. **Sampling Design/Target Population/Sampling Frame/Reliability**: The CME has applied single sampling plan for all of the 35 CPAs implemented. According to the 'Sampling and Survey standards,' version 8.0/19/, the sampling plan applied by the PP for the following CPAs are found to be appropriate. As per the sampling plan stated in the PoA DD/1/, a minimum 90% confidence interval and a 10% margin of error requirement is achieved for the sampled parameters. When a single sampling plan covers a group of CPAs or when monitoring is conducted biennially (every two years), confidence/precision of 95/10 for the sample size calculation is applicable. Since the sampling has been done across the CPAs, the CME has taken 95/10 as the confidence precision levels which is found to be in line with the registered monitoring plan/1,2/. The target population for the parameters stated above are Water purification systems[4] installed / distributed in institutions and recorded in the project sales database **Sampling Frame:** There are two different type of units under the CPAs. 4,201 UltraFLO units 8,240 UltraTAB units have been listed in the sales database. However, the parameters for monitoring are homologous (i.e. implemented in schools). Thus, the CME has applied a common sampling for all the parameters monitored which was found acceptable. **Sampling Method and selection:** The CME has applied Stratified Random Sampling by dividing the population into two strata (UltraFLO, UltraTAB). The samples have been chosen randomly from these two strata as checked from the excel sheets with random numbers/33/. **Sample Size for Parameter of Interest:** The sampling is applied to the following monitoring parameters:

[4] The definition of each system considered for ER is different for Ultra FLO and Ultra Tab. Each unit of Ultra FLO having unique ID as listed in the database, is considered as individual system for CER calculations. For Ultra TAB, the value of the parameter has been determined by considering each institution as one system. Therefore, for institutions with Ultra TAB, the number of TAB systems is same as the number of institutions.

<table>
<tr><td></td><td>

Operational Units
Water Quality- Aquagenx Tests
Existence of public distribution network of safe drinking water

The sample size is chosen using the equation inline to CDM guidelines for Sampling and surveys for CDM project activities and programmes of activities.

In this regard, sample size calculation spreadsheet /4/ was checked and found correct as per registered monitoring plan. The complete details are given in E.3 section of Monitoring Report/13/.

Implementation of Sampling Survey and Field Test Records:

Based on interviews with the CME and surveyors during the e-meeting of the remote audit survey, in addition to simply asking this question to the end users, the surveyors were also trained to evaluate to results of Aquagenx tests. Therefore, the implementation of CME's surveys and tests was considered reliable. The surveyors also took photos of the school name board, test results which was shared by CME and were checked during the desk-review by the verification team.

Monitoring survey (by CME) duration:

The monitoring survey (field survey / tests) was carried out by CME representatives between following duration for the current monitoring period.
<table>
<tr><th>CPA Ref.No.</th><th>Technology</th><th>From</th><th>To</th></tr>
<tr><td>9948-P1-0043-CP1 to 9948-P1-0077-CP1</td><td>Water Purification systems</td><td>12/01/2020</td><td>11/02/2020</td></tr>
</table>
Reliability and precision calculation:

The verification team has verified the ER calculation spreadsheets /4/ with the monitored data, where the actual achieved precision is calculated against the Guidelines outlined under "Standard for sampling and surveys for CDM project activities and Programme of Activities" Version 4.0 /31/ and confirms that the calculation of achieved reliability was done correctly.

All parameters of interest are included in the ER spreadsheet for the revised approved CPAs. These were checked for the input values as well as formula applied and were found consistent. The reliability (demonstration of precision achieved after the survey results) is depicted in the ER calculation sheets /4/ corresponding to final Monitoring Report /13/, which were also found correct.
Thus, the verification team confirms that required precision has been met and the results are reliable.
</td></tr>
<tr><td>Findings</td><td>CL#02 was raised and resolved</td></tr>
<tr><td>Conclusion</td><td>The verification team has found out that the sampling plan applied is found to be in-line with the monitoring plan mentioned in the registered PoA-DD/1/ and CPA-DDs/2/ and Sampling and survey standards, ver.8/19/</td></tr>
</table>

E.3.5. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	No monitoring equipment is required as outline in the CPA-DDs/2/ and revised accepted PoA-DD/1/.
Findings	None.
Conclusion	The verification team has determined that no monitoring equipment has been used by the PP that requires calibration. Furthermore, there was no requirement of calibration in the CPA-DDs/2/. This was in accordance with the accepted monitoring plan and the applied monitoring methodology/6/.

E.3.6. Assessment of data and calculation of emission reductions or net removals

E.3.6.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	The following equations were used to determine the baseline emissions as provided in the monitoring report /13/ and applied in the corresponding ER calculations sheet /4/. The expressions used were found consistent with the revised

accepted PoA DD /1/, CPA DDs /2/ and the applied methodology AMSIII.AV, version 04 /6/:

$BE_y = QPW_y * SEC * f_{NRBy} * EF_{projected\_fossilfuel} *10^{-9}$

Where,

BE_y	Baseline emissions during the year y in (tCO_2e)
QPW_y	Quantity of purified water in year y (Liters/yr).
SEC	Specific energy consumption required to boil one litre of water (kJ/L)
$f_{NRB,y}$	Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable. For biomass, the default values of f_{NRB} shall be used from EB67. A survey, national, or regional data is conducted to determine the mix of fuels (% of biomass, % of other fuels) used in the baseline. If a mixture of biomass and other fuels (e.g. fossil fuels) are used, a weighted average renewability factor shall be applied.
$EF_{projected\_fossilfuel}$	Emission factor when NRB is displaced or the emission factor of the fossil fuel substituted Default emission factors from AMS-I.E as referenced in AMS-III.AV version 4 and IPCC shall be used. A survey, national, or regional data is conducted to determine the mix of fuels (% of biomass, % of other fuels) used in the baseline. If a mixture of woody biomass and fossil fuels are used in the absence of the project activity a weighted average value shall be applied, as described in parameter box in section E.2

Calculation for CPA 9948-P1-0043-CP1 (*as an example*):

= 43,309,293 x 3574.80 x 0.93 x 81.60 x 10^{-9}

= 11,749 tCO_2e

Specific energy consumption (SEC) i.e. energy required to boil one litre of water is calculated as

$SEC=[WH*(T_f-T_i) + 0.01*WHE] / n_{wb}$

Where

WH	Specific heat of water (kJ/L ^oC)
T_f	Final temperature (^oC)
T_i	Initial temperature of water (^oC)
WHE	Latent heat of water evaporation (kJ/L)
n_{wb}	Efficiency of water boiling system being replaced (fraction)

Calculation for CPA 9948-P1-0043-CP1:

SEC = [4.186x(100-20) + 0.01x2260]/0.10

SEC = 3574.80 kJ/L.

And QPW_y is calculated through following equation:

$QPW_y = \Sigma (T_{y,i} x N_{y,i} x R_{y,i} x 365 x Water\ Quality_i x Operational\ Units_i)$

The installation for CPAs under the verification has been done between 23/04/2019-29/11/2019.

As per the page 59 of revised approved PoA DD/1/, "*The date of installation for*

	each unit is used to determine the portion of the monitoring period during which the unit was active. Products deployed under the project activity are assumed be in operation as of the start of the next month following the date of sale, i.e. if the date of sale is April 1st, the start of operation is May 1" Thus, for all the systems installed in November 2019, ERs will be claimed in December 2019. The end date of the monitoring period is 31/12/2019. The applicable formula is: $QPW_y = \Sigma (T_{y,i} \times N_{y,i} \times R_{y,i} \times \mathbf{365} \times Water\ Quality_i \times Operational\ Units_i)$ Where: QPW_y : Quantity of purified water for drinking for all technologies type i in year y (Liters) $N_{y,i}$: The average population serviced by water purification systems (person/equipment) $T_{y,i}$: Total distributed water purification systems $R_{y,i}$: Average volume of drinking water per person per day (Liters/person/day) $Water\ Quality_i$: Proportion of units that meet water quality requirements $Operational\ Units_i$: Percent of the monitoring period in which the units are in use $N_{y,i}$: The average population serviced by water purification systems(Persons/equipment) **Calculation for CPA 9948-P1-0043-CP1:** QPW_y = 443 x 340 x 2.02 x 159* x 94.13 x 0.95 QPW_y = 43,309,293 L The verification team has checked that the calculation for other CPAs (9948-P1-0044-CP1 to 9948-P1-0077-CP1) have also been done in the worksheet 'ERs Summary' /4/ in the same manner. The calculations for all the CPAs (9948-P1-0043-CP1 to 9948-P1-0077-CP1) were checked in the ER sheet/4/ and it was found that calculations have been done inline to the PoA DD/01/ and in accordance to the applied methodology/6/. All the parameters are assessed in detail under section E.3.4. of this report. * 159 days has been used in the formula, instead of 365 days due to progressive sales across the monitoring period under CPA 0043 and less than an annual monitoring period, resulting in lower number of crediting days.
Findings	CL#04 was raised and resolved.
Conclusion	The verification team confirms that a) The complete data was available and is duly reported; b) As indicated above, the description with regard to cross-check of reported data is included under respective parameter above; c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals were followed; d) Appropriate emission factors, IPCC default factors and other reference values were correctly applied. e) There is no pro-rata approach applied in the current monitoring period as entire monitoring period falls into period that is after the end of first commitment period of Kyoto Protocol.

E.3.6.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	The project activity involves no emissions for type 2 CPAs as it involves dissemination of water purification systems and replaces the non-renewable woody

	biomass/ fossil fuel way of boiling water with the transitioned way of water purification by the chlorination technologies.
Findings	None.
Conclusion	There is no project emission for Type 2 CPAs. The approach is in line with the PoA DD/1/.

E.3.6.3. Calculation of leakage GHG emissions

Means of verification	The PoA-DD/1/, CPA DDs/2/ and applied monitoring methodologies does not prescribe any leakage emissions to be considered. The remote audit survey and project design also did not reveal any potential source to be considered in this regard. However, the leakage adjustment factor that is required to adjust the baseline emissions has been duly accounted in baseline calculations. BE_y is multiplied by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required. Therefore, the leakage is calculated as follows: Leakage = BE_y * (1-95%) Calculation for **9948-P1-0043-CP1 is as follows:** LE = 11,749 * (1-0.95) LE = 588 tCO_2e The verification team has checked that the calculation for other CPAs (9948-P1-0044-CP1 to 9948-P1-0077-CP1) have also been done in the worksheet 'ERs Summary' /4/ in the same manner. The calculations for all the CPAs (9948-P1-0043-CP1 to 9948-P1-0077-CP1) were checked in the ER sheet/4/ and it was found that calculations have been done inline to the PoA DD/1/ and in accordance to the applied methodology/6/. The verified value of Leakage for all the CPAs is 12,008 tCO2e. The value is mentioned CPA wise in the table presented under the next section.
Findings	None.
Conclusion	No additional leakage emissions (other than what is already considered in baseline calculations) were required in accordance with the methodology AMS-III.AV, version 04 /6/.

E.3.6.4. Summary of calculation of GHG emission reductions or net GHG removals by sinks

Means of verification	As elaborated above, the entire emission reductions from the PoA were based on baseline emissions. The calculations presented in this regard in the final monitoring report /13/ and corresponding ER calculations sheet /4/ were found appropriate and complying with the provisions prescribed in the registered monitoring plan of respective CPA-DDs/2/, PoA-DD/1/ and applied methodology/6/. The verification team confirms that from the remote audit survey where all the evidence and records that validated the stated figures were checked and found acceptable.
Findings	CAR#01 was raised and resolved.
Conclusion	The verification team confirms that a) The complete data was available and is duly reported. b) As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer Section E.5.4 of this report). c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed. d) The total number of ERs achieved (on account of water purifiers installation) during the current monitoring period were 227,787 tCO2e.

Title and UNFCCC reference number of the CPA	Baseline emissions or baseline net GHG removals by sinks (tCO_2e)	Project emissions or actual net GHG removals by sinks (tCO_2e)	Leakage (tCO_2e)	GHG emission reductions or net GHG removals by sinks (tCO_2e)		
				Amount achieved before 1 January 2013	Amount achieved from 1 January 2013	Amount achieved in the entire monitoring period
9948-P1-0043-CP1	11,749	0	588	0	11,161	11,161
9948-P1-0044-CP1	11,406	0	571	0	10,835	10,835
9948-P1-0045-CP1	11,403	0	571	0	10,832	10,832
9948-P1-0046-CP1	9,533	0	477	0	9,056	9,056
9948-P1-0047-CP1	8,903	0	446	0	8,457	8,457
9948-P1-0048-CP1	8,778	0	439	0	8,339	8,339
9948-P1-0049-CP1	6,971	0	349	0	6,622	6,622
9948-P1-0050-CP1	7,048	0	353	0	6,695	6,695
9948-P1-0051-CP1	6,202	0	311	0	5,891	5,891
9948-P1-0052-CP1	4,897	0	245	0	4,652	4,652
9948-P1-0053-CP1	4,740	0	237	0	4,503	4,503
9948-P1-0054-CP1	4,689	0	235	0	4,454	4,454
9948-P1-0055-CP1	4,653	0	233	0	4,420	4,420
9948-P1-0056-CP1	4,723	0	237	0	4,486	4,486
9948-P1-0057-CP1	3,521	0	177	0	3,344	3,344
9948-P1-0058-CP1	3,592	0	180	0	3,412	3,412
9948-P1-0059-CP1	3,577	0	179	0	3,398	3,398
9948-P1-0060-CP1	2,191	0	110	0	2,081	2,081
9948-P1-0061-CP1	2,026	0	102	0	1,924	1,924
9948-P1-0062-CP1	1,915	0	96	0	1,819	1,819
9948-P1-0063-CP1	34,399	0	1,720	0	32,679	32,679
9948-P1-0064-CP1	32,098	0	1,605	0	30,493	30,493
9948-P1-0065-CP1	150	0	8	0	142	142
9948-P1-0066-CP1	208	0	11	0	197	197

9948-P1-0067-CP1	4,616	0	231	0	4,385	4,385
9948-P1-0068-CP1	4,529	0	227	0	4,302	4,302
9948-P1-0069-CP1	4,524	0	227	0	4,297	4,297
9948-P1-0070-CP1	4,526	0	227	0	4,299	4,299
9948-P1-0071-CP1	29,935	0	1,497	0	28,438	28,438
9948-P1-0072-CP1	942	0	48	0	894	894
9948-P1-0073-CP1	282	0	15	0	267	267
9948-P1-0074-CP1	281	0	15	0	266	266
9948-P1-0075-CP1	187	0	10	0	177	177
9948-P1-0076-CP1	292	0	15	0	277	277f
9948-P1-0077-CP1	309	0	16	0	293	293
Total	239,795	0	12,008	0	227,787	227,787

E.3.6.5. Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA

Means of verification	Earthood Services Private Limited is able to certify that the emission reductions from the CDM project activity 9948 "Impact Carbon Global Safe Water Programme of Activities (PoA)" in Nigeria for the monitoring period 23/05/2019-31/12/2019 (including both days) amount to 227,787 tCO_2. **Verified and certified emission reductions as per commitment period:** **Commitment period** — **Amount** Upto 31/12/2012 (1st commitment period) — 0 tCO_2e From 01/01/2013 — 227,787 tCO_2
Findings	No findings were raised
Conclusion	The actual ERs achieved in included CPAs are not higher than the estimated quantity of ERs in the CPA-DDs/2/. Accordingly, it was accepted by verification team.

Title and UNFCCC reference number of the CPA	Actual values achieved by the CPAs during this monitoring period	Value estimated in ex ante calculation in the included CPA-DD(s)
9948-P1-0043-CP1	11,161	36,211
9948-P1-0044-CP1	10,835	36,211
9948-P1-0045-CP1	10,832	36,211
9948-P1-0046-CP1	9,056	36,211
9948-P1-0047-CP1	8,457	36,211
9948-P1-0048-CP1	8,339	36,211
9948-P1-0049-CP1	6,622	36,211
9948-P1-0050-CP1	6,695	36,211
9948-P1-0051-CP1	5,891	36,211
9948-P1-0052-CP1	4,652	36,211
9948-P1-0053-CP1	4,503	36,211

9948-P1-0054-CP1	4,454	36,211
9948-P1-0055-CP1	4,420	36,211
9948-P1-0056-CP1	4,486	36,211
9948-P1-0057-CP1	3,344	36,211
9948-P1-0058-CP1	3,412	36,211
9948-P1-0059-CP1	3,398	36,211
9948-P1-0060-CP1	2,081	36,211
9948-P1-0061-CP1	1,924	36,211
9948-P1-0062-CP1	1,819	36,211
9948-P1-0063-CP1	32,679	36,211
9948-P1-0064-CP1	30,493	36,211
9948-P1-0065-CP1	142	36,211
9948-P1-0066-CP1	197	36,211
9948-P1-0067-CP1	4,385	36,211
9948-P1-0068-CP1	4,302	36,211
9948-P1-0069-CP1	4,297	36,211
9948-P1-0070-CP1	4,299	36,211
9948-P1-0071-CP1	28,438	36,211
9948-P1-0072-CP1	894	36,211
9948-P1-0073-CP1	267	36,211
9948-P1-0074-CP1	266	36,211
9948-P1-0075-CP1	177	36,211
9948-P1-0076-CP1	277	36,211
9948-P1-0077-CP1	293	36,211
Total	227,787	1,267,385

E.3.6.6. Remarks on difference from estimated value in included CPA

Means of verification	As verified and evident from the Monitoring Report /13/ and corresponding ER calculations sheet /4/, the actual emission reductions achieved for Water Purification systems for the CPAs under this verification in the current monitoring period were found less than the estimated quantity in the CPA-DDs/2/ for the comparable period. This is largely due to lower number of water purifiers that were installed/distributed. Considering, there is no increase in ERs no further verification effort was put in. The quantitative details of actual values of achieved ERs for the CPA and value estimated in the CPA- DDs/2/ is presented in the next table.
Findings	No findings were raised
Conclusion	The actual emission reductions achieved in any of specific CPAs are not higher than the estimated quantity of ERs in the CPA-DDs/2/. Accordingly, it was accepted by the verification team.

E.3.7. Assessment of reported sustainable development co-benefits

Means of verification	The coordinating/managing entity did not identify and establish the monitoring of the sustainable development benefits of the registered CDM PoA/1/ and no such document was developed and published on the UNFCCC CDM website/12/. Therefore, assessment is required.
Findings	No findings were raised
Conclusion	The CME is not required to monitor the sustainable development benefits of the registered CDM PoA.

E.3.8. Global stakeholder consultation

Means of verification	The global stakeholder consultation was not found applicable because period under verification is 3rd monitoring period.
Findings	No findings were raised

Conclusion	The requirement is applicable for situations when global stakeholder consultation was carried out after the publication of first monitoring report. Therefore, this was not found applicable.

SECTION F. Internal quality control

The draft verification report that is prepared by verification team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and implemented by Earthood were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable CDM rules/requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the verification team

During the technical review process additional findings may be identified or the closed-out findings may be opened, which needs to be satisfactorily resolved before the request for issuance is submitted to UNFCCC. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that needs to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized on behalf of Earthood Services Private Limited.

SECTION G. Verification opinion

Earthood Services Private Limited (ESPL), contracted by Impact Carbon (the CME for the PoA), has performed the second independent verification of the emission reductions for the registered CDM PoA 9948 “Impact Carbon Global Safe Water Programme of Activities (PoA)” for the third monitoring period 23/05/2019-31/12/2019 (both days included) as reported in the Monitoring Report (final) Version 3 dated 19/08/2020/13/. The CME is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

This verification report is for the PoA-9948 which was included at the UNFCCC webpage at the end of the current monitoring period.

ESPL confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements. This verification report has been prepared using the latest available template/11/ specified by UNFCCC and complies with the instructions to follow of CDM VVS-PoA Version 02/9/.

The verification activities were conducted in accordance with ESPL’s CDM Quality Manual System as per the steps indicated under Section A of this report. The verification process has resulted in conclusion that the included CPAs confirm to the revised accepted PoA-DD/1/ as well as comply with applicable CDM rules and regulations and in accordance with applied monitoring methodologies, AMS III.AV (Version 04)/6/.

As a result, it is confirmed that the emission reductions from the CDM PoA 9948 “Impact Carbon Global Safe Water Programme of Activities (PoA)” are correctly reported in the Monitoring Report Version 3/13/ dated 19/08/2020 and corresponding ER sheets for the monitoring period 23/05/2019-31/12/2019(including both days) amount as 227,787 tCO_2e. Therefore, this will be submitted as part of request for issuance as per CDM PCP Version 02/8/.

SECTION H. Certification statement

The verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. ESPL planned and performed the verification by obtaining evidence and other information and explanations that ESPL considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the PoA for the monitoring period 23/05/2019 – 31/12/2019 (MP 03) are fairly stated in the Monitoring Report (final) Version 3 dated 19/08/2020.

ESPL, based on outcome of verification activities, certify in writing that, during the monitoring period 23/05/2019-31/12/2019 (including both days), the registered CDM PoA “Impact Carbon Global Safe Water Programme of Activities (PoA)” and the included CDM CPAs achieved the verified amount of **227,787** tCO2e reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the CPAs.

Appendix 1. Abbreviations

	Full texts
AMS	Approved Methodology for Small-scale
BE	Baseline Emission
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CH4	Methane
CL	Clarification Request
CME	Coordinating and Managing Entity
CO_2	Carbon di oxide
CPA	Component Project Activity
CP	Crediting Period
DNA	Designated National Authority
DR	Desk Review
DOE	Designated Operational Entity
EB	Executive Board
ER	Emission Reduction
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Green House Gas
GSC/GSP	Global Stakeholder Consultation Process
GW	Giga Watt
GWh	Giga Watt hour
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
kW	kilo Watt
L/min	Litres per minute
LoA	Letter of Approval/Authorization
LSC	Local Stakeholder Consultation Process
MoC	Modalities of Communication
MoV	Means of Validation
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt hour
N2O	Nitrous Oxide
PCP	Project Cycle Procedure
PE	Project Emission
PoA DD	Programme of Activities Design Document
PP	Project Participant
PRC	Post Registration Changes
PS	Project Standard
QA/QC	Quality Assurance/Quality Control
tCO_2e	tonnes of Carbon di Oxide equivalent
UID	Unique Identification
UNFCCC	United Nations Framework Convention on Climate Change
V	Version
VVS	Validation and Verification Standard
WPS	Water Purification Systems

Appendix 2. Competence of team members and technical reviewers

Competence Statement			
Name	Deepika Mahala		
Country	India		
Education	M. Sc. (Environmental Management), GGSIP University B.Sc. Hons. (Chemistry), Sri Venkateshwar College, DU		
Experience	3 Years +		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	ACM0002, AMS.I.D., AMS.I.A, AMS.III.AV, AMS.II.G		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2 & TA 3.1)		
Reviewed by	Shreya Garg	**Date**	14/09/2018
Approved by	Anshika Gupta	**Date**	14/09/2018

Competence Statement			
Name	Vaishali Vatsa		
Education	M.Sc. (Environmental Studies and Resource Management), TERI University		
Experience	4 months		
Field	Climate Change		
Approved Roles			
Team Leader	NO		
Validator	Yes		
Verifier	Yes		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Trainee	NO		
Reviewed by	Shreya Garg	**Date**	30/12/2019
Approved by	Anshika Gupta	**Date**	02/01/2020

Competence Statement

Name	Kumden Nanbal Luka		
Country	Nigeria		
Education	B.tech. in Urban and Regional Planning		
Experience	1+ years		
Field	Environment; Urban-Rural planning		
Approved Roles			
Team Leader	No		
Validator	No		
Verifier	No		
Methodology Expert	No		
Local expert	Yes (Nigeria)		
Financial Expert	No		
Technical Reviewer	No		
TA Expert	No		
Reviewed by	Shreya Garg	**Date**	23/11/2018
Approved by	Anshika Gupta	**Date**	23/11/2018

Competence Statement			
Name	Ashok Gautam		
Country	India		
Education	M. Sc. (Environmental Sciences) M. Tech. (Energy & Environmental Management)		
Experience	16 Years +		
Field	Energy, Climate Change & Environment		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.D., AMS-I.A., AMS-I.C., AMS-I.E, AMS-II.D., AMS-II.G., AMS-III.E., AMS-III.H., AMS-III.Q, AMS-III.Z., AMS-III.AV., AM0029, AM0025, AM0056, ACM0001, ACM0002, ACM0004, ACM0012, ACM0006, AM0018, ACM0009, AM0034, AMS.I.B, ACM0003		
Local expert	YES (India)		
Financial Expert	YES		
Technical Reviewer	YES		
TA Expert	YES (TA 1.1, TA 1.2, TA 3.1, TA 13.1)		
Reviewed by	Shreya Garg	**Date**	23/10/2019
Approved by	Anshika Gupta	**Date**	23/10/2019

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Impact	Registered PoA-DD	Dated:24/03/2014	CME

	Carbon	Revised Approved PoA-DD (Version 6.1) Revised Approved PoA-DD Version 7.0)	Dated: 15/02/2017 Dated: 18/04/2017	
2	Impact Carbon	Registered CPA-DD-43 Registered CPA-DD-44 Registered CPA-DD-45 Registered CPA-DD-46 Registered CPA-DD-47 Registered CPA-DD-48 Registered CPA-DD-49 Registered CPA-DD-50 Registered CPA-DD-51 Registered CPA-DD-52 Registered CPA-DD-53 Registered CPA-DD-54 Registered CPA-DD-55 Registered CPA-DD-56 Registered CPA-DD-57 Registered CPA-DD-58 Registered CPA-DD-59 Registered CPA-DD-60 Registered CPA-DD-61 Registered CPA-DD-62 Registered CPA-DD-63 Registered CPA-DD-64 Registered CPA-DD-65 Registered CPA-DD-66 Registered CPA-DD-67 Registered CPA-DD-68 Registered CPA-DD-69 Registered CPA-DD-70 Registered CPA-DD-71 Registered CPA-DD-72 Registered CPA-DD-73 Registered CPA-DD-74 Registered CPA-DD-75 Registered CPA-DD-76 Registered CPA-DD-77	Version 1.0, Dated: 01/04/2019	Other
3	Carbon check India Pvt Ltd.	CPA Inclusion Report (9948-P1-0043-CP1 to 9948-P1-0077-CP1)	Version 1, Dated: 18/04/2019 Version 1, Dated: 30/05/2019	Other
4	Impact Carbon	ER sheet (Version 3)	Corresponding to the current monitoring period	CME
5	Impact Carbon	Sales Database	-	CME
6	UNFCCC	Methodology: AMS III A.V.	Version 4	Others
7	UNFCCC	PS for PoA	Version 2	Others
8	UNFCCC	PCP for PoA	Version 2	Others
9	UNFCCC	VVS for PoA	Version 2	Others
10	UNFCCC	CDM-PoA-MR-Form	Version 3	Others
11	UNFCCC	CDM-PoA-VCR-Form	Version 3	Others
12	UNFCCC	PoA UN webpage	https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/5J36IFUKQVNMRA0OZPGLH9C7STED1W/viewCPAs?s=0	Others
13	Impact Carbon	Monitoring Report (Final)	Version 3 Dated:19/08/2020	CME
14	Impact Carbon	Purchase Orders	Various	CME

15	Impact Carbon	Agreement between CME and CPA Implementer	Dated: 17/06/2017	CME
16	GACC	GACC Analysis report (The Truth About Cooking Landscape Analysis, Nigeria)	Dated:14/10/2016	CME
17	DHS	DHS Report, Nigeria 2016	2016	CME
18	Impact Carbon	Monitoring forms (Scanned and filled)	Various (January 2020-February 2020)	CME
19	UNFCCC	Standards for Sampling and survey for CDM PoA	Version 8.0	Others
20	Impact Carbon	Training Records		CME
21	Impact Carbon	Delivery Notes	Multiple Dates: 23/04/2019-30/11/2019	CME
22	IPCC	IPCC default values for fossil fuels	https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf	Other
23	MICS	MICS 2016-2017 survey report for Nigeria	https://www.unicef.org/nigeria/reports/multiple-indicator-cluster-survey-2016-17-mics	CME
24	WHO	WHO Technical Notes on Drinking -Water sanitation and Hygiene	https://www.who.int/water_sanitation_health/emergencies/WHO_TN_10_Hygiene_promotion_in_emergencies.pdf?ua=1	CME
25	UNFCCC	AMS-I.E.	Version 5.0	Other
26	UNFCCC	UNFCCC SSC WG 37th Meeting Report for Nigeria	http://cdm.unfccc.int/Panels/ssc_wg/meetings/037/ssc_37_an14.pdf	CME
27	Impact Carbon	UID photographs of WPS	-	CME
28	Impact Carbon	Manufacturer's Specifications	-	CME
29	Impact Carbon	Evaluating household water treatment options: Health based targets and microbiological performance specifications" (WHO 2011)	https://www.who.int/water_sanitation_health/publications/2011/evaluating_water_treatment.pdf	CME
30	Impact Carbon	Photos of Aquagenx test (water quality tests)	-	CME
31	UNFCCC	Guidelines for sampling and surveys for CDM project activities and programme of activities	Version 4.0	Other
32	Stat Trek	Screenshot- Stat trek	-	CME
33	Impact Carbon	Random number -excel sheet	-	CME
34	Impact Carbon	Site-exemption Clarification Mail	16/03/2020	CME
35	Impact Carbon	Emission Reduction Purchase Agreement	2016-2020	CME
36	UNFCCC	AMS-I.E.	Version 5.0	
37	Impact Carbon	Complaint Log (Sample)	-	CME
38	Impact Carbon	Remote Survey Files Selected Sample Videos, Interview video of the school representative	17/03/2020-23/03/2020	CME
39	UNFCCC	Tool 05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation	Version 1.0	Others
40	worldometers	https://www.worldometers.in	-	Other

		fo/coronavirus/worldwide-graphs/		
41	NY TIMES	https://www.nytimes.com/2020/03/24/world/asia/india-coronavirus-lockdown.html	-	Other
42	BBC NEWS	https://www.bbc.com/news/world-asia-india-52024239	-	Other
43	Bureau of Immigration	Advisory: Travel and Visa restrictions	13/03/2020	Other

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

Table 1. Remaining FARs from validation and/or previous verification

FAR ID	xx	**Section no.**		**Date:** DD/MM/YYYY
Description of FAR				
CME response				**Date:** DD/MM/YYYY
Documentation provided by the CME				
DOE assessment				**Date:** DD/MM/YYYY

Table 2. CLs from this verification

CL ID	01	**Section no.**	E.3.4.2	**Date :** 18/05/2020
Description of CL				
1. Considering that η_{wb} is defined as data to be monitored and the question is also listed under monitored data worksheet (column P and Q), why the responses were not captured or reported? The parameter defines the default value depending upon the baseline device. How the type of baseline device was not identified as part of monitoring survey or during the implementation of project device (when baseline system is totally replaced or when it exists along with project device) in spite of having question for that? Please clarify?				
Project participant response				**Date :** 21/05/2020

1. The question listed under monitored data worksheet (column P and Q) captures the likelihood of project users boiling water after treatment by the project devices. If any of the sampled user is found boiling water after water treatment by project device, appropriate discounts need to be applied to emission reduction calculations (given boiling water after purification by project device will neutralize the baseline emissions avoided by the corresponding project device). No sample users were found boiling water after treatment with project device. Hence the columns P and Q don't show any response as they are only attributed to post project device treatment boiling cases.

   Additionally, please refer page number 82 and 115 of the registered PoA-DD which states the following:

   Default values as per AMS-III.AV combined with survey, national, or regional data to determine the percent of users using different types of water boiling systems in the baseline scenario.

   Thus, % users using unimproved biomass burning stove, other biomass burning stove and/or fossil fuel stove in Nigeria has been updated as the per the Global Alliance for Clean Cookstoves, Nigeria report and a weighted average value has been applied to determine η_{wb}. This remains the most recent national data available. Hence determination of η_{wb} value is in line with the registered PoA-DD.

Documentation provided by project participant

NA

DOE assessment	**Date:** 27/05/2020

1. The parameter nwb is monitored to calculate the efficiency of baseline device and the discount factor is applied when the end-user is found to be using the baseline device along with the deployed project device. As per the GACC report it was confirmed that all the public institutions cook with wood on traditional three stone fire and in-line to the default value stated in the applied methodology 10% was used as the efficiency of traditional stove.

The question listed under column Pand Q was found to be appropriate for the users using boiling of water post the use of project device. From the monitoring survey forms it was also confirmed that none of the users were boiling water post the treatment from the project device. Thus, no responses were recorded under the respective columns which was found to be appropriate and correct.

CME would apply the weighted average value of the % users using unimproved biomass burning stove other biomass burning stove or fossil fuel stove in Nigeria so as to determine nwb value for the users using more than one baseline device in-line to the Source of data of the parameter mentioned on page 82 and 115 of the registered PoA-DD (Version 7.0) . Thus, the clarification provided by the CME of using the default value for the monitored parameter as all the end-users were found using unimproved biomass burning stove as confirmed from the monitoring sheet as well as survey forms. The approach for the determination of nwb value was found to be in-line with the measurement methods and procedure mentioned in the registered PoA-DD (on page 83).(Closed)

CL ID	02	**Section no.**	E.3.4.3	**Date :** 18/05/2020

Description of CL

1. Though, CPA 9948-P1-104 is not yet implemented and therefore no ERs, belongs to generic CPA type 3 and therefore may not be combined in a single sampling plan with other type of generic CPA type as per procedures. (para 255c of CDM PS).

2. Please clarify when was the sampling conducted in order to confirm whether the monitoring frequency for parameters monitoring through sampling are in accordance with the registered monitoring plan (of (also refer e.g., CPA DD 05 Section B.5.3 para (a)) given the monitored data worksheet in the ER does not contain the date the survey was carried out. In MR, it is indicated that it was carried out in January-February 2020 without specifying the actual start date and end date. (para 263c of CDM PS PoA V2)

Project participant response	**Date :** 21/05/2020

1. Please refer footnote 13 of revised MR which confirms that CPA 104 is not yet implemented and hence 0 CERs are being claimed for CPA 104 for the concerned monitoring period. Also, Part II of the revised MR now confirms that CPA 104 is not part of monitoring / sampling plan. 2. The duration of monitoring has been specified in section E.3 of the revised MR. The revised MR is being submitted.
Documentation provided by project participant
PoA 9948_MP3_CERPD 2 Nigeria MR v2.1_21052020
DOE assessment **Date:** 27/05/2020
1. CME has not included CPA 9948-P1-104 in the sampling plan as confirmed from the sample size calculation sheet (in the ER sheet) and section E.3 of MR (Version 2.1). The clarification for the same has been added under section E.1.3 of VCR. 2. Section E.3 of the revised MR (Version 2.1), now includes the monitoring survey dates 12/01/2020 to 11/02/2020. The dates of the survey as mentioned in the MR were crossed checked from the monitoring survey forms and were found to be consistent. The same has been incorporated to the VCR. Thus, Cl#02 stands closed.

CL ID	03	**Section no.**	E.1.3 ,E.3.1	**Date :** 05/06/2020
Description of CL				
CPA 104 was not part of the published MR. The CPA is included in the MR now.				
Project participant response				**Date :** 08/06/2020
The CPA 104 has been removed from the MR. revised MR and ER sheet are being submitted				
Documentation provided by project participant				
DOE assessment				**Date:** 10/06/2020
CME has removed CPA 104 from all the sections of MR and ER sheet as confirmed from the review of the revised MR and ER sheet shared by CME. (Closed)				

CL ID	04	**Section no.**	E.3.6.1.	**Date :** 18/08/2020
Description of CL				
a. The "System's residual capacity at the end of monitoring period (Ltrs)" shown in column AL of sheet "Sales Databse-CERPD2". The formula does not reflect the residual capacity at the end of the monitoring period, i.e. it does not subtract the total water consumption from the residual capacity from previous MP and any additional capacity. b. In light of issue (a) above, the "Residual capacity from previous MP (Ltrs)" shown in column AB of sheet "Sales Databse-CERPD2", it is not clear whether the values have been correctly determined. c. It is not clear how the CME calculated the reliability/achieved precision. The formula used to calculate the reliability/achieved precision was not found to be correct. For example, it is observed that the formula does not include z-value but include a factor 0.5, and the formula compares the achieved precision with z-value. d. The CME is requested to clarify the ER calculation in particular for the cumulative treatment capacity. In column AH of Sales Database spreadsheet, the value of "Cumulative treatment capacity of the system based on # units installed / supplied (Ltrs)" does not reflect the actual installed unit. For example, it is observed that the S.No. 274 has installed 2 UltraFLO units, but the cumulative treatment capacity (column AH) only based on one unit, i.e. 340,000 L. e. The "Total Distributed Water Purification Systems (Ty,i)"In column AD of Sales Database spreadsheet, the value for UltraTAB is always 1 regardless the number of units supplied shown under column E . f. The formula for "Person / Equipment (Ny,i)" as shown in column AD of Sales Database spreadsheet includes figures "3150". g. The application of statement on page 36 of the verification report states that "the CME has also applied formula in the ER sheet to ensure that the $N_{y,i}$ multiplied by $R_{y,i}$ does not exceed the maximum output of the unit [per unit]" as per the same provision reported in the monitoring report page 20. However, it is not clear how and where such provision has been applied in the ER sheet. h. The operation days considered in the ER calculation includes non-school days. However, the ER calculation considers both boarding and non-boarding persons.				

Project participant response	Date : 19/08/2020

a. The “System's residual capacity at the end of monitoring period (Ltrs)" as shown in column AL of "Sales Databse-CERPD2", duly incorporates the residual capacity from previous MP and any additional capacity as follows:
   1. Firstly, the “Treatment capacity of a unit (based on residual/installation capacity + subsequent supplies (Ltrs))” has been calculated (column AH) in worksheet “Sales Database-CERPD2” considering the residual capacity per unit, at the end of previous monitoring period (column AB) and any additional capacity added (column AC) during the monitoring period.
   2. Thereafter, “System’s Continuous running end date” (column AJ) has been determined based on treatment capacity of a unit (calculated in column AH as explained above) divided by total water consumption per unit (column AG) of worksheet “Sales Database-CERPD2”.
   3. This “System’s continuous running end date” is then used to determine the residual capacity of the system after the end of monitoring period in column AL. If the “System’s continuous running end date” is before the end date of the monitoring period, the residual capacity is calculated as 0. If the “System’s continuous running end date” is after the end date of monitoring period, the residual capacity, at the end of monitoring period, is calculated as the number of running days remaining after end of monitoring period * Total Volume of drinking water per day per unit (column AG).

   Thus, the aforesaid ensures that residual capacity at the end of monitoring period is correctly calculated.

b. Although, the concerned monitoring period begins on 23 May 2017, however, there are significant number of systems that are in continued use from the previous monitoring period. For such systems, the residual (remaining) capacity of the system (determined at the end of the previous monitoring period following the same approach as that explained in 1a above) has been used as the starting capacity for the current monitoring period. This has been listed in column AB of worksheet “Sales Database-CERPD2”.
   For new systems installed in current monitoring period (hence not having any residual capacity carrying forwarded from the previous monitoring period), the residual capacity at the end of previous monitoring period has been considered as 0 in column AB. The calculator showing residual capacity determined at the end of MP#2 is being submitted.

c. The formula in worksheet “Sample size calculation” cell D25, D46 and D67 have been rectified in line with eq. 42, page 89 of the Guideline: Sampling and surveys for CDM project activities and PoAs (v.4). Similarly, cell D26, D47 and D68 in the worksheet “Sample size calculation” have been rectified to compare the achieved precision with the applicable precision limit (10%). The revised ER Sheet and MR are being submitted.

d. In case of multiple units of UltraFLo or Multi Barrier UV systems installed in an institution, it is deemed that these units will be used simultaneously (or in parallel) to service different persons and areas in that institution. Thus, in such cases, $N_{y,i}$ has been calculated as number of persons serviced / unit (refer “Sales Database-CERPD2” for S. No. 270, excel row 272, where AE272 = K272 / AD272).

   Accordingly, in column AH of the worksheet “Sales Database-CERPD2”, the “Treatment capacity of a unit (based on residual /installation capacity + subsequent supplies) (Ltrs)” has been determined for a singular unit.

   This ensures consistency wrt application of $N_{y,i}$ calculated in AE272 and for determining other values in cells AJ272 and AE272 which determine the number of days the systems are expected to run continuously if used simultaneously (based on individual capacity of system and average number of persons serviced per unit system).

   The aforesaid approach has been incorporated in the ER sheet to ensure ($N_{y,i}$ * $R_{y,i}$) per unit does not exceed the maximum output of a unit system for cases where multiple systems are used simultaneously as explained in question (g) below.

   Consideration of aggregate capacity of all systems in Cell AH272, would over-calculate the maximum output/system and would result in over-estimation of emission reductions.

   While “Sales Database” does focus on $N_{y,i}$ per unit, the “ER Summary” considers the total number of units from column AD of “Sales Database-CERPD2” to calculate $T_{y,i}$.

e. Please refer registered CPA-DDs 9948-P1-0043-CP1 to 9948-P1-0077-CP1, page 18, “Additional comment” under parameter table for $T_{y,i}$, which states the following:
   In case of Ultra tabs, parameter $T_{y,i}$ shall be the number of institutions where Ultra Tabs are being supplied. Thus, each school receiving Ultra tab will be counted as one unit, for the purpose of

*determining $T_{y,i}$. As Ultra tabs get consumed over time, institutions will receive regular supplies to ensure continuous disinfection. The total number of Ultra Tabs supplied to a given institution shall also be monitored and documented (to ensure capping of $N_{y,i}$ * $R_{y,i}$ as explained in the following table for $N_{y,i}$).*

Thus, in line with aforesaid, the CME has monitored the total number of UltraTAB units initially supplied to an institution in column E and subsequent supplies in columns R:AA. Further, in column AH, each institution receiving UltraTAB system has been counted as singular unit for determining $T_{y,i}$. This has also been specified in additional comments section of parameter $T_{y,i}$ in MR, page 22.

The aforesaid approach has also been discussed (via a clarification request from CDM EB) and approved by CDM-EB during PRC-9948-003. Please refer document DOE clarification 8 – "FVR 599 CPA 5 to 13 PRC VR Nigeria 25.03.19 clean", page 20 of 26, CAR 02 and 03 dated 18/02/2019 and 18/03/2019 respectively (https://cdm.unfccc.int/PRCContainer/DB/prcp52130222/view).

f. The emission reduction generated by each water purification system is limited to 600 tCO2e / annum in line with the eligibility criteria #16 for inclusion of a CPA in the PoA. Thus, to ensure compliance with the aforesaid, the CPA-DDs have put a cap on $N_{y,i}$ as follows:

CPA number	Cap on $N_{y,i}$	Reference
9948-P1-0043-CP1 to 9948-P1-0077-CP1	3,510	Page # 6 of included CPA-DDs

Hence, the formula in column AE in worksheet "Sales Database-CERPD2" includes the aforesaid cap to ensure that no system generates more than 600 tCO2e / annum in line with registered PoA/CPA-DDs.

g. Please note, that the registered monitoring plan mandates to limit $N_{y,i}$ * $R_{y,i}$ at maximum output of unit [per unit].

The $N_{y,i}$ (per unit) * $R_{y,i}$ (Average Volume of drinking water per person per day) has been calculated in column AG of worksheet "Sales Database-CERPD2". The treatment capacity (per unit) has been calculated in column AH.

In Column AJ, continuous running end date of a system has been determined based on treatment capacity of a unit divided by ($N_{y,i}$ (per unit) * $R_{y,i}$).

Thus, continuous running end date is then used to determine the residual capacity of the system after the end of monitoring period in column AL. A residual capacity of 0 indicates that the system was fully consumed before the end of monitoring period. This automatically ensures that $N_{y,i}$ * $R_{y,i}$ never exceeds the maximum output capacity of the system. A non-zero residual capacity shows that the output capacity of the system is more than $N_{y,i}$ * $R_{y,i}$ leaving some un-utilized capacity at the end of monitoring period.

Hence, in this way, it is ensured that $N_{y,i}$ * $R_{y,i}$ never exceeds the maximum output of the unit [per unit].

h. The CPAs supply safe drinking water to institutions (day schools, boarding schools, prisons etc.). The application of 365 days of operation for the project units is justified on the basis of the following:
   a. The number of days of operation is mentioned as 365 days in the registered PoA-DD (refer equation 1.a. on page 70 of the registered PoA-DD). Similarly, the CPA-DDs also mention 365 days of operation in the ER formulae.
   b. Besides, the number of days of operation is neither an ex-ante parameter not an ex-post monitoring parameter as per the monitoring methodology or the registered monitoring plan in the PoA-DD.
   c. The application of 365 days of operation per year for project units is also corroborated by the subsequent versions of the methodology (refer para 17 of AMS-III AV. Version 08.0).
   d. Last but not the least, the applied methodology (AMS III.AV version 4.0) caps the volume of drinking water per person per day at 5.5L/capita/day. The PoA has applied a much conservative cap of 2L/person/day (for days school) and 3.5L/person/day (for boarding schools /prison). These limits are already attributed to minimum survival levels advocated by WHO (Minimum water quantity needed for domestic uses, Technical Note No. 9, WHO/SEARO Technical Notes for Emergencies). Table 1 of the referred document mentions that minimum survival allocation for domestic use (i.e. full day service deemed equivalent to boarding schools and prisons) as 7 l/capita/day (sustainable only for few days), out of which 3-4 ltr is attributed solely for drinking. For schools, it specifies 2 ltr per student per day as the minimum requirement. Also, Water, Sanitation and Hygiene Standards for Schools in Low-cost Settings, published by WHO specified a basic water requirement of 5 l/per/day for day / non-residential schools and 20 ltr/per/day for boarding schools (Page 18, Water, Sanitation and Hygiene Standards for Schools in Low-cost Settings, Indicators for Guidelines). Thus, a consideration of 2 ltr/per/day for day schools and 3.5 ltrs/per/day for boarding schools/prisons is already referring to minimum survival levels and is overly conservative and deemed applicable to entire year.

The aforesaid approach has been discussed (via a clarification request from CDM EB) and approved by CDM-EB during PRC-9948-003. Please refer document DOE clarification 8 – "FVR 599 CPA 5 to 13 PRC VR Nigeria 25.03.19 clean", page 20 of 26, CAR 01 dated 21/01/2019. (https://cdm.unfccc.int/PRCContainer/DB/prcp52130222/view).

Documentation provided by project participant

PoA 9948_MP3_CERPD 2 Nigeria MR v3.0_19082020
PoA 9948_MP3_CERPD 2 Nigeria ER Sheet_ver 3.0_19082020

DOE assessment | **Date:** 21/08/2020

a. The system's residual capacity at the end of the monitoring period as mentioned in column 'AL' of the sales database CERPD2 worksheet is found to be dependent on the residual capacity from the previous monitoring period (MP2), additional capacity supplied during the monitoring period and the water consumption during the current monitoring period. The residual capacity of the systems at the end of MP2 has been cross-checked with the "MP2 residual capacity calculation sheet" shared by the CME and found to be correctly calculated.
The CME's approach of calculating the residual capacity of the system at the end of the monitoring period as a function of "system continuous running days", "duration of the monitoring period" and "total water consumption per unit per day" was evaluated and found to be correct. Besides, the same approach is consistent with the assessment of ($N_{y,i}$ * $R_{y,i}$) < maximum output capacity of a unit discussed in point g) below.

b. The column AB of the sales database CERPD2 worksheet was checked to confirm that it correctly reflects system's leftover residual capacity (i.e. remaining capacity at the end of MP2 which is being carried forward from MP2 to MP3) and has been considered as the initial capacity for the current monitoring period.
Accordingly, for the systems installed in the current MP, the CME considered the value of residual capacity at the end of MP2 as zero because there was no leftover residual capacity in MP2. The residual capacity calculation for the system's in use from MP2 were cross-checked from the "MP2 residual capacity calculation sheet" shared by CME and were found to be correct as mentioned in the current sales database CERPD2 sheet under column AB.

c. CME has rectified the formula in cell D25, D46 and D67 of the Sample Size calculation worksheet of ER sheet (Version 3.0). The rectification of formula in cell D25, D46 and D67 was found to be made in-line with the eq.42 (on page 89) of the Guideline: Sampling and surveys for CDM project activities and PoAs (v.4).
Also, Cell D26, D47 and D68 of the 'Sample size calculation" sheet was found to be rectified and reflects the comparison of the achieved precision with the applicable precision limit of 10%.
The revisions in the sample size calculation sheet were found to be made in-line with the provisions stated in the appendix 4 of the Guideline: Sampling and surveys for CDM project activities and PoAs (v.4).

d. The "Treatment capacity of a unit (based on residual /installation capacity + subsequent supplies) (Ltrs)" (in column AH of sales database) reflects treatment capacity for one unit only, in case of institutions with multiple units. This is deemed in sync with the parameter '$N_{y,i}$' found to be calculated as Numbers of persons serviced / unit as verified from column AE of the 'Sales database CERPD2 sheet'.

The approach of calculating treatment capacity and number of persons serviced per unit by CME to ensure that the value of ($N_{y,i}$* $R_{y,i}$) does not exceed the maximum output of a unit system for cases where multiple systems are being used simultaneously, is found acceptable and correct.

It is further confirmed that the aggregation of capacity (in column AH) of all the systems installed in an institution (for UltraFLO or Multi Barrier UV) would over-calculate the maximum output per system and would result in the over-estimation of ERs. Also, from the 'ER summary sheet' (Row=2) it has been verified, that CME has considered total number of units from column AD of 'Sales database CERPD2' to calculate $T_{y,i}$ even though column AE of the 'Sales database' calculates $N_{y,i}$ per unit. Thus, the cumulative treatment capacity value of per unit under column AH of the ER sheet was found to be acceptable.

e. The number of units (under column AD of sales database CERPD2 worksheet) distributed ($T_{y,i}$) for Ultra Tab system was found to be 1 for all the institutions. It is in line with the additional comment under parameter table of '$T_{y,i}$'of the referred registered CPA-DDs 9948-P1-0043-CP1 To 9948-P1-0077-CP1, page 15 that in case of Ultra Tabs the value of parameter $T_{y,i}$ shall be the number of institutions where the Ultra Tabs were being supplied i.e. each institutions to be counted as 1. Due to the consumption of the Ultra Tabs over time, CME ensured that there would be continuous disinfection through regular supplies of the Tablets to these institutions.

From the 'Sales database CERPD2 sheet' it was verified that CME has monitored the total number of units supplied to an institution initially under column E and the subsequent supplies were also found to be monitored and captured by the CME under column R:AA. Further, in case of UltraTAB, Column AH (Treatment Capacity = number of tablets supplied * 100 ltrs) of the Sales database CERPD2 Worksheet corresponds to this approach of Ultra Tab system received by the institution being counted as single unit for determining parameter $T_{y,i}$.

The approach of calculating parameter $T_{y,i}$ for UltraTAB has already been discussed and approved by CDM-EB under PRC-9948-003 as verified from the 'DOE clarification- CCIPL 599 revised FVR'.

f. The eligibility criteria #16 (De-bundling) for the inclusion of CPA in PoA, was found to state that the emission reduction generated by each Water purification system is limited to 600 tCO_2e/annum as verified from the registered CPA-DDs. CME has capped the value of $N_{y,i}$ to be in compliance with the eligibility criteria #16.

The capped value for $N_{y,i}$ was found to be 3510 persons /unit (for CPA-9948-P1-0043-CP1 to CPA-9948-P1-0077-CP1) as verified from page 6 of the respective included CPA-DDs.

So, CME's approach of applying these values in column AE of the sales database CERPD2 worksheet (of the ER sheet version 3.0) was found to be acceptable as it ensures that no system would generate more than 600 tCO2e/annum in line with the eligibility criteria set in the registered CPA-DDs and PoA-DDs.

g. As per the registered monitoring plan, the value of $N_{y,i} * R_{y,i}$ should not exceed the maximum output of the unit (per unit). The calculation of $N_{y,i} * R_{y,i}$ provides the total volume of drinking water consumption per day per unit under column AG of the Sales Database CERPD2 Worksheet.

In order to ensure that the system does not exceed maximum output of the unit, CME has calculated the treatment capacity of the system (per unit) under column AH. The treatment capacity value was then divided by the calculated value of ($N_{y,i}$ (per unit) * $R_{y,i}$) of the unit to determine the continuous running end date of a system (under column AJ).

The residual capacity of the system after the end of monitoring period is determined through the continuous running end-date. The residual capacity of 0 reflects complete consumption of system ensuring $N_{y,i} * R_{y,i}$ value has not been exceeded whereas the non-zero value indicate un-utilized system capacity by the end of the monitoring period (as evident from the column AL of Sales database CERPD2 sheet).
Thus, this approach of CME was found to be acceptable as it ensures that $N_{y,i} * R_{y,i}$ never exceeds the maximum output of the unit [per unit] which was found to be in-line with the registered monitoring plan.

h. CME has applied the value of 365 for the number of days of operation for the project units, which was found to be acceptable because of following justifications provided.
   I. Both PoA-DD and the CPA-DDs mention 365 days as the number of days of operation as verified from page 70 of PoA-DD and ER formulae of the CPA-DDs.
   II. Again, days of operation, was neither found to be an ex-ante parameter nor to be an ex-post monitoring parameter as verified from the registered monitoring plan.
   III. The applied methodology (AMS-III AV. Version 04.0) and subsequent versions of the applied methodology (AMS-III AV. Version 08.0) were reviewed and it was confirmed that value of 365 days for the days of operation has been applied in the applicable formulae and sample calculation shown in the methodology.
   IV. The capped volume of drinking water per person per day of 2L/person/day (for day school) and 3.5L/person/day (in boarding school) in the PoA was found to be conservative as these values were found to be meeting the minimum survival levels set by WHO. As per Technical Notes for emergencies by WHO, the minimum survival capacity has been allocated as 7 l/capita/day (sustainable only for few days), out of which 3-4 ltr is attributed solely for drinking. For schools, it specifies 2 ltr per student per day as the minimum requirement. Also, minimum requirement for day schools were found to be 5l/person/day and 20l/person/day as verified from water sanitation and Hygiene standards for Schools in Low-cost settings by WHO.

Thus, following the above set levels CME's approach of considering 2 ltr/per/day for day schools and 3.5 ltrs/per/day for boarding schools/prisons were found to be conservative and acceptable. This, approach has already been discussed and approved by CDM-EB as verified from DOE clarification 8 "FVR 599 CPA 5 to 13 PRC VR Nigeria 25.03.19 clean"

Thus, CL#04 stands closed.

Table 3. CARs from this verification

CAR ID	01	**Section no.**	E.3.6.4	**Date :** 24/03/2020
Description of CL				
1. Achieved ERs mentioned in the MR (Version 1.0), page 1 was found to be inconsistent with the ER sheet (Tab: ER summary; Cell: AN20). 2. Following inconsistencies were noted during the desk review of the supporting documentation provided by the CME: i) The number of total users mentioned in the purchase order of Esteem Secondary School (SF: N1842376) was found to be inconsistent with the no. of users mentioned in sales database (Title: PoA 9948_MP3_CERPD 2, Cell: K3097) ii) The number of non-boarding students mentioned in the purchase order of GSSS Rigachikun (SF: N1847877) was found to be inconsistent with the no. of users mentioned in sales database (Title: PoA 9948_MP3_CERPD 2, Cell: N9163)				
Project participant response				**Date :** 29/04/2020
1. The achieved ERs have been rectified in the revised MR to be consistent with the ER Sheet. Revised MR is being submitted. 2. Please note the following: 2.1. The number of total users mentioned in the PO is the staff/student count at the time of installation of the water purification system in school. The CME tracks user count for each school and records any changes, if any, to the same in Salesforce (database management software). Please refer the SalesForce Report being submitted for Esteem Secondary School which substantiates the user count mentioned in the sales database tab of ER Sheet. 2.2. Same as 2.1 above. The SalesForce Report for GSSS Rigachikun School is being submitted.				
Documentation provided by project participant				
PoA 9948_MP3_CERPD 2 Nigeria MR v2.0_29042020 PoA 9948_MP3_CERPD 2 Nigeria ER Sheet_ver 2.0_29042020 SalesForce Report for Esteem Secondary and GSSS Rigachikun School				
DOE assessment				**Date:** 05/05/2020
1. PP has now revised the achieved ERs in the MR Version 2.0, Dated:01/05/2020 and is consistent with the ER sheet Version 2.0 Dated: 29/04//2020 2.1 Total number of users of Esteem Secondary School (SF: N1842376) mentioned in the sales database was found to be consistent with the SF report provided by the CME. 2.2 Total number of users of GSSS Rigachikun (SF: N1847877) mentioned in the sales database was found to be consistent with the SF report provided by the CME. Thus, CAR#01 stands closed.				

CAR ID	02	**Section no.**	E.3.1	**Date :** 18/05/2020
Description of CAR				
1. Worksheet “Introduction” does not contain all the CPAs that are covered in MR 2. Section C.1 (b), the information is not provided for CPA 9948-P1-104				
Project participant response				**Date :** 21/05/2020
1. Worksheet “Introduction” has been revised and now contains all the CPAs that are covered in the MR. The revised ER sheet is being submitted. 2. Section C.1 (b), of the MR has been revised and contains information (technology) of CPA 9948-P1-0104-CP1. The revised MR is being submitted.				
Documentation provided by project participant				
PoA 9948_MP3_CERPD 2 Nigeria ER Sheet_ver 2.1_21052020 PoA 9948_MP3_CERPD 2 Nigeria MR v2.1_21052020				

DOE assessment	Date: 27/05/2020
1. The Introduction Worksheet now reflects the CPA-Title and CPA-Reference number of all the CPAs. All the titles and reference numbers were found to be consistent with the PoA UN Webpage. 2. CME has revised section C.1 (b) of MR (version 2.1) and now provides information related to CPA 9948-P1-104. The same has been updated in the VCR by the assessment team. Thus, CAR#02 stands closed.	

CAR ID	03	Section no.	E.3.4.2	Date : 18/05/2020

Description of CL

1. Section E.2, parameters Operational Unitsi and Water Qualityi as reported to be 94% and 0.95 respectively, were found to be inconsistent with monitored results in worksheet "Sample Size Calculation CERPD2"

2. Given that the parameter f_{NRBy} is being defined as parameter to be monitored annually or at least biennial in the CPA DD, how the value applied from a source that dates 2012 is deemed appropriate. Please also consider the point (a) mentioned at https://cdm.unfccc.int/DNA/fNRB/index.html while responding to the issue.

3. The parameter "existence of PDN of SDW" is required to be monitored annually as per applied methodology AMS III AV V4, para 2(a) and 17. However, the CPA DD defines the monitoring frequency to be also biennial. Please clarify how the registered monitoring plan of the CPA is in line to methodology.

Project participant response	Date : 21/05/2020

1. The value of Operational $Units_i$ and Water $Quality_i$ has been revised in section E.2 of the MR and now consistent with the ER Sheet. The revised MR is being submitted.

2. The default value for $f_{NRB,y}$ for biomass (=0.93 sourced from EB97) has been fixed at the PoA level. Please refer page number 69 and 82 of the registered PoA-DD which states the following:
   EB 67 Annex 22 Default Values for Fraction of Non-Renewable Biomass for Least Developed Countries and Small Island Developing States, combined with survey, national, or regional data to determine the percent of users using woody biomass and fossil fuel in the baseline scenario.
   Thus, the continuous or at least biennial monitoring, as per PoA-DD, refers to determining the % mix of fuels (% of beneficiaries using non-renewable biomass and/or other fossil fuels in the baseline) and updating the applicable weighted average $f_{NRB,y}$ as per the formula stated in the monitoring parameter table – Measurement Methods and procedures, on page 49 of the PoA-DD. The percentage of users using non-renewable biomass and percentage of users using fossil fuel in Nigeria has been updated as the per the Global Alliance for Clean Cookstoves, Nigeria report and a weighted average value has been applied to determine $f_{NRB,y}$. The GACC report remains the most recent data publicly available.

3. The included CPA-DDs defined the monitoring frequency for parameter "existence of PDN of SDW" as "Annual or at least biennial as per the monitoring requirements in the methodology". CME is monitoring the parameter "existence of PDN of SDW" annually and applying this annual value in ER calculations. Thus, the registered CPA-DD and the implemented monitoring plan and the monitoring frequency being followed are deemed in line with the methodology with respect to monitoring frequency.

Documentation provided by project participant

PoA 9948_MP3_CERPD 2 Nigeria MR v2.1_21052020

DOE assessment	Date: 27/05/2020

1. PP has revised the values in the MR (Version 2.1) for both parameters 'Operational Unitsi' (95.45%) and Water Quality (0.96) in-line to the ER sheet (Version 2.1). PP has also, revised the text mentioned in row 25 of the Sample Size Calculation worksheet as "Operational units$_i$". The information was found to be correct. (Closed)

2. The f_{NRB} value for biomass is determined by the the default value stated in EB 67 Annex 22 for LDC and SIDS combined with survey, national or regional data to determine the percent of users using woody biomass and fossil fuel in the baseline scenario. CME's approach for determining the fNRB value was found to be in-line to the measurement methods and procedure of the parameter on page 49 of the PoA-DD.

The frequency of continuous or at least biennial under the parameter is required for determining the % mix of fuels and there by updating the fNRB value as per the applied formula for the parameter. The percent mix of fuel was found to be determined from the GACC Nigeria report which was found to be latest applicable national data available at the time of fNRB value being determined at PoA level (Closed)

3.The team has checked the monitoring survey to confirm that the CME is annually monitoring the parameter "existence of PDN of SDW". The monitoring frequency of the parameter stated was found to be in-line the CPA-DD and the applied methodology. The monitoring frequency for the parameter in the revised MR (Version 2.1) now mentions 'Annually' making it consistent with CPA-DD and applied methodology. The value of the parameter obtained annually was found to be applied in the ER calculation. (Closed)

Thus, CAR#03 stands closed.

Table 4. FARs from this verification

FAR ID	xx	**Section No.**	NA	**Date:** DD/MM/YYYY
Description of FAR				
NA				
CME response				**Date:** DD/MM/YYYY
NA				
Documentation provided by the CME				
NA				
DOE assessment				**Date:** DD/MM/YYYY
NA				

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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 programmes of activities" (CDM-EB93-A08-STAN); • Make structural and editorial improvements.
02.0	29 December 2017	Revision to align with the requirements of the "CDM validation and verification standard for programme of activities" (version 01.0).
01.0	5 June 2015	Initial publication.

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